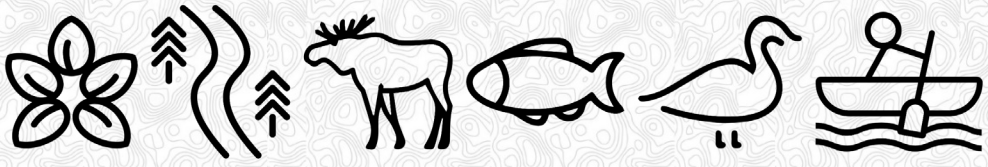
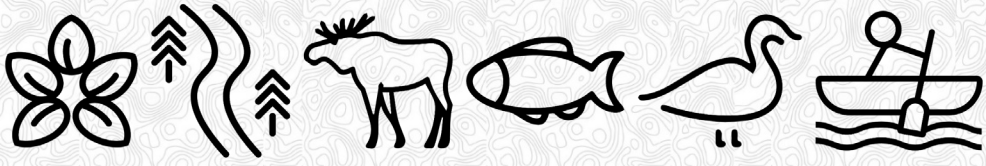
Appendix AA

Technical Support Documents Summary and Recommendations Tables



Appendix AA1

Technical Support Documents Summary and Recommendations Tables



Appendix AA1: Technical Support Documents Summary and Recommendations Tables

February 2026

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Disclaimer

This final version includes updated summaries and findings within the Technical Support Documents provided in Appendices F to V. For any discrepancies, please refer to the appropriate appendix.

AA1 Valued Components

AA1.1 Water

The summary of potential effects and recommendations for the water valued components is provided in **Table AA1-1**. Before construction, a Project-specific Environmental Protection Plan and Environmental Monitoring Plan will be developed and implemented. These plans will include an implementation strategy for the mitigation and monitoring commitments related to the water valued components.

Table AA1-1 Water Potential Effects Summary and Recommendations

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
Surface Water						
SW-01	• Surface Water Quantity • Surface Water Quality	• Changes to surface water quantity and surface water quality from short-term water taking	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Water taking will be in compliance with *Ontario Regulation 387/04* as amended by *Ontario Regulation 64/16* under the Ontario *Water Resources Act* (Government of Ontario, 1990a). • Site-specific water flow and/or levels triggers will be developed for sensitive water sources that may be affected by water takings, if needed. • Drilling of groundwater wells at the temporary construction camps, if necessary, as a last resort, will be in accordance with the *Revised Regulations of Ontario (Regulation 903: Wells)*, under the *Ontario Water Resources Act* (Government of Ontario, 1990a).	• Potable water for work sites, temporary construction camps, and temporary laydown areas will be obtained from surface water sources (with appropriate treatment as needed), bottled sources, and groundwater wells (only if necessary).
SW-02	• Surface Water Quantity • Surface Water Quality	• Changes to surface water quantity and quality from short-term water discharges	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• The plans and / or systems to collect, store, and dispose construction water will be designed / prepared in compliance with Ontario Regulation 387/04 as amended by Ontario Regulation 64/16 and / or Ontario Regulation 63/16 (Government of Ontario, 1990a), where applicable, and best industry practices. • Wastewater associated with discharges from Project will be characterized and, in some cases, assimilative capacity study will be conducted, where necessary. • Sewage disposal systems such as leaching beds will be designed, constructed, and operated according to Ontario Building Code 2012 (Ontario Regulation 332/12: Building Code) under *Building Code Act* (Government of Ontario, 1992). • Owner / operator will review discharge sites / locations to avoid discharging to sensitive areas, including areas identified through the Indigenous Knowledge Program.	• Collection, storage, and disposal of construction water, domestic sewage, and wash water will follow applicable approvals, and best industry practices. • The wash-out site will be monitored regularly to verify that runoff from the area does not report to a waterbody. • Construction water / wastewater (not requiring approvals) will be directed, at a minimum, to low-lying vegetated areas for infiltration, and measures such as filter fabric or straw bales will be utilized to minimize sediment transport during dewatering. • Following construction, all temporary wash-out sites will be capped with local backfill and regraded prior to construction crews departing the site. • If required and when feasible, domestic wastewater will be removed by approved disposal trucks and disposed of at wastewater treatment plants with authorization and capacity to accept this wastewater.
SW-03	• Surface Water Quantity • Surface Water Quality • Sediment Quality	• Changes to surface water quantity, surface water quality, and sediment quality during short-term water diversions at waterbody crossings	• Construction	• Ministry of Natural Resources • Fisheries and Oceans Canada • Ontario Parks	• The design of waterbody crossings, construction, and diversion plans will be prepared in compliance with applicable regulations and guidelines including Ontario Regulation 387/04 as amended by Ontario Regulation 301/21 (Government of Ontario, 1990a), Ontario Regulation 454/96 of the *Lakes and Rivers Improvement Act* (Government of Ontario, 1990b) and Ministry of Natural Resources' Environmental Guidelines for Access Roads and Water Crossings (Ontario Ministry of Natural Resources, 1990) as well as Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (Ontario Ministry of Natural Resources, 2010a) and *Technical Guide River & Stream Systems: Flooding Hazard Limit* (Ministry of Natural Resources, 2002), as applicable. • An Adaptive Management Plan will be developed in the event of an unexpected change to water quantity or	• The construction of waterbody crossings and removal of temporary works will be in compliance with applicable regulations and requirements (e.g., Ontario Regulation 454/96 [Government of Ontario, 1990b], and Ministry of Natural Resources' Environmental Guidelines for Access Roads and Water Crossings [Ontario Ministry of Natural Resources, 1990]). • Short-term water diversions (active or passive) will be carried out in accordance with Ontario Regulation 387/04 as amended by Ontario Regulation 63/16 and 64/16 under the Ontario Water Resources Act (Government of Ontario, 1990a). • Waterbody crossings will be constructed in accordance with Ministry of Natural Resources' Environmental Guidelines for Access Roads and Water Crossings (Ontario Ministry of Natural Resources, 1990). • CLIAMTE-1 to CLIMATE-25 IDs be implemented. • Environmental monitoring (including water quality sampling / testing) will be conducted during construction to verify the performance and effectiveness of the planned mitigation. The monitoring program will be under the

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
					quality (i.e., increase in turbidity in accordance with Canadian Council of Ministers of the Environment standards).	direction of the Environmental Monitor and Indigenous Environmental Monitor. • In-situ monitoring of one or more surface water quantity and quality parameters (including but not limited to water taking and discharge rates, pH, temperature, dissolved oxygen, turbidity, conductivity, and other contaminants of concerns as required) and sampling for laboratory analysis of surface water quality parameters (including but not limited to hardness, alkalinity, total suspended solids, total dissolved solids, dissolved organic carbon, biochemical oxygen demand, major and minor ions (including sulphate), total metals, nutrients (total phosphorus, total ammonia, total Kjeldahl nitrogen), total and dissolved organic carbon, and other contaminants of concerns as required) will be conducted at water taking and / or discharge locations to satisfy the conditions / requirements of Water Taking and Discharge Plans related to applicable approvals, and to confirm the effectiveness of the Water Taking and Discharge Plans and associated mitigation and enhancement measures. Qualified environmental personnel (with expertise in surface water and water quality such as a water resources engineer) will be retained for monitoring program to help confirm that the proposed environmental safeguards are in place, and effectively utilized in protecting the environment. • An Adaptive Management Plan will be implemented in the event of an unexpected change to water quantity or quality. • Temporary waterbody crossings will be remediated at the end of construction.
SW-04	• Surface Water Quantity • Surface Water Quality • Sediment Quality	• Changes to surface water quantity, surface water quality, and sediment quality due to changes in channel hydraulics at waterbody crossings	• Construction • Operations	• Ministry of Natural Resources • Fisheries and Oceans Canada • Ontario Parks	• The design of waterbody crossings, construction, and diversion plans will be prepared in compliance with applicable regulations and guidelines including Ontario Regulation 239/13 (Government of Ontario, 1990c) and Ontario Regulation 454/96 (Government of Ontario, 1990b) and Ministry of Natural Resources' Environmental Guidelines for Access Roads and Water Crossings (Ontario Ministry of Natural Resources, 1990) as well as Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (Ontario Ministry of Natural Resources, 2010a) and *Technical Guide River & Stream Systems: Flooding Hazard Limit* (Ministry of Natural Resources, 2002), as applicable. • In case site-specific changes to water crossing would be required, engagement with Ministry of Natural Resources, Fisheries and Oceans Canada and stakeholders will occur prior to any instream construction activities, where appropriate (e.g., placement of additional fill, regrading, and / or stabilization of bed or banks). • Waterbody crossing will be designed to maintain the characteristic channel width, depths, slopes, and substrate in the event that a channel realignment is required. • Design of waterbody crossing structures (culverts and bridges) will consider climate change factors.	• Waterbody crossings will be constructed in accordance with approvals through Fisheries and Oceans Canada and Ministry of Natural Resources under Ontario Regulation 239/13 (Government of Ontario, 1990c) and Ontario Regulation 454/96 (Government of Ontario, 1990b), as applicable. • Each waterbody crossing will be visited ahead of construction by qualified environmental personnel and fisheries biologists and / or technicians (i.e., Aquatics Specialist) to verify that the crossing location is conducive to the planned crossing structure installation, such that any changes in site conditions can be addressed through necessary design adjustments. During pre-construction site visits, surface water surveys at any waterbody crossing location that has not already been assessed as part of the field investigations will be conducted. Refer to Section 9.1 for details about pre-construction surveys. • Prior to commencing construction work, owner / operator will implement erosion and sediment control measures that will be monitored / inspected. • At some locations where it is determined that spring-melt or storm runoff needs to pass from one side of the right-of-way to the other to prevent flooding and / or erosion, equalization culverts will be installed. • Upon completion of construction work, watercourse banks will be returned to their original profile, disturbed areas will be stabilized as necessary to prevent soil erosion and temporary waterbody crossings will be reclaimed. • Maintenance of waterbody crossings will be carried out in accordance approvals through Fisheries and Oceans Canada and Ministry of Natural Resources, as applicable. • Monitoring of permanent culverts will be in accordance with the Culvert Inspection Guide (Ontario Ministry of Transportation, 2022) to identify and

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
						remove blockages (e.g., ice, woody debris), as needed, that could otherwise lead to scouring and effects on channel morphology and fish habitat and potentially interfere with fish passage. • Monitoring and inspection of new permanent waterbody crossing structures (bridges), and roadside drainage features for physical function and condition will be carried out in accordance with the Ontario Structure Inspection Manual (Ministry of Transportation, 2008). • Inspection and monitoring frequency will be increased during and after the heavy rainfall and flooding events. • Problems identified during monitoring and inspection will be fixed immediately to prevent any further damage to the channel hydraulics, aquatic habitat and the fisheries resources. • Repair work will be carried out in a manner that would minimize disturbance to waterbodies and aquatic environment. • Prior to commencement of repair work, appropriate erosion and sediment control measures will be implemented in accordance with the Ontario Provincial Standard Specifications for erosion and sediment control measures (Ministry of Transportation, 2021a, 2021b, 2021c). • Upon completion of maintenance work, disturbed areas will be restored and revegetated to mitigate erosion and sediment entry to waterbodies.
SW-05	• Surface Water Quantity • Surface Water Quality • Sediment Quality	• Changes to surface water quantity, surface water quality, and sediment quality due to changes in land cover	• Construction • Operations	• Ministry of Natural Resources • Fisheries and Oceans Canada • Ontario Parks	• The use of off-road vehicles will be planned in accordance with the Code of Practice: Temporary Fords (Fisheries and Oceans Canada, 2022), Fisheries and Oceans Canada's All-Terrain Vehicle Guidance (Fisheries and Oceans Canada, 2010) and Ontario Regulation 316/03 under *Highway Traffic Act* (Government of Ontario, 1990c). • Erosion and Sediment Control Plan for construction will be prepared in accordance with Ontario Provincial Standard Specifications for erosion and sediment control measures (Ministry of Transportation, 2021a, 2021b, 2021c).	• The right-of-way and roads and trails (existing and new) will be used for access, to the extent practicable, to minimize changes in land cover. • The Community Access Road will be constructed in accordance with the Ministry of Natural Resources' Environmental Guidelines for Access Roads and Water Crossings (Ontario Ministry of Natural Resources, 1990). • Temporary construction camps, temporary laydown areas, and other Project activities will be located a minimum of 30 m away from the ordinary high-water mark of a waterbody. • Erosion and Sediment Control Plan will be implemented during construction in accordance with Ontario Provincial Standard Specifications (Ministry of Transportation, 2021a, 2021b, 2021c). • Progressive revegetation of the right-of-way will be implemented. Temporary access roads and trails, temporary construction camps, turnaround areas, waterbody crossings, and temporary laydown areas will be reclaimed progressively through the Construction. Seeding will follow as close as possible to final cleanup and topsoil material replacement pending seasonal or weather conditions. • Only materials cleared for acid rock drainage (i.e., non-potentially acid-generating rock) by a geochemical verification process will be used for the road surface to avoid acid rock drainage or associated metal leaching. • The use of off-road vehicles by Marten Falls First Nation and their contractors during Construction and Operations (where applicable) Phases will be limited and follow Fisheries and Oceans Canada's guidelines. • Off-road vehicles to be used construction and maintenance activities (where applicable) will be inspected and cleaned before and after each use to prevent the spread of invasive species and to identify any fuel leaks or equipment damage.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
						• During maintenance works, disturbance to existing land cover will be kept to a minimum level and disturbed areas will be restored and revegetated including natural revegetation.
SW-06	• Surface Water Quality • Sediment Quality	• Changes to surface water quality and sediment quality from the wash off of organic to nearby waterbodies, and / or increased rates of erosion in disturbed and exposed areas with sediment transport and delivery to adjacent waterbodies	• Construction	• Ministry of Natural Resources • Ontario Parks • Ministry of the Environment Conservation and Parks • Ontario Parks	• Water crossings will follow Ontario Regulation 239/13 under Public Lands Act (Government of Ontario, 1990c) and / or Ontario Regulation 454/96 under the *Lakes and Rivers Improvement Act* (Government of Ontario, 1990b), as applicable. • The reuse and / or disposal of slash and debris will follow provincial *Forest Fires Prevention Act* and in compliance with Ontario Regulation 207/96 (Government of Ontario, 1990e). • Erosion and Sediment Control Plans will be prepared. • The aggregate pits will follow the guidelines and associated conditions / requirements, including development of a Rehabilitation Plan, outlined in the Aggregate Permits on Crown Lands for Pits and Quarries above Water (Ontario Ministry of Natural Resources and Forestry, 2014) and the Forest Management Planning Manual (Ministry of Natural Resources and Forestry, 2017). • Climate change factors will be considered in design of Community Access Road, waterbody crossings, and stormwater management works.	• Temporary laydown areas and temporary construction camps will be constructed on existing disturbed areas and / or at reasonably flat areas with stable soil, where possible. • The Community Access Road and waterbody crossings will be constructed in accordance with the applicable guidelines, regulation, and approvals (e.g., Ministry of Natural Resources' Environmental Guidelines for Access Roads and Water Crossings [Ontario Ministry of Natural Resources, 1990], Ontario Regulation 239/13 [Government of Ontario, 1990c] and / or Ontario Regulation 454/96 [Government of Ontario, 1990b]). • Buffer zones of 30 m will be maintained around waterbodies and clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. Clearing at waterbody crossings along the Community Access Road right-of-way will generally be limited to a 10 m wide right-of-way for equipment access to waterbody crossing structures (e.g., temporary bridges). • Removed vegetation will be immediately transported outside a waterbody buffer zone and above its high-water mark to minimize disturbance to the bed and banks. • Owner / operator will work with both Indigenous communities and forest management units to manage merchantable timber cleared by the Project. • Slash and debris will be chipped and spread over the right-of-way or will be burned in accordance with provincial *Forest Fires Prevention Act* and in compliance with Ontario Regulation 207/96 (Government of Ontario, 1990e). • Erosion and Sediment Control Plan will be implemented. Owner / operator will install, monitor, and manage appropriate erosion and sedimentation control measures in accordance with Ontario Provincial Standard Specifications for erosion and sediment control measures (Ministry of Transportation, 2021a, 2021b, 2021c) to minimize or avoid sediment mobilization to drainages, or waterbodies. Adequate and appropriate erosion and sedimentation control materials will be on site and available prior to commencement of Construction. • Additional contingency measures will be implemented as appropriate in the event of excessive rain, wet weather, or flood-like conditions. • Progressive reclamation of disturbed areas will be practiced. • All aggregate pits will be located a minimum of 120 m away from the ordinary high-water mark of a waterbody, where possible. The aggregate pits will follow the guidelines and associated conditions / requirements, including development of a Rehabilitation Plan.
SW-07	• Surface Water Quality • Sediment Quality	• Changes to surface water quality and sediment quality from the wash off of accidental spills and leaks to nearby waterbodies	• Construction • Operations	• Transport Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• The transportation, storage, and handling will be planned in compliance with the federal *Transportation of Dangerous Goods Act* (Government of Canada, 1992) and the *Technical Standards and Safety Act* (Government of Ontario, 2000). • The aboveground storage tanks will be designed to meet the requirements of the Canadian Council of Ministers of the Environment (2003).	• During construction, fuel and hazardous materials will be transported, stored, and handled in approved containers in licensed vehicles. • Transportation of fuel on winter roads during Construction will only take place in safe ice conditions. • Vehicles used for transportation will be licensed and maintained according to safety requirements. Vehicles and equipment used for construction activities will be regularly serviced, maintained and inspected for leaks. • Owner / operator will implement Waste Management Plans during construction.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
					• Owner / operator will prepare Waste Management Plans that describe the appropriate management of solid, liquid, and hazardous waste. • Owner / operator will prepare a Spill Prevention and Emergency Response Plan in accordance with Part X of the *Environmental Protection Act* and Ontario Regulation 675/98 under *Environmental Protection Act* (Government of Ontario, 1990f).	• Owner / operator will implement a Spill Prevention and Emergency Response Plan during construction. • Refuelling, service, and maintenance of vehicles and equipment during construction will generally be carried out in designated areas with specific measures to collect and contain leaks and spills, if occurred. • Spill response kits will be provided in fuel and hazardous materials storage and handling facilities at temporary construction camps and temporary laydown areas, in onsite work areas, and / or in vehicles and equipment, and personnel will be trained in spill response practices and procedures. • During the winter periods, sand will be used on the Community Access Road for de-icing instead of road salt. • During operations, vehicles used for transportation will be licensed and maintained according to safety requirements. Vehicles and equipment will be regularly serviced, maintained and inspected for leaks. • Hazardous materials to be used for maintenance activities, will be stored in designated areas designed and constructed to collect and contain minor leaks and spills. • Spill Prevention and Emergency Response Plan for maintenance activities will be developed and implemented.
SW-08	• Surface Water Quality • Sediment Quality	• Changes to surface water quality and sediment quality from the wash off of explosives spills and residues from blasting activities to nearby waterbodies	• Construction	• Transport Canada • Ontario Parks	• The transportation and storage of explosives will be in compliance with the *Explosives Act* (Government of Canada, 1985) and the federal *Transportation of Dangerous Goods Act* (Government of Canada, 1992), where applicable. • Owner / operator will prepare a Blasting and Communication Management Plan that describes specific measures that would be implemented if blasting is required.	• Blasting activities will also be in accordance with aggregate licence issued under *Aggregate Resources Act* (Government of Ontario, 1990g). • Ammonium nitrate and fuel oil will not be used. • Owner / operator will implement a Blasting and Communication Management Plan. • Owner / operator will use explosives only if excavation to remove bed rock is found not feasible. • The Environmental Inspector will monitor blasting operations for adherence to the Blasting and Communication Management Plan. • Discarded explosives will either be detonated on site or temporarily stored in the explosives magazine and returned to the explosives' distributor.
Fish and Fish Habitat						
FFH-01	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quantity and quality through physical alterations of waterbodies	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Fish and fish habitat and surface water surveys methods will be conducted before construction at any waterbody that has not been assessed and work is proposed below the high-water mark. • Where feasible, areas of sensitive fish habitat and fishing areas that have been identified through the Indigenous Knowledge program in pre-construction design will be avoided. • Limit the Project footprint to the extent feasible. • During detail design, complete site-specific fish and fish habitat and surface water surveys to support engineering and Fisheries and Oceans Canada and the Ministry of Natural Resources permitting at waterbody crossings where work below the high-water mark is proposed. Submit designs of waterbody crossings as required for permit applications to Fisheries and Oceans Canada and the Ministry of Natural Resources. Surveys	• Use existing access roads where possible. • Complete work as quickly as possible to shorten the duration of disturbance. • Decommission and rehabilitate temporary access roads, staging areas, camps, and debris and / or timber stockpiles following construction, where not needed for Operations activities. • Have Environmental Monitors and Indigenous Environmental Monitors on site during construction to confirm that all waterbodies crossed by the Preferred Route right-of-way and access roads have been identified and documented in the waterbody crossing list. The Environmental Monitors will monitor the installation, use, and removal of waterbody crossing structures. The Environmental Monitors will confirm that the appropriate waterbody crossing structure is being used and that the required Fisheries and Oceans Canada and the Ministry of Natural Resources approvals and permits are in place. • If new waterbodies are identified prior to construction, contact an Aquatics Specialist to assess the waterbody. Depending on the nature of the

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					may also be required at select sites where work above the high-water mark is proposed based on Fisheries and Oceans Canada and the Ministry of Natural Resources permitting requirements.	waterbody, recommendations for construction methods, appropriate mitigation and enhancement measures, and permitting requirements will be made by the Aquatics Specialist and, if necessary, local First Nation communities and appropriate regulatory agencies including the Ministry of Natural Resources and Fisheries and Oceans Canada will be engaged. This will allow for the appropriate mitigation and enhancement measures to be implemented during construction at each waterbody crossing at a site-specific level, which will reduce or avoid potential effects on habitat quantity and quality. If new waterbodies are identified during construction, clearly flag the waterbody and suspend activity within 30 m of the location until an Aquatic Specialist has assessed the waterbody and determined a suitable course of action, which may include contacting Fisheries and Oceans Canada and the Ministry of Natural Resources. • Construct waterbody crossings in a manner that maintains downstream flows and fish passage and follows conditions of permits or authorizations issued for the Project by Fisheries and Oceans Canada and the Ministry of Natural Resources. • Construct, operate, remove, decommission, and rehabilitate all waterbody crossing structures, if appropriate, following best management practices and environmental approval conditions, including the Ontario Provincial Standard Specification General Specification for Environmental Protection for Construction in and Around Waterbodies and on Waterbody Banks (Ministry of Transportation, 2025a), Ontario Ministry of Natural Resources Environmental Guidelines for Access Roads and Water Crossings (1990) and Fisheries and Oceans Canada's Measures to Protect Fish and Fish Habitat (2023) and Standards and Codes of Practice. • Avoid construction during a fish and fish habitat restricted activity timing window, where feasible. Work may not be conducted during the proposed restricted activity timing window unless approval is obtained from the Ministry of Natural Resources and Fisheries and Oceans Canada. Proposed restricted activity timing windows were assigned to avoid work during sensitive life history periods or life stages for all fish that may be present in each waterbody, including movements to spawning areas, spawning and egg incubation, or eggs and newly hatched fry. The restricted activity timing windows for each waterbody crossing will be finalized by the Ministry of Natural Resources during permitting. • For permanent and temporary waterbody crossing structures, the proposed restricted activity timing window will be applicable if: • Any work is completed below the high-water mark (e.g., installation or removal of fill or culverts, bridge supports below the high-water mark, one-time ford). • The waterbody is frozen and an ice bridge / snow fill is constructed. • Beaver dam removals are required. • For permanent and temporary waterbody crossing structures, the proposed restricted activity timing window will not be applicable: • If all work is completed above the high-water mark (e.g., installation or removal of a clear span bridge with no fill or supports below the high-water mark). • When using the existing and installed waterbody crossing structures, where no modifications are required.

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						• Avoid constructing in sensitive habitats (e.g., spawning areas, groundwater upwellings) where feasible. • Construct or install waterbody crossing structures in a manner that protects the banks from erosion, maintains downstream flows in the waterbody, and follows permits or authorizations issued for the Project from Fisheries and Oceans Canada and the Ministry of Natural Resources. • Fording of a waterbody is not permitted, unless approved by the Ministry of Natural Resources and Fisheries and Oceans Canada. As per Fisheries and Ocean Canada's Code of Practice, limit fording to a one-time event (over and back) and use only if an existing crossing at another location is not available or practical to use. If repeated crossings of the waterbody are required, a crossing structure will be installed. Permits are expected to be required from Ministry of Natural Resources for any use of a ford. • Complete instream construction in isolation of flowing water (i.e., use isolation methods for the installation and removal of culverts where surface water exists at the time of construction). • For isolations / diversions, maintain 100% downstream flow. • Use erosion resistant fill material below the high-water level within the floodplain of a waterbody. • Upon removal of the temporary crossing materials, return the waterbody banks to their original profile if needed and stabilize disturbed areas, as necessary, to prevent soil erosion. • Locate temporary access roads, staging areas, camps, and debris and / or timber stockpiles a minimum of 30 m away from the ordinary high-water mark of a waterbody, where possible. • Maintain buffer zones of 30 m around waterbodies and limit clearing of riparian vegetation to the extent practical and to the requirement of the access road and alignment clearing width only. • Install, monitor, and manage appropriate erosion and sedimentation control measures to minimize or avoid sediment mobilization from the disturbed area to drainages or waterbodies and in accordance with Ontario Provincial Standard Specifications Construction Specification for Temporary Erosion Control (Ministry of Transportation, 2021c) and Construction Specification for Temporary Sediment Control (2020). Adequate and appropriate erosion and sedimentation control materials will be on site and available prior to commencement of construction. • Turbidity and total suspended solids will be monitored according to Fisheries and Oceans Canada, and the Ministry of Natural Resources permit requirements and will follow the Canadian Council of Ministers of the Environment's Canadian Water Quality Guidelines for the Protection of Aquatic Life (Canadian Council of Ministers of the Environment, 1999).
FFH-01	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quantity and quality through physical alterations of waterbodies	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Regularly inspect and maintain culverts and bridges to prevent blockages from forming and causing ponding or backwater effects. Where culverts and bridges are installed at fish-bearing waterbodies, follow Fisheries and Oceans Canada's Codes of Practice for debris removal activities (i.e., gradual removal such that flooding downstream, extreme flows downstream, release of suspended sediment, and fish stranding can be avoided). • Operate waterbody crossing structures in consideration of best management practices and environmental approval conditions, including

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
						the Ontario Ministry of Natural Resources Environmental Guidelines for Access Roads and Water Crossings (1990) and Fisheries and Oceans Canada's Measures to Protect Fish and Fish Habitat (2023).
FFH-02	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quantity and quality through changes to riparian vegetation	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Clear and revegetate the riparian zone following Fisheries and Oceans Canada's Measures to Protect Fish and Fish Habitat (2023), Ontario Provincial Standard Specification General Specification for Environmental Protection for Construction in and Around Waterbodies and on Waterbody Banks (Ministry of Transportation, 2025a), and the Ontario Ministry of Natural Resources' Environmental Guidelines for Access Roads and Water Crossings (1990), and Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (2010a) and its associated Background and Rationale for Direction (2010b). • Maintain a 30 m riparian buffer around waterbodies, where feasible. • Do not use herbicides. • Consider the restricted activity timing windows for waterbodies for the timing of clearing riparian.
FFH-02	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quantity and quality through changes to riparian vegetation	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Follow the Operations mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Maintain a 30 m riparian buffer around waterbodies, where feasible. • Do not use herbicide.
FFH-03	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Injury or mortality of fish from instream construction	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Instream Construction: • For isolations / diversions, appropriately screen water intakes or pumps to prevent entrainment or impingement of fish (Fisheries and Oceans Canada, 2023); follow measures for design and installation of intake end of pipe fish screens to protect fish (Fisheries and Oceans Canada, 2023). • Obtain a Licence to Collect Fish for Scientific Purposes from the Ministry of Natural Resources and have Aquatics Specialists rescue and relocate fish within the isolated workspace prior to construction in the isolated workspace.
FFH-04	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes in habitat quality from release of sediment at waterbody crossings	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Develop a Sediment and Erosion Control Plan in accordance with Ontario Provincial Standard Specifications Construction Specification for Temporary Erosion Control (Ministry of Transportation, 2021c) and Construction Specification for Temporary Sediment Control (Ministry of Transportation, 2020).	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies* and Changes to fish habitat quantity and quality through changes to riparian vegetation. • Recontour disturbed areas to restore drainage patterns and the approximate pre-construction profile. • Postpone instream construction if excessive flows or flood conditions are present or anticipated. Resume activities when water levels have subsided or equipment / techniques suitable for conditions are deployed.

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						• To the extent practical, and while complying with all appropriate mitigation and enhancement measures, complete work below the high-water mark as quickly as possible to shorten the duration of disturbance. • Construct or install waterbody crossings in a manner that protects the banks from erosion, maintains downstream flows in the waterbody, and follows permits or authorizations issued for the Project from Fisheries and Oceans Canada and the Ministry of Natural Resources. • Avoid bank grading to accommodate temporary bridges where possible. Restrictions on grading may be required as part of waterbody crossing permits from Fisheries and Oceans Canada and the Ministry of Natural Resources. • Install, monitor, and manage appropriate erosion and sedimentation control measures to prevent sediment from reaching the waterbody prior to and during construction and in accordance with Ontario Provincial Standard Specifications Construction Specification for Temporary Erosion Control (Ministry of Transportation, 2021c) and Construction Specification for Temporary Sediment Control (2020). • Temporary erosion control measures must be: - Properly installed. - Installed before or immediately after initial disturbance. • 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.
FFH-04	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes in habitat quality from release of sediment at waterbody crossings	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Develop and follow a Sediment and Erosion Control Plan.	• Follow the Operations mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Install, monitor, and manage appropriate erosion and sedimentation control measures to prevent sediment from reaching the waterbody prior to and during maintenance activities.
FFH-05	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quantity and quality from the placement of waterbody crossing structures and changes in channel morphology	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies* and *Changes in habitat quality from release of sediment land disturbance during road construction at waterbody crossings*.
FFH-05	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quantity and quality from the placement of waterbody crossing structures and changes in channel morphology	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Follow the Operations mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*.
FFH-06	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish survival, reproduction, and distribution from the placement of waterbody crossing structures, affecting fish access to habitats	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Waterbody Crossing: • Where a channel allows for fish passage, design and install culverts in fish-bearing waterbodies to allow for fish passage to Ontario Ministry of Natural Resources Environmental Guidelines for Access Roads and Water Crossings (1990) and Fisheries and Oceans Canada's Standards and Code of Practices and fish passage	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies* and *Changes in habitat quality from release of sediment land disturbance during road construction at waterbody crossings*

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					guidelines (Katopodis and Gervais, 2016; Di Rocco and Gervais, 2024).	
FFH-06	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish survival, reproduction, and distribution from the placement of waterbody crossing structures, affecting fish access to habitats	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Follow the Operations mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies.*
FFH-07	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quantity and quality due to changes in hydrology or groundwater that may alter drainage patterns and increase or decrease drainage flows and surface water levels	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Develop and maintain surface water management and erosion control infrastructure to minimize potential for changes to infiltration rates.	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies.*
FFH-07	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quantity and quality due to changes in hydrology or groundwater that may alter drainage patterns and increase or decrease drainage flows and surface water levels	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable.	• Follow the Operations mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies.*
FFH-08	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish through blasting-related injuries or mortality to fish	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Prepare a Blasting and Communication Management Plan that is in accordance with Ontario Provincial Standard Specification *General Specifications for the Use of Explosives* (Ministry of Transportation, 2025b) and describes specific measures that would be implemented if blasting is required	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Use explosives only if alternate methods of excavation to remove materials for foundation systems and roads are not feasible. • Complete blasting near fish-bearing waterbodies outside the proposed restricted activity timing window for all blasting operations. • For blasting operations, follow the overpressure and vibration guidelines outlined in in the Fisheries and Oceans Canada's *Measures to Protect Fish and Fish Habitat* (2023), Ontario Provincial Standard Specification *General Specifications for the Use of Explosives* (Ministry of Transportation, 2025b), and *Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters* (Wright and Hopky, 1998): • Overpressure guideline—Explosives are not to be detonated in or near fish habitat that produces, or is likely to produce, an instantaneous water pressure change (i.e., overpressure) greater than 100 kPa where fish are present. The overpressure guideline applies year-round in any fish-bearing waterbody near the blast. • Vibration guideline—Explosives are not to be detonated that produce, or are likely to produce, a peak particle velocity greater than 13 mm/s in a spawning bed during the period of egg incubation. The vibration guideline applies during the restricted activity timing window in the waterbody near the blast.

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FFH-08	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish through blasting-related injuries or mortality to fish	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish through blasting-related injuries or mortality to fish*	• Follow the operations mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Follow the Construction mitigation and enhancement measures outlined in *Changes to fish through blasting-related injuries or mortality to fish.*
FFH-09	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quality from the deposition of air contaminants and fugitive dust emissions	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Prepare a Dust / Air Quality Management Plan prior to construction	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Burn of slash piles subject to agreements with Indigenous communities, landowners, and to permits and approvals by appropriate regulatory agencies.
FFH-09	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish habitat quality from the deposition of air contaminants and fugitive dust emissions	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Prepare a Dust / Air Quality Management Plan.	• Follow the operations mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Implement dust control practices (e.g., wetting with water and implementation of speed limits), as required.
FFH-10	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish survival and reproduction from improved public access to recreational angling areas	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable.	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Decommission and rehabilitate temporary pits and quarries and the temporary infrastructure for construction including access roads, staging areas, camps, and debris and / or timber stockpiles at the end of construction. Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Aggregate Resources Act*. • Implement best management practices and regulations outlined by the Ministry of Natural Resources to reduce the spread of invasive species.
FFH-10	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish survival and reproduction from improved public access to recreational angling areas	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable.	• Follow the operations mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies.*
FFH-11	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish survival and reproduction from spills of fuel or other materials	• Construction	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Prepare and a Spill Prevention and Emergency Response Plan that describes specific measures that would be implemented if a spill occurred.	• Follow the Construction mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies.* • Have equipment for containing spills on site. Spill response kits will be provided in fuel and hazardous materials storage and handling facilities at temporary construction camps and temporary laydown areas, in onsite work areas, and / or in vehicles and equipment, and personnel will be trained in spill response practices and procedures. Spills and leaks will be contained and cleaned up as soon as possible following incidents. • Refuel, service, and maintain vehicles and equipment in designated areas at temporary construction camps and temporary laydown areas a minimum of 120 m from waterbodies.

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						• Wash, refuel, and service machinery to prevent any deleterious substances from entering a waterbody (Fisheries and Oceans Canada, 2023). • Store fuel and other materials for the machinery to prevent any deleterious substances from entering a waterbody (Fisheries and Oceans Canada, 2023). • Register aboveground storage tanks under, and in compliance with, applicable federal and provincial legislation. • Meet the federal *Transportation of Dangerous Goods Act* and *Ontario Technical Standards and Safety Act* (Government of Ontario, 2000) (Government of Canada, 1992) for the transportation, storage, and handling of fuels. • Have machinery and equipment arrive on site in a clean condition and inspect and maintain routinely to avoid fluid leaks. • Train individuals working on site and handling hazardous materials about best practices for the transportation of dangerous goods to avoid negatively affecting fish and fish habitat by introducing hazardous materials into the environment.
FFH-11	• Lake Sturgeon, Walleye, Brook Trout, Northern Pike, Lake Whitefish, and Burbot	• Changes to fish survival and reproduction from spills of fuel or other materials	• Operations	• Fisheries and Oceans Canada • Ministry of Natural Resources • Ontario Parks	• Not applicable.	• Follow the operations mitigation and enhancement measures outlined in *Changes to fish habitat quantity and quality through physical alterations of waterbodies*. • Meet the *Ontario Technical Standards and Safety Act* (Government of Ontario, 2000) and federal *Transportation of Dangerous Goods Act* (Government of Ontario, 1992) for the transport, storage, and handling of fuels required for maintenance. • Have machinery and equipment arrive on site in a clean condition and inspect and maintain routinely to avoid fluid leaks during maintenance. • Use mechanical or manual methods to clear vegetation; herbicide use is not permitted.
Groundwater and Geochemistry						
GW-01	• Groundwater	• Changes to groundwater quantity due to short-term water takings	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Design construction dewatering to minimize the amount of groundwater that has to be extracted. • Conduct site-specific hydrogeological studies for any groundwater sourced water supplies used for Project construction. • Efficient water processes, fixtures and systems to be used where practical to reduce water taking requirements. • Groundwater monitoring stations will be established at areas where large groundwater takings are expected or where potential for impacts on groundwater quality exists, such as pits, quarries, temporary construction camps, laydown yards, road constructed over peatland, and large structure foundations or road cuts / fills. • The groundwater monitoring stations will be located between the anticipated work area and nearby receptors such as wetlands, waterbodies, and seeps / springs. Multiple groundwater monitoring stations may be required at larger sites to assess effects on various or	• Groundwater removed from construction areas should be discharged locally and allowed to infiltrate the ground according to discharge permits. • Where possible, treated wastewater from groundwater sources should be returned to the local environment and allowed to infiltrate the ground according to discharge permits, to reduce the net taking of groundwater. • Groundwater monitoring to be conducted where required by permits or site-specific hydrogeological studies. • Groundwater monitoring stations established for the pre-construction monitoring programs will be maintained and monitored through construction. • Groundwater levels will be measured at the monitoring stations at least weekly during construction activities. During active groundwater takings, the nearby groundwater levels will be measured at least daily. • Groundwater quality will be sampled at the monitoring stations at least monthly for the same parameters as the pre-construction monitoring.

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					large receptors and the groundwater monitors should provide depth coverage to at least the expected water taking depth. • Groundwater levels will be measured at the monitoring stations at least monthly for 3 months prior to beginning groundwater taking. For pits and quarries which will be extracted below the water table under an Ontario *Aggregate Resources Act* permit, the groundwater monitoring program will be designed in accordance with the Aggregate Resources of Ontario: Technical Reports and Information Standards (Government of Ontario, 2023) in addition to the Project monitoring program. • Groundwater quality will be sampled at the monitoring stations at least monthly for 3 months prior to beginning construction work. The groundwater quality samples should be analyzed for general water quality parameters at minimum (such as., pH, temperature, conductivity, hardness, alkalinity, chloride, nitrate, nitrite, sulphate, phosphate, ammonia, total dissolved solids, dissolved organic carbon, calcium, copper, iron, magnesium, manganese, potassium, sodium, and zinc). Sampling for metal parameters will include both dissolved and total concentrations to assess the influence of suspended solids on the concentrations. Additional parameters of concern should also be sampled for where identified, for example sampling for volatile organic compounds near areas where fuel or chemical storage is located. • In addition to the above recommended pre-construction monitoring, at sites where construction activities will require permitting for dewatering, the groundwater monitoring will be enhanced on a site-by-site basis to support the required permitting studies.	
GW-02	• Groundwater	• Changes to groundwater quantity due to reduced or increased recharge	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Design Project drainage to allow for local infiltration of water. • Follow drainage best management practices such as those outlined in *Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects* (Ministry of Transportation, 2007) and *Environmental Guidelines for Access Roads and Water Crossings* (Ontario Ministry of Natural Resources, 1990).	• Avoid infiltration of contaminated water or infiltration of water at locations that could be negatively impacted by raised groundwater levels. • Restore temporary construction infrastructure and sites to match pre-disturbance ground cover, topography, and vegetation conditions.
GW-03	• Groundwater	• Changes to groundwater quantity due to pit or quarry dewatering	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• All aggregate pits and quarries will be permitted by the Ministry of Natural Resources under the Ontario *Aggregate Resources Act* including technical studies to assess any extraction proposed below the water table.	• Industry best management practices for water taking from aggregate pits and quarries should be employed such as recording water takings volumes and times, discharging water back to the environment in a way that allows for replenishment of groundwater, onsite water reuse, and monitoring of discharge water quality. • Groundwater monitoring programs to be established in accordance with permit requirements and Project monitoring plans.

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GW-04	• Groundwater	• Changes to groundwater quantity due to road construction in peatland areas	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Road design should include equalization culverts and permeable base materials in peat land areas.	• The Community Access Road foundation design and construction should allow for groundwater flow through the peat to be maintained near to pre-construction rates. • A groundwater monitoring program will be implemented to identify if groundwater flow beneath the road in peatland areas is significantly restricted.
GW-05	• Groundwater	• Changes to groundwater quality due to accidental spills and leaks	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Transport Canada • Ontario Parks	• A Project-wide Spill Prevention and Emergency Response Plan will be developed.	• Fuels and hazardous materials should be stored and handled according to applicable regulations and best management practices such as the *Technical Standards and Safety Act* and the federal *Transportation of Dangerous Goods Act*. • A Project-wide Spill Prevention and Emergency Response Plan will be implemented. • All employees will be trained for spill prevention and response. • All machinery and equipment will be regularly inspected to maintain proper function and avoid any fluid leaks. • High-risk activities such as fuelling will be done only in designated areas where secondary containment and adequate spill containment measures are available. • The Community Access Road will be maintained to provincial standards to reduce the risk of accidents and associated spills.
GW-06	• Groundwater	• Changes to groundwater quality due to construction wastes and wastewater discharges	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Wastewater will be treated to meet provincial water quality guidelines such as *Provincial Water Quality Objectives* set by Ontario's Ministry of the Environment, Conservation and Parks (Ministry of the Environment, Conservation and Parks, 1994) and monitored to help confirm that it continues to meet the guidelines. • Discharges should be permitted where required under Environmental Compliance Approvals issued by Ministry of the Environment, Conservation and Parks. • A Waste Management Plan will be developed for the Project and include details for how wastes should be stored, handled, and disposed of.	• All staff working on the Project will be trained in and aware of the Project's Waste Management Plan. • Wastes generated by Project activities will be kept in designated containment areas according to applicable legislation (e.g., Ontario Regulation 347) until removed for final disposal. Any waste storage should be protected from precipitation contact that could cause contaminated runoff.
GW-07	• Groundwater	• Changes to groundwater quality due to blasting residues	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Transport Canada • Ontario Parks	• A Blasting and Communication Management Plan will be developed for the Project and include guidelines for explosives handling, storage, and loading to minimize explosives exposure to the environment and minimize explosives residue after blasting.	• Project blasting will be carried out according to applicable regulations such as the *Explosives Act* and the federal *Transportation of Dangerous Goods Act*. • A monitoring program for water quality in quarry sumps and downstream of blasting areas will be conducted and compared to action levels of contaminants of concern set based on regulatory guidelines and the sensitivity of downstream receptors. • Post-blast inspections will be regularly carried out to identify issues with blast design and detonations.
GW-08	• Groundwater	• Changes to groundwater quality due to exposure of acid-generating or metal leaching materials	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• A geochemical monitoring program will be developed to test bedrock and soils in areas where they will be exposed by excavation. Acid base accounting analysis will be carried out and materials assessed for acid rock drainage potential based on the classification as outlined in Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials (Price, 2009).	• Any materials identified as at risk for acid generation or metal leaching will not be excavated or will be subject to site-specific mitigation and management plans to contain and control potential acid rock drainage if excavation is unavoidable.

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GW-09	• Groundwater	• Changes to groundwater quality due to road maintenance	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Transportation • Ontario Parks	• Not applicable	• Road maintenance will be carried out according to best management practices such as those outlined by *Best Practices for the Use and Storage of Chloride-Based Dust Suppressant* (Environment Canada, 2007) to reduce the use of chemicals for dust control and minimize runoff of chemicals to the environment. • Alternative chemicals or methods of dust control that pose less risk of runoff and infiltration should be considered for use.
GW-10	• Groundwater	• Changes to groundwater quantity due to pit or quarry dewatering • Changes to groundwater quantity due to road construction in peatland areas • Changes to groundwater quality due to construction wastes and wastewater discharges • Changes to groundwater quality due to blasting residues • Changes to groundwater quality due to road maintenance	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• See Groundwater mitigation measures GW01 to GW08.	• Monitoring programs of the Project and other activities / projects should share relevant monitoring data where predicted effects may overlap.
Peatlands						
PL-01	• Peatland Ecosystems	• Changes to peatland ecosystems as a result of direct peatland loss	• Construction	• Ministry of Natural Resources • Environment and Climate Change Canada	• Refine peatland mapping and field-verify the locations of sensitive or difficult to restore vegetation communities (e.g., fens and bogs) to inform micrositing of the Project footprint. • Complete an assessment of pit / quarry locations to identify potential effects due to changes in hydrogeology on peatland communities within the radius of influence for dewatering programs. • Prepare a Vegetation Restoration Plan that includes measures specific to peatland communities and peatland restoration, including peat stockpile management. This plan will be developed through engagement and consultation with Indigenous communities and integration of local Indigenous Knowledge and stewardship protocols. • Develop a pre-construction peatlands hydrological monitoring and water budget study to further inform the assessment of potential Project impacts on peatlands and the associated recommended mitigation measures (such as culvert size and locations) that will be confirmed at detail design.	• Implement a Vegetation Restoration Plan. • Perform clearing and construction activities in winter months where feasible, to minimize compaction of peat. A review of the project construction schedule will be completed during detail design to coordinate work based on environmental timing windows and timing restrictions. • Limit vegetation clearing to within the 100 m right-of-way and reduce to less than this width whenever and wherever possible: • Minimize clearing widths in peatland ecosystems to the extent feasible, given the difficulty of effective restoration of these ecosystems. • Adjust the alignment or clear off centre within the right-of-way where warranted, to minimize effects on peatland ecosystems. These details will be refined during detailed design, prior to construction. • Limit clearing of riparian vegetation (i.e., within 30 m of waterbodies) to the extent possible and to the requirement of the access road and alignment clearing width only. • Locate temporary access roads, staging areas, camps, and debris and / or timber stockpiles in less sensitive ecosystems (e.g., upland ecosystems), where feasible. Avoid peatland communities for temporary features wherever feasible. • Have Environmental Monitors and Indigenous Environmental Monitors onsite during construction to confirm that all mitigation measures are being implemented appropriately. Details regarding Environmental Monitors and their role during the project will be determined through the development of

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						the Environmental Protection Plan. Upon completion of construction, sand and gravel pits, including temporary access roads leading to the pits, will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the Aggregate Resource Act, which will include backfilling, levelling, recompacting, and redistributing organic materials. Temporary access roads leading to temporary quarry areas will also be decommissioned. Temporary quarries not required for maintenance activities will be vegetated in accordance with the Rehabilitation Plan. Quarries maintained for operations will be blocked to discourage public use but facilitate access for ongoing road maintenance. The number of quarries required for maintenance are unknown at this time. • Develop and implement a Project-specific Environmental Protection Plan.
PL-02	• Peatland Ecosystems	• Changes to peatland ecosystems as a result of changes to hydrology	• Operations	• Ministry of Natural Resources • Fisheries and Oceans Canada	• Not applicable	• Avoid re-entry and disturbance of restored temporary access areas post-construction. • Design and implement a program to monitor for peatland condition in the vicinity of project activities. The program will include science-based thresholds or indicators of peatland condition based on research and established standards, like those presented in Minasny et. al, 2023, as well as mitigation and adaptive response plan to prevent long-term damage or carbon release. Details regarding the thresholds and indicators as well as the number of monitoring locations and the length of the monitoring period will be determined in subsequent Project phases. • Implement a program designed to monitor and manage restored peatland communities as well as any wetland offset areas. Details regarding the number of monitoring locations, level of effort and length of the monitoring period will be determined in subsequent Project phases, if any peatland communities are restored or created.
PL-03	• Peatland Ecosystems	• Changes to peatland ecosystems as a result of changes to hydrology	• Construction • Operations	• Ministry of Natural Resources • Fisheries and Oceans Canada	• During detail design, carefully consider placement of culverts in peatland environments with a particular emphasis on the installation of culverts in areas where the road runs perpendicular to the natural flow of surface water; and • Design a pre-, during- and post-construction monitoring program that assesses surface water movement and helps to confirm that pre-construction conditions are maintained to the extent feasible (Section 9).	• Have Environmental Monitors and Indigenous Environmental Monitors onsite during construction to confirm that all mitigation measures are being implemented appropriately. Details regarding Environmental Monitors and their role during the project will be determined through the development of the Environmental Protection Plan; • Design and implement a pre-, during- and post-construction monitoring program that assesses surface water movement and helps to confirm that pre-construction conditions are maintained to the extent feasible (Section 9); and • Implement adaptive management measures if drainage patterns are determined to be significantly altered. Adaptive management measures will be determined through the development of the Environmental Protection Plan.
PL-04	• Peatland Ecosystems	• Changes to peatland ecosystems as a result of changes to groundwater	• Construction • Operations	• Ministry of Natural Resources • Fisheries and Oceans Canada	• Construct the Community Access Road through peatland communities using a “floating road” construction methodology to allow for groundwater movement below and through the road embankment. This approach will involve: • Completing a detailed ground survey, characterizing the peat and local hydrology at detailed design. • Identifying site-specific, appropriate values for peat strength.	• Design and implement a pre-, during- and post-construction monitoring program that assesses surface and groundwater movement and allows for the maintenance of pre-construction conditions to the extent feasible (Section 9). This includes the creation of a monitoring program that involves geochemical testing on exposed bedrock and soils to assess the potential for acid rock drainage and / or metal leaching as it relates to methylmercury production in peatland communities present within the Construction Disturbance Area. The program will also monitor potential increases in methylmercury production related to changes in groundwater

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					• Using a geogrid base to act as a separator and strengthener between the road subgrade fill materials and the peat. • Using additional geogrid and geotextile materials in layers combined with road aggregate material above the embankment fill to form a mechanically stabilized layer. This layer will provide the required strength and stiffness for the road to perform during all seasons, including spring thaw. • Designing the Floating Road Plan, profile and cross-section for each road section based on context-sensitive design standards, geometry and loading. • Designing transitions between “floating road” sections, excavated and fill sections. • Scheduling construction to allow for primary settlement of the peat without risk of shear failure. • Monitoring the work through construction, measuring and recording lateral movement and settlements. Being prepared to adjust the design based on observation and monitoring. • During detailed design, carefully consider placement of culverts in peatland environments with a particular emphasis on the installation of culverts in areas where the road runs perpendicular to the natural flow of groundwater. • AEM Surveying to produce continuous peat depth mapping which is critical for construction planning such as identifying saturated or sensitive areas that may require specialized engineering solutions.	levels as a result of the construction of the Community Access Road. The program will include the following activities: • Locations of groundwater monitoring instruments (e.g., piezometers) will be established approximately every 1,000 m along sections of the road that will be constructed with the “floating road” construction methodology. • Monitoring locations will be established both up and downgradient of the future road to capture pre-, during and post-construction groundwater levels and movement patterns. Monitoring locations should be located away from equalization culverts. • Monitoring will occur three times annually (spring, summer, fall). • Details of the monitoring plan including the final placement of piezometers and the duration of monitoring will be developed and refined during detailed design. • Design and implement a program to monitor peatland community response to any potential changes in hydrogeology throughout construction (e.g., in the vicinity of dewatering activities and either side of “floating road” segments). • Have Environmental Monitors and Indigenous Environmental Monitors onsite during construction to confirm that all mitigation measures are being implemented appropriately. Details regarding Environmental Monitors and their role during the project will be determined through the development of the Environmental Protection Plan. • Implement adaptive management measures if groundwater flow patterns are determined to be significantly altered. Adaptive management measures will be determined through the development of the Environmental Protection Plan.
PL-05	• Peatland Ecosystems	• Changes to peatland ecosystems from the introduction and spread of invasive plant species	• Construction	• Ministry of Natural Resources • Environment and Climate Change Canada	• An Environmental Protection Plan will be developed, to prevent, detect, control (i.e., remove), and monitor areas with invasive species. The plan should also include the following measures.	• Implement all components of the Environmental Protection Plan. • Thoroughly inspect and clean construction equipment and vehicles prior to bringing them to the work area and when moving between work areas within the Project. Cleaning will be completed in accordance with the most up to date version of the Clean Equipment Protocol for Industry. Documentation of the results of each inspection will be a requirement of the Environmental Protection Plan. Additional recommendations for the cleaning of equipment (e.g., the use of specific cleaning stations and their location) will be determined through the development of the Environmental Protection Plan. • Contour disturbed areas to minimize soil and water erosion and encourage growth of native vegetation. • Limit off-road vehicle use by owner / operator during construction and operations. Inspections and maintenance activities that will include cleaning of off-road vehicles before and after each use to prevent the spread of invasive species. Recommendations related to the use of off-road vehicles will be determined at detail design and / or through the development of the Environmental Protection Plan. • Use seed mixes with appropriate native species for all seeding and restoration works. Seed mixes must be tested / certified to be free of

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
						invasive species. Native seed should be sourced from local populations whenever possible. • Use reduced disturbance techniques to prevent topsoil removal and preserve adequate substrate (e.g., use a low impact method to leave the surface vegetation root mat intact). • Follow Ontario Ministry of Transportation's Provincial Standard Specification 803 to avoid spreading invasive plant species. (Ministry of Transportation, 2023).
PL-06	• Peatland Ecosystems	• Changes to peatland ecosystems from the introduction and spread of invasive plant species	• Operations	• Ministry of Natural Resources • Environment and Climate Change Canada	• Not applicable.	• Require that the road owner / operator follows Ontario Ministry of Transportation's Provincial Standard Specification 803 to avoid spreading invasive plant species (Ministry of Transportation, 2023). • Remove and manage invasive species using manual and mechanical means. Herbicides will not be used. • Design and implement a post-construction invasive species monitoring program to detect invasive species presence and control (i.e., remove) new introductions. Details of the post-construction invasive species monitoring program will be included in the Environmental Protection Plan.
PL-07	• Peatland Ecosystems	• Changes to peatland ecosystems as a result of fragmentation and edge effects	• Construction	• Ministry of Natural Resources • Environment and Climate Change Canada	• Adjust the alignment or clear off centre within the right-of-way to minimize peatland fragmentation and the creation of new forested swamp edges, where feasible. These details will be refined during detailed design. • Construct temporary laydown areas and temporary construction camps on existing disturbed areas, wherever possible. The availability of existing disturbed areas for the construction of temporary laydown areas and temporary construction camps will be determined at detail design.	• Avoid grubbing along newly created forested swamp edges to promote natural regeneration which will quickly "seal" the new forested swamp edge. • Use reduced disturbance techniques during construction to prevent topsoil removal, preserve adequate substrate (e.g., use a low impact method to leave the surface vegetation root mat intact). Recommendations for reduced disturbance techniques will be described in detailed design. • Use progressive restoration onsite once temporary work areas (e.g., staging areas) are no longer needed. Progressive restoration techniques will be provided in the Environmental Protection Plan.
PL-08	• Peatland Ecosystems	• Changes to peatland ecosystems from the release of sediment	• Construction	• Ministry of Transportation • Fisheries and Oceans Canada	• Develop a Project-specific Environmental Protection Plan. • Develop a Project-specific Erosion and Sediment Control Plan. Erosion and sediment control measures will be developed in accordance with Ontario Provincial Standard Specifications (Ministry of Transportation, 2021a, 2021c). Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks and Ontario Ministry of Natural Resources, will be followed during Construction. Installed erosion and sediment control measures are not expected to affect the water movement to peatlands.	• Implement a Project-specific Environmental Protection Plan. • Regularly inspect and maintain Erosion and Sediment Control structures (e.g., sediment fences, rip-rap, or other sediment control structures) in accordance with Ontario Provincial Standard Specification 804 (Ministry of Transportation, 2021a) during all phases of the Project and modify measures as necessary. If control measures are not functioning properly, no further work will occur until the problem is resolved. • Stabilize disturbed areas through revegetation with native plant species or other appropriate means (e.g., erosion control blankets) following completion of the works. • Reschedule work or reduce / detour traffic in areas where soils are considered to be excessively wet or where there is a heavy rainfall risk. Areas where a reduction in traffic or detours are required are unknown at this design stage. • Earthworks should be avoided during periods of heavy rainfall, particularly in areas adjacent to watercourses and wetlands. • Mitigation measures as outlined in the *Fish & Fish Habitat* and the *Surface Water and Groundwater in the table above*..
PL-09	• Peatland Ecosystems	• Changes to peatland ecosystems from spills of fuel or other contaminants	• Construction • Operations	• Ministry of Natural Resources	• Develop a Project-specific Environmental Protection Plan.	• During operations, mitigation measures will include a posting and enforcement of a speed limit on the highway, which should reduce potential for chemical or hazardous material spills by reducing vehicle collision risk.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		• Changes to peatland ecosystems as a result of the deposition of air contaminants • Changes to peatland ecosystems as a result of fugitive dust emissions		• Environment and Climate Change Canada • Ministry of Transportation		• Environmental approval conditions, permits, or authorizations issued for the Project construction, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks and Ontario Ministry of Natural Resources, will be followed during Construction.
PL-10	• Peatland Ecosystems	• Changes to peatland ecosystems as a result of increased public access	• Construction • Operations	• Ministry of Natural Resources • Environment and Climate Change Canada	• Minimize the Project footprint, vegetation clearing and access road requirements as much as possible (e.g., share / coordinate access, concentrate temporary activities spatially, leave habitat outside of scoped Construction Disturbance Area, selective clearing, and use existing access roads when available). Reducing cleared areas and the number of access roads through coordination, can reduce the number of cleared areas and access roads that will be present during and following construction that may provide access to previously inaccessible lands. • Develop a wildfire prevention plan for the construction works that outlines protocols for hot works or any other activity with the potential to trigger a fire, required fire suppression equipment, and a response plan if a fire is triggered.	• Limit the Project footprint, vegetation clearing and access road requirements to the extent feasible (e.g., share / coordinate access, concentrate temporary activities spatially, leave habitat outside the scoped Construction Disturbance Area, selective clearing, and use existing access roads when available); • Use progressive restoration onsite once temporary work areas (e.g., staging areas) are no longer needed and prevent ongoing use of inactive areas through combined use of physical control measures (rollback, removal of creek crossings, recontouring to surrounding topography, revegetation / reforesting and / or barriers at junctions with active access);Develop a policy for Project personnel while on shift or at temporary construction camps regarding any plant or timber harvesting activities.
PL-11	• Peatland Ecosystems	• Changes to peatland ecosystem carbon storage and flux	• Construction • Operations	• Ministry of Natural Resources • Environment and Climate Change Canada	• Locate temporary access roads, staging areas, camps, and debris and / or timber stockpiles in less sensitive ecosystems (e.g., upland ecosystems), where possible. Avoid peatland communities for temporary features wherever possible. • Prepare a Vegetation Restoration Plan that includes measures specific to peatland communities and peatland restoration, including peat stockpile management. These measures will be determined at detail design and/or when the Vegetation Restoration Plan is developed. This plan will be developed through engagement and consultation with Indigenous communities and integration of local Indigenous Knowledge and stewardship protocols.	• Decommission and rehabilitate temporary access roads, staging areas, camps, and debris and / or timber stockpiles following construction. Details related to peatland rehabilitation will be determined at detail design and/or when the Vegetation Restoration Plan is developed. • Construct the Community Access Road through peatland communities using a “floating road” construction methodology to allow for groundwater movement below and through the road embankment and to avoid the need for stripping of peat and the associated release of carbon. • Limit vegetation clearing to within the 100 m right-of-way and reduce to less than this width whenever and wherever possible: • Minimize clearing widths in peatland ecosystems given the difficulty of restoration efforts in these systems. • Adjust the alignment or clear off centre within the right-of-way where warranted, to minimize effects on peatland ecosystems. These details will be refined during detailed design, prior to construction. • Limit clearing of riparian vegetation (i.e., within 30 m of waterbodies) to the extent possible and to the requirement of the access road and alignment clearing width only.

AA1.2 Land

The summary of potential effects and recommendations for the land valued component is provided in **Table AA1-2**. Before construction, a Project-specific Environmental Protection Plan and Environmental Monitoring Plan will be developed and implemented. These plans will include an implementation strategy for the mitigation and monitoring commitments related to the land valued components.

Table AA1-2 Land Potential Effects Summary and Recommendations

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
Vegetation						
V-01	• All Vegetation Valued Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of direct vegetation loss	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada	• Refine vegetation community mapping and field-verify the locations of sensitive or difficult to restore vegetation communities (e.g., organic wetlands) to inform the micrositing Project footprint. • Reassess the status of Black Ash protection during future study phases. If Schedule 1 of Ontario Regulation 6/24 has been updated to include the area of the Project, a search for Black Ash trees will be completed at the Ogoki River crossing. Other suitable habitat in the south portion of the Construction Disturbance Area may also need to be searched. The scope of this additional assessment will be determined in consultation with regulatory agencies. If Black Ash trees are anticipated to be affected by the Project, regulatory agencies (Ministry of the Environment, Conservation and Parks, Environment Canada and Climate Change) will be consulted on next steps. • Consult with Ontario Parks at detail design to determine permitting, mitigation and / or compensation / offsetting expectations for direct impacts to the Albany River Provincial Park. • Consult with Ontario Parks at detail design to determine permitting, mitigation and / or compensation / offsetting expectations for impacts to Critical Landform / Vegetation Associations. • Locate temporary access roads, staging areas, camps, and debris and / or timber stockpiles away from known Traditional Use Plant harvesting areas, where possible. • Complete an assessment of pit / quarry locations to identify potential effects due to changes in hydrogeology / hydrology on vegetation communities within the radius of influence for dewatering programs. • Prepare a Vegetation Management Plan at detail design that contains measures to protect rare plants, including protocols specific to Black Ash (e.g., commitments to Emerald Ash Borer prevention measures and long-term surveillance). In the event a rare plant species is encountered unexpectedly, or cannot be avoided, the rare plant protection measures outlined in the Vegetation Management Plan will be implemented. • Prepare a Vegetation Restoration Plan;. This plan will be developed through engagement and consultation with Indigenous communities and	• Prepare a program designed to monitor any rare plant, or species at risk protection measures that have been implemented (e.g., check for damage or failure of protection fencing and make repairs). • Perform clearing and construction activities in winter months where feasible. • Limit vegetation clearing to within the 100 m right-of-way and reduce to less than this width to the extent possible. • Minimize clearing widths in more sensitive ecosystems (e.g., riparian ecosystems) and more difficult to restore vegetation community groups (e.g., fen and bog) to the extent possible. • Adjust the alignment or clear off centre within the right-of-way where warranted, to minimize effects on more sensitive or difficult to restore vegetation communities. These details will be refined during detailed design, prior to construction. • Limit clearing of riparian vegetation (i.e., within 30 m of waterbodies) to the extent possible and to the requirement of the access road and alignment clearing width only. • Locate temporary access roads, staging areas, camps, and debris and / or timber stockpiles in less sensitive ecosystems (e.g., upland ecosystems), where possible. Avoid peatland communities for temporary features wherever feasible. • Have Environmental Monitors and Indigenous Environmental Monitors onsite during construction to confirm that all mitigation measures are being implemented appropriately. Details regarding Environmental Monitors and their role during the project will be determined through the development of the Environmental Protection Plan. • Upon completion of construction, sand and gravel pits, including temporary access roads leading to the pits will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Aggregate Resource Act*, which will include backfilling, levelling, recompacting, and redistributing organic materials. Temporary access roads leading to temporary quarry areas will also be decommissioned. Temporary quarries not required for maintenance activities will be vegetated in accordance with the Rehabilitation Plan. Quarries maintained for operations will be blocked to discourage public use but facilitate access for ongoing road maintenance. The number of quarries required for maintenance are unknown at this time.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
					integration of local Indigenous Knowledge and stewardship protocols. • Include the seeding and / or planting of Traditional Use Plants in the Vegetation Restoration Plan.	
V-02	• All Valued Vegetation Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of direct vegetation loss	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada	• Prepare and a Vegetation Management Plan to keep vegetation from interfering with the safe and reliable operation and maintenance of the road.	• Avoid re-entry and disturbance of restored temporary access areas post-construction. • Implement a program designed to monitor and manage rehabilitated and restored vegetation communities as well as any wetland offset areas. Details regarding the number of monitoring locations, level of effort and length of the monitoring period will be determined in subsequent Project phases.
V-03	• All Valued Vegetation Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of changes to hydrology	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Fisheries and Oceans Canada	• Design a pre-, during and post-construction monitoring program that assesses surface movement and helps to confirm that pre-construction conditions are maintained to the extent feasible (Section 9). Implement pre-construction monitoring.	• Mitigation measures as outlined in the *Surface Water Technical Support Document* (Appendix F). • Implement a construction and post-construction monitoring program that assesses surface movement and helps to confirm that pre-construction conditions are maintained to the extent feasible (Section 9). • implement a program to monitor vegetation community response to any potential changes in hydrology throughout construction (e.g., in the vicinity of dewatering activities). • Implement adaptive management measures if drainage patterns are determined to be significantly altered. Adaptive management measures will be determined through the development of the Environmental Protection Plan.
V-04	• All Valued Vegetation Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of changes to groundwater	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Fisheries and Oceans Canada	• Construct the Community Access Road through peatland communities using a “floating road” construction methodology to allow for groundwater movement below and through the road embankment. This approach will involve: - Completion of a detailed ground survey, characterizing the peat and local hydrology at detailed design. - Site-specific identification of appropriate values for peat strength. - Use of a geogrid base to act as a separator and strengthener between the road subgrade fill materials and the peat. - Use of additional geogrid and geotextile materials in layers combined with road aggregate material above the embankment fill to form a mechanically stabilized layer. This layer will provide the required strength and stiffness for the road to perform during all seasons, including spring thaw. • Design the Floating Road Plan, profile and cross-section for each road section based on context-sensitive design standards, geometry and loading.	• Design and implement post-construction monitoring program that assesses surface and groundwater movement and helps to confirm that pre-construction conditions are maintained to the extent feasible (Section 9). Locations of groundwater monitoring instruments (e.g., piezometers), will be determined in consultation with vegetation ecologists and Indigenous communities so that effects on vegetation Valued Components are considered when determining their placement. • Design and implement a program to monitor vegetation community response to any potential changes in hydrogeology throughout construction (e.g., in the vicinity of dewatering activities). • Implement adaptive management measures if groundwater flow patterns are determined to be significantly altered. • Schedule construction to allow for primary settlement of the peat without risk of shear failure. • Monitor the work through construction, measuring and recording lateral movement and settlements. Be prepared to adjust the design based on observation and monitoring.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
					• Provide transitions between floating road sections, excavated and fill sections. • Airborne Electromagnetic (AEM) Surveying to produce continuous peat depth mapping which is critical for construction planning such as identifying saturated or sensitive areas that may require specialized engineering solutions. • A program designed to monitor groundwater on both sides of the Community Access Road and in areas of dewatering programs to establish pre-construction groundwater levels, as well as monitor groundwater levels during construction and post-construction. This program will include pre-construction, construction, and post-construction components. This also includes the creation of a monitoring program to include further geochemical testing on exposed bedrock and soils and determine the potential for acid rock drainage and / or metal leaching as it relates to methylmercury production in peatland communities present within the Construction Disturbance Area. The program will also monitor potential increases in methylmercury production related to changes in groundwater levels as a result of the construction of the Community Access Road. At a minimum, the program will include the following activities. Monitoring requirements will be further developed during detail design. • Monitoring locations will be established both up- and downgradient of the future road to capture pre-construction, construction, and post-construction groundwater levels and movement patterns. Monitoring locations should be located away from equalization culverts.	
V-05	• All Vegetation Valued Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of introduction and spread of invasive plant species	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada	• Develop an Environmental Protection Plan during construction to prevent, detect, control (i.e., remove), and monitor areas with invasive species. The plan will also include the following measures: - Thoroughly inspect and clean construction equipment and vehicles prior to bringing them to the work area and when moving between work areas within the Project. Cleaning will be completed in accordance with the most up to date version of the Clean Equipment Protocol for Industry (Halloran et al., 2013). Documentation of the results of each inspection will be a requirement of the Environmental Protection Plan. Additional recommendations for the cleaning of equipment (e.g., the use of specific cleaning stations and their location) will	• Implement all components of the Environmental Protection Plan.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
					be determined through the development of the Environmental Protection Plan. - Use reduced disturbance techniques to prevent topsoil removal and preserve adequate substrate . - Contour disturbed areas to minimize soil and water erosion and encourage growth of native vegetation. - Limit off-road vehicle use by owner / operator during construction and operations. Inspections and maintenance activities will include cleaning of off-road vehicles before and after each use to prevent the spread of invasive species. Recommendations related to the use of off-road vehicles will be determined at detail design and / or through the development of the Environmental Protection Plan. - Use seed mixes with appropriate native species for all seeding and restoration works. Seed mixes must be tested / certified to be free of invasive species. Native seed should be sourced from local populations whenever possible. - Follow Ontario Provincial Standard Specification 803 (Ministry of Transportation, 2023) to avoid spreading invasive plant species.	
V-06	• All Vegetation Valued Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of introduction and spread of invasive plant species	• Operations	• Ministry of Transportation	• Not applicable.	• Require that the road owner / operator follows *Provincial Standard Specification 803* (Ministry of Transportation, 2023) to avoid spreading invasive plant species. • Remove and manage invasive species using manual and mechanical means. Herbicides will not be used. • Design and implement post-construction invasive species monitoring program that aims to detect invasive species presence and control (i.e., remove) new introductions. Details of the post-construction invasive species monitoring program will be included in the Environmental Protection Plan.
V-07	• All Vegetation Valued Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of fragmentation and edge effects	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada	• Adjust the alignment or clear off centre within the right-of-way to minimize forest fragmentation and the creation of new forest edges, where feasible. These details will be refined during detailed design. • Construct temporary laydown areas and temporary construction camps on existing disturbed areas, wherever possible. The availability of existing disturbed areas for the construction of temporary laydown areas and temporary construction camps will be determined at detailed design.	• Avoid grubbing along newly created forest edges to promote natural regeneration which will quickly “seal” the new forest edge. • Use reduced disturbance techniques during construction to prevent topsoil removal, preserve adequate substrate (e.g., use low impact method to leave surface vegetation root mat intact until a site is proven for further development). • Use progressive restoration onsite once staging areas are no longer needed. Progressive restoration techniques will be provided in the Environmental Protection Plan.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
V-08	• All Vegetation Valued Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of release of sediment	• Construction • Operations	• Ministry of Transportation • Fisheries and Oceans Canada	• Mitigation measures have been noted above.	• Regularly inspect and maintain Erosion and Sediment Control structures (e.g., sediment fences, rip-rap or other sediment control structures) in accordance with Ontario Provincial Standard Specification 804 (Ministry of Transportation, 2021a) during all phases of the Project and modify measures as necessary. If control measures are not functioning properly, no further work will occur until the problem is resolved. • Stabilize disturbed areas through revegetation with native plant species or other appropriate means (e.g., erosion control blankets) following completion of the works. • Reschedule work or reduce / detour traffic in areas where soils are considered to be excessively wet or where there is a heavy rainfall risk. Areas where a reduction in traffic or detours are required are unknown at this design stage. • Earthworks should be avoided during periods of heavy rainfall, particularly in areas adjacent to watercourses and wetlands.
V-09	• All Vegetation Valued Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of spills of fuel or other contaminants	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada	• Mitigation measures have been noted above.	• Adherence to federal and provincial regulations and guidelines regarding fuel and residue, chemical product, petroleum product, and hazardous substance collection and storage, use and handling, and disposal and treatment, such as the federal *Transportation of Dangerous Goods Act* (Government of Canada, 1992), provincial *Dangerous Goods Transportation Act* (Government of Ontario, 1990h), and the provincial *Environmental Protection Act* (Government of Ontario, 1990f).
V-10	• All Vegetation Valued Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of the deposition of air contaminants and fugitive dust emissions	• Construction • Operations	• Ministry of Transportation	• Not applicable	• Refer to mitigations measures for Air Quality.
V-11	• All Vegetation Valued Components	• Changes to availability, distribution, composition and function of ecosystems and plant populations as a result of increased public access	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada	• Limit the Project footprint, vegetation clearing and access road requirements to the extent feasible (e.g., share / coordinate access, concentrate temporary activities spatially, leave habitat outside of scoped Construction Disturbance Area, selective clearing, use existing access roads when available). Reducing cleared areas and the number of access roads through coordination, can reduce the number of cleared areas and access roads that will be present during and following construction that may provide access to previously inaccessible lands. • Develop a wildfire prevention plan for the construction works that outlines protocols for hot works or any other activity with potential to trigger a fire, required fire suppression equipment, and a response plan if a fire is triggered.	• Use progressive restoration onsite once staging areas are no longer needed and prevent ongoing use of inactive areas through combined use of physical control measures (rollback, remove of creek crossings, recontouring to surrounding topography, revegetation / reforesting and / or barriers at junctions with active access). • Develop a policy for Project personnel while on shift or at temporary construction camps in regards to any plant or timber harvesting activities. • Install access controls (e.g., gates and boulders) to control public vehicle travel on some temporary access routes and trails. Marten Falls First Nation continues to engage in discussions with the Province regarding the ownership and future operations and maintenance of the Community Access Road. Access and ownership including gating security / ID system will require further dialogue between the communities and the Province. • Install signage at regular intervals stating that any dumping is prohibited.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
Wildlife						
WILDLIFE-01	• All Wildlife Valued Components	• **Introduction and spread of invasive plant species** - Introduction of invasive plants from Project activities can affect plant community composition, which can affect wildlife habitat availability and distribution	• Construction	• Ministry of Natural Resources • Ministry of Transportation • Ontario Parks	• Prepare the environmental monitoring program that will contain mitigation measures to control invasive plant species.	• Implement the environmental monitoring program, including mitigation for invasive plant species. • A comprehensive list of mitigation measures to control invasive plant species during Construction of the Project is provided in the Vegetation ID.
WILDLIFE-01	• All Wildlife Valued Components	• **Introduction and spread of invasive plant species -** Introduction of invasive plants from Project activities can affect plant community composition, which can affect wildlife habitat availability and distribution	• Operations	• Ministry of Natural Resources • Ministry of Transportation • Ontario Parks	• Not applicable	• As per the Ministry of Transportation's *Weed Control Maintenance Best Practice* (MBP-320), invasive plant species will be controlled using a combination of biological, chemical, cultural, manual, and mechanical control methods during operations (Ontario Ministry of Transportation, 2003).
WILDLIFE-02	• All Wildlife Valued Components	• **Emissions of criteria air contaminants—**Deposition of criteria air contaminant emissions (e.g., potential acid inputs) may change soil quality and vegetation and affect wildlife habitat availability and distribution.	• Construction	• Ministry of Transportation	• Potential mitigation measures outlined in the Ontario Ministry of Transportation's Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (Ontario Ministry of Transportation, 2020) may be implemented during Detail Design, if feasible. • Prepare the environmental monitoring program that will contain mitigation measures to control dust and air emissions.	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions. • A comprehensive list of mitigation measures that will be implemented to limit air particulate emissions during Construction is provided in Atmospheric Environment below.).
WILDLIFE-02	• All Wildlife Valued Components	• **Emissions of criteria air contaminants—**Deposition of criteria air contaminant emissions (e.g., potential acid inputs) may change soil quality and vegetation and affect wildlife habitat availability and distribution.	• Operations	• Ministry of Transportation	• Not applicable	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions. • A comprehensive list of mitigation measures that will be implemented to limit air particulate emissions during operations is provided in Atmospheric Environment below.
WILDLIFE-03	• All Wildlife Valued Components	• **Fugitive dust emissions—** Deposition of dust particulates may change soil and vegetation quality and affect wildlife habitat availability and distribution.	• Construction	• Ministry of Transportation	• Potential mitigation measures outlined in the Ontario Ministry of Transportation's *Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects* (Ontario Ministry of Transportation, 2020) may be implemented during Detail Design, if feasible. • Prepare the environmental monitoring program that will contain mitigation measures to control dust and air emissions.	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions.
WILDLIFE-03	• All Wildlife Valued Components	• **Fugitive dust emissions—** Deposition of dust particulates may change soil	• Operations	• Ministry of Transportation	• Not applicable	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		and vegetation quality and affect wildlife habitat availability and distribution.				
WILDLIFE-04	• All Wildlife Valued Components	• **Erosion and sedimentation—**Vegetation clearing, earth moving, pit and quarry development and other Project activities can result in the release of sediment, which may change the composition and function of vegetation communities and affect wildlife habitat availability and distribution.	• Construction	• Ministry of Transportation • Fisheries and Oceans Canada • Ontario Parks	• Prepare the environmental monitoring program that will contain mitigation measures to control erosion and sedimentation. • Erosion and sediment control measures will be developed in accordance with Ontario Provincial Standard Specifications for erosion and sediment control measures (Ministry of Transportation, 2021a, 2021b). • The Ministry of Transportation Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects will be consulted during the development of the erosion and sediment control measures.	• Implement the environmental monitoring program, including mitigation measures to control erosion and sedimentation during Construction. • Erosion and sediment control measures will be implemented in accordance with Ontario *Provincial Standard Specifications for Erosion and Sediment Control Measures* (Ministry of Transportation, 2021a, 2021b). • A comprehensive list of mitigation measures that will be implemented during Construction is provided in Vegetation and Surface Water above.
WILDLIFE-04	• All Wildlife Valued Components	• **Erosion and sedimentation—**Vegetation clearing, earth moving, pit and quarry development and other Project activities can result in the release of sediment, which may change the composition and function of vegetation communities and affect wildlife habitat availability and distribution.	• Operations	• Ministry of Transportation • Fisheries and Oceans Canada • Ontario Parks	• Not applicable	• Implement the environmental monitoring program, including mitigation measures to control erosion and sedimentation during operations. • Erosion and sediment control measures will be implemented in accordance with Ontario *Provincial Standard Specifications for erosion and sediment control measures* (Ministry of Transportation, 2021a, 2021b). • The mitigation measures established and refined using adaptive management during Project Construction should be maintained during operations. • Mitigation identified in the Ministry of Transportation's Maintenance Quality Standards and Maintenance Best Practices for highway maintenance (Ministry of Transportation, 2003) will be implemented to minimize erosion and sedimentation during operations. • A comprehensive list of mitigation measures that will be implemented during operations is provided in and Surface Water above.
WILDLIFE-05	• All Wildlife Valued Components	• **Changes in surface water quantity**—Alteration of surface water drainage patterns, flows and levels that can cause changes to soils and vegetation, which can affect wildlife habitat availability and distribution.	• Construction	• Ministry of the Environment, Conservation and Parks • Fisheries and Oceans Canada • Ontario Parks	• A comprehensive list of mitigation measures to limit changes to surface water quantity during Detail Design is provided in Surface Water above.	• A comprehensive list of mitigation measures to limit changes to surface water quantity during Construction is provided in Surface Water above.
WILDLIFE-05	• All Wildlife Valued Components	• **Changes in surface water quantity**—Alteration of surface water drainage patterns, flows and levels that can cause changes to soils and vegetation, which can	• Operations	• Ministry of the Environment, Conservation and Parks • Fisheries and Oceans Canada • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during operations. • Follow *Ontario Provincial Standard Specification 411* (Ministry of Transportation, 2022) and regularly inspect and maintain culverts and bridges.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		affect wildlife habitat availability and distribution.				• A comprehensive list of mitigation measures to limit changes to surface water quantity during Construction is provided in the Surface Water above.
WILDLIFE-06	• All Wildlife Valued Components	• **Changes in surface water quality**—Changes in surface water quality from Project activities could adversely affect habitat availability and distribution.	• Construction	• Ministry of the Environment, Conservation and Parks • Fisheries and Oceans Canada • Ontario Parks	• Mitigation measures have been noted above.	• Mitigation measures have been noted above.
WILDLIFE-06	• All Wildlife Valued Components	• **Changes in surface water quality**— Changes in surface water quality from Project activities could adversely affect habitat availability and distribution.	• Operations	• Ministry of the Environment, Conservation and Parks • Fisheries and Oceans Canada • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during operations. • During the winter periods, sand will be used on the Community Access Road for de-icing instead of road salt.
WILDLIFE-07	• All Wildlife Valued Components	• **Changes to groundwater—** Alteration of groundwater drainage and infiltration patterns, flows, and levels that can cause changes to soils and vegetation, which can affect wildlife habitat availability and distribution.	• Construction	• Ministry of the Environment, Conservation and Parks • Fisheries and Oceans Canada • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Mitigation measures have been noted above.	• Mitigation measures have been noted above.
WILDLIFE-07	• All Wildlife Valued Components	• **Changes to groundwater**— Alteration of groundwater drainage and infiltration patterns, flows, and levels that can cause changes to soils and vegetation, which can affect wildlife habitat availability and distribution.	• Operations	• Ministry of the Environment, Conservation and Parks • Fisheries and Oceans Canada • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Mitigation measures have been noted above.
WILDLIFE-08	• All Wildlife Valued Components	• **Increase in wildlife attractants**— Attraction of wildlife to the Project site (e.g., food waste, sewage, petroleum-based products, dust suppressants, explosive powder, site runoff ponds) may increase human-wildlife interactions and change predator-prey relationships, which can affect animal survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Prepare an Environmental Protection Plan that includes policies and actions anticipated to mitigate the attraction of wildlife to the Construction Disturbance Area, particularly near the temporary construction staging areas and temporary construction camps. • Prepare a Waste Management Plan that describe the appropriate management of solid, liquid and hazardous waste, including the following: - Construction-related garbage, debris, and surplus materials.	• Implement the Environmental Monitoring Program, including policies and actions for handling and storage of waste as well as management of materials and stockpiles. • Construction staff will be educated about hazards of littering and feeding wildlife. A no littering policy will be implemented and enforced. • All work areas will be clear of any attractants such as food scraps and food containers. • Feeding and harassment of wildlife on site will be prohibited.

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					- Hazardous materials such as used oil, filter and grease cartridges, lubrication containers. - Domestic garbage and camp waste (i.e., food and grey water). Portable, secure, solid waste receptacles will be provided on work sites, temporary laydown areas and temporary construction camps and periodically emptied.	• Roadkill will be cleaned up during construction and operation following best management practices outlined by Ontario's Ministry of Transportation. • Collect domestic (e.g., food) and industrial (e.g., used oil and lubricants) waste and store temporarily in wildlife-proof containers. Transport all waste offsite for recycling or disposal at a licensed disposal facility. • Potentially toxic materials that attract wildlife will be stored in secure areas inaccessible to wildlife (e.g., buildings, storage areas surrounded by wildlife-proof fencing), and toxic materials will be monitored continuously when removed from storage until they are used or returned to storage to prevent wildlife accessing and ingesting the materials. • Empty chemical toilets on site regularly by a licensed sewage-handling contractor.
WILDLIFE-08	• All Wildlife Valued Components	• **Increase in wildlife attractants**—Attraction of wildlife to the Project site (e.g., corvids to food waste or raptors to roadkill) may increase human-wildlife interactions and change predator-prey relationships, which can affect wildlife survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• As per the Ministry of Transportation's *Debris Control Maintenance Quality Standard* (MQS-331), debris less than 1 m in diameter, including roadkill, will be removed within 48 hours; debris greater than 1 m in diameter will be removed as detected (Ministry of Transportation, 2003). • Generally, roadkill will be removed from the effects assessment Construction Disturbance Area and relocated to adjacent brush areas, as per the *Waste and Excess Materials Management Environmental Protection* (EP-9) requirements in the Ministry of Transportation's *Maintenance Manual* (Ministry of Transportation, 2003). As per the *Waste and Excess Materials Management Environmental Protection* requirements in the *Maintenance Manual*, depending on the location and weather at the time of roadkill removal, burial of small mammals occur in the roadside ditches, if this activity is permitted. • Rest areas will be available every 50 km along the road during operations. The rest areas will be staggered every 25 km, alternating on each side of the highway. These rest areas will contain waste receptacles. As per the Ministry of Transportation's Rest Area/Picnic Site Maintenance Best Practice (MBP-325), during the rest areas operating season (i.e., months during the year when temperatures remain above 0°C and closing no sooner than October 15), litter in waste receptacles will be removed from rest areas when waste receptacles are 75% full (Ministry of Transportation, 2003).
WILDLIFE-9	• All Wildlife Valued Components	• **Blasting and associated fly rock**—May result in injury or mortality to wildlife.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Prepare a Blasting and Communication Management Plan that is in accordance with Ontario Provincial Standard Specification *General Specifications for the Use of Explosives* (Ministry of Transportation, 2025b) and describes specific measures that would be implemented if blasting is required. • Prepare an Environmental Protection Plan that includes policies and actions for avoiding and	• Implement the environmental monitoring program during Construction, including policies and actions for avoiding and minimizing the risks of blasting and blasting materials to wildlife. • Blasting work will be completed as quickly as possible to shorten the duration of disturbance. • Quarry blasting, rock crushing and screening, the use of heavy equipment, and other activities that generate loud noises will not be permitted within 4 km of confirmed or suspected wolverine den sites during the wolverine denning season (January 15 to May 31). If timing windows cannot be adhered to, follow environmental

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					minimizing the risks of blasting and blasting materials to wildlife.	approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks, and Ontario Ministry of Natural Resources. • Open excavations and blasting areas will be fenced off if left unsupervised to avoid injury and mortality of wildlife. • A buffer zone will be placed around the perimeter of blasting activities and surrounding forested habitat as described in the Blasting Management Plan.
WILDLIFE-9	• All Wildlife Valued Components	• **Blasting and associated fly rock**—May result in injury or mortality to wildlife.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Implement the environmental monitoring plan during operations, including policies and actions for avoiding and minimizing the risks of blasting and blasting materials to wildlife.
WILDLIFE-10	• All Wildlife Valued Components	• **Chemical or hazardous material spill**—(E.g., petroleum products, ammonium nitrate) on site or along access or haul roads can affect wildlife survival and reproduction.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Prepare a Spill Prevention and Emergency Response Plan that describes specific measures that would be implemented if a spill occurred.	• Implement the Spill Prevention and Emergency Response Plan that describes specific measures if a spill occurs. • Adhere to federal and provincial regulations and guidelines regarding hazardous substance collection and storage, use and handling, and disposal and treatment, such as the federal *Transportation of Dangerous Goods Act*, provincial *Dangerous Goods Transportation Act*, and the provincial *Environmental Protection Act*. Locate project infrastructure systems away from key habitats (i.e., critical habitat, biophysical attributes as defined in Federal Recovery Strategy, Significant Wildlife Habitat) as much as possible. • The transportation, storage, and handling of fuels will be in compliance with the *Technical Standards and Safety Act* (Government of Ontario, 2000) and federal *Transportation of Dangerous Goods Act* (Government of Canada, 1992).
WILDLIFE-10	• All Wildlife Valued Components	• **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.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Meet the federal *Transportation of Dangerous Goods Act*, provincial *Dangerous Goods Transportation Act*, and the provincial *Environmental Protection Act* for the transport, storage, and handling of fuels required for operations. • Commercial vehicles who are transporting dangerous goods on the Community Access Road should be adhering to the federal *Transportation of Dangerous Goods Act* and provincial *Dangerous Goods Transportation Act.*
WILDLIFE-11	• Bats - Little Brown Myotis and Northern Myotis	• **Habitat loss and alteration —**The direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bat abundance and distribution.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• An Environmental Protection Plan and a Cleanup and Reclamation Plan will be developed. Reclamation plans will be confirmed through engagement with Indigenous communities, the Ministry of Natural Resources, the Ministry of the Environment, Conservation, and Parks Species at Risk Branch, and local foresters.	• Temporary access roads and trails, construction camps, turnaround areas, waterbody crossings and temporary laydown areas will be reclaimed at the end of construction. • Retain compatible species (e.g., shrub vegetation, compatible trees, and coarse woody debris) where practicable and where safe to do so.

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					• During Detail Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for bat species at risk, to the extent feasible. • The following mitigation measures will be considered during Detail design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): - Limit the Project footprint to the extent feasible. - Use existing access roads where possible. - Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. - The timing of the bat maternity roost season (May 1 to September 30) will be considered when planning tree removals. • Offsetting measures developed as part of the Preliminary Biodiversity Offset Plan (Appendix AB) will be further developed for the Project to provide a net positive outcome for little brown myotis and northern myotis. The Offset Plan will be developed following engagement and consultation with Indigenous communities, Environment and Climate Change Canada, and Ontario Ministry of the Environment Conservation and Parks.	• Avoid clearing maternity roost habitat during the bat maternity roosting period (May 1 to September 30). If potential maternity roost habitat is to be removed during the roosting period, it will be subject to the *Endangered Species Act* (Government of Ontario, 2007) permitting requirements and site-specific mitigation measures that would be developed in consultation with the Ministry of the Environment, Conservation and Parks Species at Risk Branch. • Construction activities causing loud noises including the use of heavy machinery will not be undertaken adjacent to (i.e., within 50 m) candidate or confirmed maternity roosts between half an hour before sunset to half an hour after sunrise during the maternity roost season.
WILDLIFE-11	• Bats - Little Brown Myotis and Northern Myotis	• **Habitat loss and alteration —**The direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bat abundance and distribution.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be considered and included in the development of the Environmental Protection Plan.	• Construction activities causing loud noises including the use of heavy machinery will not be undertaken adjacent to (in other words, within 50 m) candidate or confirmed maternity roosts between half an hour before sunset to half an hour after sunrise during the maternity roost season. • A Preliminary Biodiversity Offset Plan has been developed to offset little brown myotis and northern myotis residual effects. As the Preliminary Biodiversity Offset Plan is developed, it is anticipated that artificial bat roost structures will be installed within temporary disturbance areas and in appropriate areas within the effects assessment Local Study Area to mitigate the removal of tree roosts for little brown myotis and northern myotis. • As a component of the post-Construction monitoring program, a Before-After Control-Impact Study is proposed for operations monitoring (Section 9). Data from operations monitoring will be compared to data collected prior to Construction (i.e., existing conditions bat maternity season acoustic surveys) to determine population trends and if predictions made in the Environmental Assessment are valid, to evaluate the effectiveness of applied mitigation, and to fulfil species at risk permitting requirements.

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WILDLIFE-12	• Bats -Little Brown Myotis and Northern Myotis	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter bat habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• Mitigation measures such as restricting tree clearing within bat maternity roost habitat during the maternity roost season (May 1 to September 30) is expected to avoid and limit sensory disturbance on maternity colonies. If potential maternity roost habitat is to be removed during the roosting period, it will be subject to *Endangered Species Act* (Government of Ontario, 2007) permitting requirements and site-specific mitigation measures that would be developed in consultation with the Ministry of the Environment Conservation and Parks, Species at Risk Branch. Mitigation will include pre-clearing surveys to determine if potential maternity roost trees are present in the area to be cleared. All appropriate permits for this work will be acquired in consultation with the Ministry of the Environment Conservation and Parks, Species at Risk Branch. • Detail Design plans will incorporate vegetation buffers to be retained around quarries to reduce noise, where feasible. • Detail Design will incorporate industry best practices used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites.	• The use of night-time lighting around bat roosting areas will be minimized to the extent possible during Construction. The idling of construction vehicles and equipment will be limited. Night work will be avoided where feasible. • Restricting construction traffic to designated areas. • During Construction, access to the Community Access Road corridor will be restricted to construction personnel. • Control lighting required for Construction of the Project, including direction and timing to avoid effects on bats, while meeting operational health and safety requirements. • Noise-producing equipment will be fitted with noise-reducing components, where feasible, and these components will be maintained. • Wildlife awareness training will be provided for road construction workers to reduce vehicle speeds and associated noise and dust emission levels. • Industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites. •
WILDLIFE-12	• Bats -Little Brown Myotis and Northern Myotis	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter bat habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be considered and included in the development of the Environmental Protection Plan.	• Speed limits will be posted and enforced to reduce vehicle speeds and associated noise.
WILDLIFE-13	• Bats -Little Brown Myotis and Northern Myotis	• **Incidental take**— Site preparation and construction (including drilling and blasting) may result in the destruction of roosting and hibernating bats (incidental take).	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• The following mitigation measures will be considered during Detail design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): • Limit the Project footprint to the extent feasible. • Use existing access roads where possible. • Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. • The timing of the bat maternity roost season (May 1 to September 30) will be considered when planning tree removals.	• Clearing and grubbing in areas with potential bat roosting habitat will be undertaken outside of the summer roosting period (May 1 to September 30). If clearing or grubbing are required during the summer roosting period, the Ministry of Natural Resources' Species at Risk Branch will be engaged. Depending on the outcome of the discussion with the Ministry of Natural Resources, exit surveys may be conducted prior to clearing in very limited areas. Clearing will not be undertaken in areas with occupied roosting habitat. • Environmental training for workers will include information on species at risk bat roost identification and procedures to follow if a potential bat roost is identified. • Ground-based pre-clearing surveys ("wildlife sweeps") will be completed along the Construction Disturbance Area under the direction of the Environmental Monitor and Indigenous Environmental Monitor, prior to any clearing or grubbing. The

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						wildlife sweeps will entail surveying for sensitive wildlife features, including mammal dens, beaver lodges, amphibian and reptile habitats, and bat maternity roost habitat. • Any reptiles or amphibians found within work areas will be relocated to suitable habitat nearby. Safe handling practices will be used to move turtles, snakes and other herpetofauna to areas away from the construction (for example, Ontario Species at Risk Handling Manual: For *Endangered Species Act* Authorization Holders).
WILDLIFE-13	• Bats -Little Brown Myotis and Northern Myotis	• **Incidental take**— Site preparation and construction (including drilling and blasting) may result in the destruction of roosting and hibernating bats (incidental take).	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• Not Applicable.	• Environmental training for maintenance workers will include information on species at risk bat roost identification and procedures to follow if a potential bat roost is identified. • During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be considered and included in the development of the Environmental Protection Plan.
WILDLIFE-14	• Bats -Little Brown Myotis and Northern Myotis	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• An Environmental Protection Plan will be developed to minimize collisions between wildlife and vehicles during Construction. • During Detail Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for bat species at risk, to the extent feasible. • Standard safe road design configurations and construction methods will be incorporated in detail design.	• Implement the Environmental Protection Plan. • Provide driver training to construction workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access roads and on site to other employees, and mandatory reporting of wildlife collisions. • Signage will be posted in areas where wildlife are regularly observed. • Worker transportation to site will be coordinated to reduce traffic volumes. • Employees and contractors will be subject to restrictions while working including prohibition of personal snowmobiles, all-terrain vehicles and other motorized recreational vehicles; and speeding on roads. Confine vehicle traffic to approved right-of-way, workspace, and access roads. • Block winter roads, temporary access routes and trails no longer required during Construction. • A reporting protocol and system to report incidental wildlife observations and wildlife-vehicle collisions (bats, furbearers and other large mammals, and reptiles and amphibians) during construction and operations, will be developed. The details of the incidental wildlife and wildlife-vehicle collision reporting system will be described in the Environmental Protection Plan.
WILDLIFE-14	• Bats -Little Brown Myotis and Northern Myotis	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• Not Applicable.	• During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be considered and included in the development of the Environmental Protection Plan. • Bat maternity season acoustics: monitoring to confirm continued presence of Species at Risk bats at stations within the Project

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						Local Study Area as well as relative bat activity levels during operations. • Speed limits will be posted and enforced to reduce vehicle speeds and associated collisions with wildlife. • Signage will be posted where the road crosses the Albany River and the Ogoki River (important bat flyways) to notify motorists of the elevated risk of collisions with bats in these areas at night between May and November to encourage reduced travel speeds during that time. • Operations traffic will be restricted to approved right-of-way, workspace and access roads or trails. • Implement an Environmental Protection Plan that includes the following measures to minimize collisions between wildlife and vehicles during Maintenance. • Provide driver training to Maintenance workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access roads and on site to other employees, and mandatory reporting of wildlife collisions. • Signage will be posted in areas where wildlife are regularly observed. • Worker transportation to site will be coordinated to reduce traffic volumes. • A reporting protocol and system will be developed to report incidental wildlife observations and wildlife-vehicle collisions during operations. • Blocking winter roads and temporary access routes and trails no longer required as Maintenance proceeds.
WILDLIFE-15	• Furbearers - Wolverine	• **Habitat loss and alteration**—Habitat loss is the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence wolverine abundance and distribution.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• An Environmental Protection Plan and a Cleanup and Reclamation Plan will be developed. Reclamation plans will be confirmed through engagement with Indigenous communities, the Ministry of Natural Resources, the Ministry of the Environment, Conservation, and Parks Species at Risk Branch and local foresters. • During Detailed Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for wolverine, to the extent feasible. • The following mitigation measures will be considered during Detail design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): • Limit the Project footprint to the extent feasible. • Use existing access roads where possible during design.	• Implement Environmental Protection Plan and Clean up and Reclamation Plan. • Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. • A cleared width of less that 100 m will be maintained unless otherwise required for Construction. • Clearing and grubbing will be conducted outside of the wolverine denning period (January 15 to May 31). • If clearing or grubbing must occur during the wolverine denning period, aerial surveys to detect the presence of potential denning areas will be completed prior to construction activities. The details of the wolverine aerial survey methods will be described in the Environmental Protection Plan. Construction activities will not be conducted within 4 km of active wolverine dens during the denning period. • Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent

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					• The wolverine denning period (January 15 to May 31) will be considered when planning construction timing. If clearing or grubbing must occur during the wolverine denning period, aerial surveys to detect the presence of potential denning areas will be completed prior to construction activities. The details of the wolverine aerial survey methods will be described in the Environmental Protection Plan. Construction activities will not be conducted within 4 km of active wolverine dens during the denning period. • Offsetting measures developed as part of the Preliminary Biodiversity Offset Plan (Appendix AB) will be further developed for the Project to provide a net positive outcome for wolverine. The Offset Plan will be developed following engagement and consultation with Indigenous communities, Environment and Climate Change Canada, and Ontario Ministry of the Environment Conservation and Parks.	practicable and to the requirement of the access road and alignment clearing width only. • If any periodic quarry operations planned to occur during the denning period, these activities will be preceded by wolverine den surveys conducted within 4 km of quarry operations. Quarry operations will not be conducted within 4 km of active wolverine dens during the denning period. • Temporary access roads and trails, construction camps, turnaround areas, waterbody crossings and temporary laydown areas will be reclaimed at the end of Construction. • Effectiveness of reclamation efforts will be monitored and managed post-construction. If required, adaptive management will be employed to modify or enhance any reclamation efforts. • Effectiveness of reclamation efforts will be monitored and managed post-construction. If required, adaptive management will be employed to modify or enhance any reclamation efforts. • Winter snow tracking: to monitor the abundance and distribution of furbearers during construction and operations. • Beaver lodge survey: to monitor the abundance and distribution of beavers during construction and operations. • Remote camera program: to monitor the occurrence and distribution of wildlife during construction and operations. • Autonomous recording unit surveys for anurans: to monitor species presence and distribution during construction and operations. • The effectiveness of mitigation measures will be evaluated during construction and operations and will be modified or enhanced as necessary through adaptive management. A Preliminary Biodiversity Offset Plan (Appendix AB) has been developed and will be included in the final report submission. Offsetting measures will be implemented for the Project to provide a net positive outcome for little brown myotis, northern myotis, wolverine, and wetland habitat that provides amphibian breeding habitat. The Offset Plan will be developed following engagement and consultation with Indigenous communities, Environment and Climate Change Canada, and Ontario Ministry of the Environment Conservation and Parks. • A proactive outreach and education program aimed at increasing awareness of the presence of wolverine within the area, the potential effects of incidental trapping on wolverine populations, and effective mitigation measures that reduce the likelihood of incidental wolverine trapping as outlined in Best Management Practices to Avoid Wolverine (Ontario Fur Managers Federation, 2018) will be developed and implemented.
WILDLIFE-15	• Furbearers - Wolverine	• **Habitat loss and alteration**—Habitat loss is the direct removal or alteration of soil and vegetation that may change	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources	• During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be	• A Before-After Control-Impact Study is proposed for operations monitoring. Data from operations monitoring will be compared to data collected prior to Construction (i.e., existing conditions winter tracking and wolverine hair snag surveys) to determine population trends and determine if predictions made in the Environmental

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		habitat availability, use, and connectivity and influence wolverine abundance and distribution.		• Environment and Climate Change Canada • Ontario Parks	considered and included in the development of the Environmental Protection Plan.	Assessment are valid, to evaluate the effectiveness of applied mitigation, and to fulfil species at risk permitting requirements.
WILDLIFE-16	• Furbearers - Wolverine	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter furbearer habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Detail Design drawings will incorporate vegetation buffers to be retained around quarries to reduce noise, where feasible. • Detail Design planning will incorporate industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites. • Construction schedules will consider that all construction activities that produce sensory disturbance will be avoided within 4 km of active wolverine dens.	• Construction traffic will be restricted to designated areas. • If clearing or grubbing must occur during the wolverine denning period (January 15 to May 31), areas with potential dens will be surveyed prior to construction activities. • All construction activities that produce sensory disturbance will be avoided within 4 km of active wolverine dens. • During Construction, access to the Community Access Road corridor will be restricted to construction personnel. • Noise-producing equipment will be fitted with noise-reducing components, where feasible, and these components will be maintained. • Unnecessary idling of vehicles and equipment will be limited on construction sites. • Wildlife awareness training will be provided for road construction workers to reduce vehicle speeds and associated noise and dust emission levels. • Industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites. • Vegetation buffers will be retained around quarries to reduce noise, where feasible.
WILDLIFE-16	• Furbearers - Wolverine	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter furbearer habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be considered and included in the development of the Environmental Protection Plan.	• Quarry blasting, rock crushing and screening, the use of heavy equipment, and other activities that generate loud noises will not be permitted within 4 km of confirmed or suspected wolverine den sites during the wolverine denning season (January 15 to May 31). • If any periodic quarry operations planned to occur during the denning period, these activities will be preceded by wolverine den surveys conducted within 4 km of quarry operations. Quarry operations will not be conducted within 4 km of active wolverine dens during the denning period.
WILDLIFE-17	• Furbearers - Wolverine	• **Increase in predator access—**Increased access for predators (e.g., coyote, wolf and black bear) may increase competition for prey and may increase predation risk and decrease survival and reproduction for furbearers.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• The Detail Design will incorporate measures to minimize vegetation clearing and access road requirements to the extent feasible (e.g., concentrate temporary activities spatially, retain habitat outside of scoped Construction Disturbance Area, restrict construction vehicle traffic to established access roads where feasible). • Design and construct temporary linear features to decrease predator efficiency (e.g., retain vegetation under 2 m, minimize width of linear features, switch backs and bends in temporary road construction), and reduce predator mobility (e.g., not removing snow unless necessary).	• During construction, the ongoing use of inactive areas by predators will be minimized through physical control measures such as rollback, removal of creek crossings, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. • Restrict wildlife access to waste (e.g., collect domestic and industrial waste and store in temporary containers until transported offsite, empty chemical toilets regularly, prohibit littering, prohibit feeding and harassment of wildlife). • To minimize ongoing attraction of predators to the Project area, road kill will be cleaned up following best management practices outlined by Ontario's Ministry of Transportation and wildlife access to waste will be restricted. • Progressive reclamation and revegetation will be implemented as non-permanent features would be decommissioned.

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WILDLIFE-17	• Furbearers - Wolverine	• **Increase in predator access—**Increased access for predators (e.g., coyote, wolf and black bear) may increase competition for prey and may increase predation risk and decrease survival and reproduction for furbearers.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be considered and included in the development of the Environmental Protection Plan.	• Restrict wildlife access to waste (e.g., collect domestic and industrial waste and store in temporary containers until transported offsite, empty chemical toilets regularly, prohibit littering, prohibit feeding and harassment of wildlife). • During operations, the ongoing use of inactive areas by predators will be minimized through physical control measures such as rollback, removal of creek crossings, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. • To minimize ongoing attraction of predators to the Project area, road kill will be cleaned up following best management practices outlined by Ontario's Ministry of Transportation and wildlife access to waste will be restricted. • Follow best management practices and environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks, and Ontario Ministry of Natural Resources.
WILDLIFE-18	• Furbearers - Wolverine	• **Incidental take—**Site preparation and construction (including drilling and blasting) may result in the destruction or abandonment of furbearer dens, lodges (incidental take).	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• The following mitigation measures will be considered during Detail Design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): - Limit the Project footprint to the extent feasible. - Use existing access roads where possible. - Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. - The wolverine denning period (January 15 to May 31) will be considered when planning construction timing. If clearing or grubbing must occur during the wolverine denning period, aerial surveys to detect the presence of potential denning areas will be completed prior to construction activities. The details of the wolverine aerial survey methods will be described in the Environmental Protection Plan. Construction activities will not be conducted within 4 km of active wolverine dens during the denning period. • The wolverine denning period (January 15 to May 31) will be considered when planning tree removal. If clearing or grubbing must occur during the wolverine denning period, aerial surveys to detect the presence of potential denning areas will be completed prior to construction activities. The details of the wolverine aerial survey methods will be described in the Environmental Protection Plan.	• Due to the difficulty in confirming the presence of a wolverine den through aerial surveys, a conservative approach will be taken to the identification of potential wolverine dens and denning areas. The positive identification of potential wolverine denning site or denning areas will use a weight of evidence approach and consider several observations including: - Several wolverine tracks observed in the search area. - Wolverine tracks concentrated in certain areas. - Wolverine tracks observed disappearing into snow covered blowdown or drifts. • Ground-based pre-clearing surveys ("wildlife sweeps") will be completed along the Construction Disturbance Area under the direction of the Environmental Monitor and Indigenous Environmental Monitor, prior to any clearing or grubbing. The wildlife sweeps will entail surveying for sensitive wildlife features, including mammal dens, beaver lodges, amphibian and reptile habitats, and bat maternity roost habitat. • If a wolverine den or denning area is identified during Construction, and should this timing not be able to be maintained within the buffer widths identified (i.e., 4 km), local Ministry of the Environment, Conservation and Parks' Species at Risk Branch offices will be contacted to develop a den management plan and appropriate Indigenous communities will be notified, where requested. The Project will avoid activities within 4 km of the den during the denning period that would adversely affect wolverine or seek an authorization under the *Endangered Species Act* (Government of Ontario, 2007) or *Species Conservation Act*, as appropriate, prior to conduction activities. • Quarry blasting will not be permitted within 4 km of confirmed or suspected wolverine den sites during the wolverine denning season.

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					Construction activities will not be conducted within 4 km of active wolverine dens during the denning period.	• Due to the difficulty in confirming the presence of a wolverine den through aerial surveys, a conservative approach will be taken to the identification of potential wolverine dens and denning areas. The positive identification of potential wolverine denning site or denning areas will use a weight of evidence approach and consider several observations including: - Several wolverine tracks observed in the search area; - Wolverine tracks concentrated in certain areas; and - Wolverine tracks observed disappearing into snow covered blowdown or drifts. • Observations of wildlife and wildlife signs will be documented and reported to the owner / operator's Environmental Monitor and the Environmental Monitor will confirm all Species at Risk observations are reported to the Natural Heritage Information Centre as per the Report Rare Species (Animals and Plants) site (Ministry of Natural Resources, 2014) and to Ministry of the Environment, Conservation, and Parks – Species at Risk Branch at SAROntario@ontario.ca. • If clearing or grubbing are required during the wolverine denning period (January 15 to May 31) in habitat suitable for wolverine denning, surveys for the presence of wolverine dens will be conducted prior to clearing. Surveys will be conducted from helicopters or drones. The survey extent will include all potentially suitable denning habitat within 4 km of the disturbance. Den sites require a physical structure such as fallen trees, earthen banks, woody debris, or boulders with snow cover for additional structure and insulation (Scrafford and Ray, 2022). All treed communities (including swamps, forests, treed fens, and treed bogs), all eskers and other prominent terrain features, all rock barrens, all thicket swamps, all watercourse and lakeshore riparian area, and all forestry cut blocks have potential to support maternal denning, Open water and open wetlands such as marshes, open fens, and open fens are not considered suitable for maternal denning. • Effects on denning areas will be minimized to the extent possible. Areas with potential to support wolverine denning will be identified through a review of plant community mapping (looking for communities that may contain the microhabitat features [e.g., fallen trees and blowdown, boulders and variable terrain] that wolverine require for denning), and targeted aerial site reconnaissance during the same denning period that construction activities are planned to survey for signs of potential denning areas prior to the initiation of Construction (e.g., clearing and grubbing). • Environmental training for workers will include information on wolverine den identification and procedures to follow if a den is identified. • Herbicides will not be used.
WILDLIFE-18	• Furbearers - Wolverine	• **Incidental take—**Site preparation and construction (including drilling and blasting) may result in the	• Operations	• Ontario Ministry of the Environment, Conservation and Parks	• During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be	• Clearing and grubbing in areas with potential wolverine den sites will take place outside of the wolverine denning season (January 15 to May 31). If clearing or grubbing must occur during the wolverine denning period, aerial surveys to detect the presence of

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		destruction or abandonment of furbearer dens, lodges (incidental take).		• Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	considered and included in the development of the Environmental Protection Plan. • Minimize habitat loss and alteration to the extent possible during detail design.	potential denning areas will be completed prior to construction activities. The details of the wolverine aerial survey methods will be described in the Environmental Protection Plan. Clearing will not be undertaken within 4 km of areas with occupied wolverine dens. • If a wolverine den is identified during operations, and should this timing not be able to be maintained within the buffer widths identified (i.e., 4 km), local Ministry of the Environment, Conservation and Parks' Species at Risk Branch offices will be contacted to develop a den management plan and appropriate Indigenous communities will be notified, where requested. The Project will avoid activities within 4 km of the den during the denning period that would adversely affect wolverine or seek an authorization under the *Endangered Species Act* or *Species Conservation Act*, as appropriate, prior to conduction activities. • During operations, any periodic blasting will be completed outside of the denning period (January 15 to May 31).
WILDLIFE-19	• Furbearers - Wolverine	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• During Detail Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for wolverine, to the extent feasible. • Standard safe road design configurations and construction methods will be incorporated in the detailed Project design. • At watercourse crossings that occur within wolverine high-use areas and are on the north-south segment of the preferred route (WA-11, WA-15 and WA-18), modified bridge and bridge embankments will be designed to incorporate terrestrial pathways adjacent to the aquatic habitat and allow for safe wildlife passage, where feasible given land cover considerations. These design features include increasing the height of bridge to minimum 4 m vertical clearance, using natural substrates on the bridge embankments, and allowing for an unobstructed line of sight on either side of the bridge. • Wildlife passage modifications to other bridge designs, including bridges that occur on the east-west trending segment of the Community Access Road.	• Provide driver training to construction workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access roads and on site to other employees, and mandatory reporting of wildlife collisions. • Signage will be posted in areas where wildlife are regularly observed. • Worker transportation to site will be coordinated to reduce traffic volumes. • Pits and quarries and other infrastructure required for maintenance activities will be gated to limit public access. • De-icing salts will not be used on the unpaved Community Access Road during construction or operations. • Blocking winter roads and temporary access routes and trails no longer required during construction. • A reporting protocol and system to report incidental wildlife observations and wildlife-vehicle collisions (bats, furbearers and other large mammals, and reptiles and amphibians) during Construction and operations, will be developed. The details of the incidental wildlife and wildlife-vehicle collision reporting system will be described in the Environmental Protection Plan.
WILDLIFE-19	• Furbearers - Wolverine	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada	• During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be considered and included in the development of the Environmental Protection Plan.	• Operations traffic will be restricted to approved right-of-way, workspace and access roads or trails. • Implement an Environmental Protection Plan that includes the following measures to minimize collisions between wildlife and vehicles during Maintenance: provide driver training to Maintenance workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access

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				• Ontario Parks		roads and on site to other employees, and mandatory reporting of wildlife collisions. • Signage will be posted in areas where wildlife are regularly observed. • Worker transportation to site will be coordinated to reduce traffic volumes. • Employees and contractors will be subject to restrictions while working including prohibition of personal snowmobiles, all-terrain vehicles and other motorized recreational vehicles; and speeding on roads. Confining vehicle traffic to approved right-of-way, workspace, and access roads. • Blocking winter roads and temporary access routes and trails no longer required as operations proceeds. • A proactive outreach and education program aimed at increasing awareness of the presence of wolverine within the area, the potential effects of incidental trapping on wolverine populations, and effective mitigation measures that reduce the likelihood of incidental wolverine trapping as outlined in Best Management Practices to Avoid Wolverine (Ontario Fur Managers Federation, 2018) will be developed and implemented.
WILDLIFE-20	• Furbearers - Wolverine	• **Increase in public access—** Could affect wildlife survival and reproduction through vehicle strikes, and / or legal and illegal hunting.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• An Environmental Protection Plan will be developed to minimize public access during construction. • Develop a Waste Management Plan.	• Access roads used for permanent maintenance activities will be blocked while not in use. • Employees will be prohibited from hunting or carrying firearms while working on the Project Construction. • Implement an Environmental Protection Plan that includes the following measures to control, and / or restrict public use of access roads during Construction: speed limits, gates / manned gates, signage, reduced road standard, felling of timber across temporary access roads after reclaimed, removal of temporary watercourse crossings, reduce traffic by locating camps near construction sites. Posting of restricted access and speed signage will follow the *Construction Specification for Temporary Traffic Control Devices* (Ministry of Transportation, 2025c). • Temporary access roads and other temporary construction infrastructure will be reclaimed as quickly as possible following Construction. As part of the reclamation of temporary access roads, access to these roads will be physically blocked to decrease public use. • Waste management and site surveillance monitoring would be completed to avoid attraction of wildlife to the Project and associated risks of adverse human-wildlife interactions. Potential problem areas at the Project would be identified as part of monitoring, which could lead to the implementation of targeted mitigation measures in these areas to limit human-wildlife conflicts. The details of the waste management and site surveillance monitoring will be described in the Waste Management Plan and Environmental Protection Plan.

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WILDLIFE-20	• Furbearers - Wolverine	• **Increase in public access—** Could affect wildlife survival and reproduction through vehicle strikes, and / or legal and illegal hunting.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• During highway maintenance, Ministry of Transportation's *Best Management Practices for Species at Risk Protection During Maintenance Activities* (Ministry of Transportation, 2017) will be considered and included in the development of the Environmental Protection Plan.	• Employees will be prohibited from hunting or carrying firearms while working on the Project operations. • Implement an Environmental Protection Plan that includes the following measures to control, and / or restrict public use of access roads during operations: speed limits, gates / manned gates, signage, reduced road standard, felling of timber across temporary access roads after reclaimed, removal of temporary watercourse crossings, reduce traffic by locating camps near construction sites. Posting of restricted access and speed signage will follow the *Construction Specification for Temporary Traffic Control Devices* (Ministry of Transportation, 2025c). • During operations, the Community Access Road will be accessible to the public but access roads for aggregate areas and other infrastructure required for maintenance activities will be gated to limit public access.
WILDLIFE-21	• Furbearers - American Marten	• **Habitat loss and alteration—**Habitat loss is the direct removal or alteration of soil and vegetation that may change furbearer habitat availability, use, and connectivity and influence furbearer abundance and distribution.	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks, and Ontario Ministry of Natural Resources, will be followed during Detailed Design. • An Environmental Protection Plan and a Cleanup and Reclamation Plan will be developed. Reclamation plans will be confirmed through engagement with Indigenous communities, the Ministry of Natural Resources and local foresters. • During Detail Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for marten, to the extent feasible. • The following mitigation measures will be considered during Detail design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): - Limit the Project footprint to the extent feasible. - Use existing access roads where possible. - Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only.	• Any American marten dens observed will be marked as sensitive sites and isolated. • Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. • Temporary access roads and trails, construction camps, turnaround areas, waterbody crossings and temporary laydown areas will be reclaimed at the end of Construction. • Effectiveness of reclamation efforts will be monitored and managed post-construction. If required, adaptive management will be employed to modify or enhance any reclamation efforts.
WILDLIFE-21	• Furbearers - American Marten	• **Habitat loss and alteration**—Habitat loss is the direct removal or alteration of soil and vegetation that may change furbearer habitat availability,	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• A Before-After Control-Impact Study is proposed for operations monitoring. Data from operations monitoring will be compared to data collected prior to Construction (i.e., existing conditions winter tracking remote camera surveys) to determine population trends and if predictions made in the Environmental Assessment are valid and to evaluate the effectiveness of applied mitigation.

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		use, and connectivity and influence furbearer abundance and distribution.				
WILDLIFE-22	• Furbearers - American Marten	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter furbearer habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• Detail Design will incorporate industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites. • Detail Design will incorporate vegetation buffers to be retained around quarries to reduce noise, where feasible.	• Construction traffic will be restricted to designated areas. • During Construction, access to the Community Access Road corridor will be restricted to construction personnel. • Noise-producing equipment will be fitted with noise-reducing components, where feasible, and these components will be maintained. • Unnecessary idling of vehicles and equipment will be limited on construction sites. • Wildlife awareness training will be provided for road construction workers to reduce vehicle speeds and associated noise and dust emission levels. • Industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites. • Vegetation buffers will be retained around quarries to reduce noise, where feasible.
WILDLIFE-22	• Furbearers - American Marten	• **Sensory disturbance—** Sensory disturbance (e.g., lights, smells, noise, human activity) can alter wildlife habitat availability, use, and connectivity (movement and behaviour), which can lead to changes in abundance and distribution and adversely affect survival and reproduction.	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• Speed limits will be posted and enforced to reduce vehicle speeds and associated noise.
WILDLIFE-23	• Furbearers - American Marten	• **Increase in predator access—**Increased access for predators (e.g., coyote, wolf and black bear) may increase competition for prey and may increase predation risk and decrease survival and reproduction for furbearers.	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• The Project footprint is designed to minimize vegetation clearing and access road requirements to the extent feasible (e.g., concentrate temporary activities spatially, retain habitat outside of scoped Construction Disturbance Area, restrict construction vehicle traffic to established access roads where feasible). • Design and construct temporary linear features to decrease predator efficiency (e.g., retain vegetation under 2 m, minimize width of linear features, switch backs and bends in temporary road construction), and reduce predator mobility (e.g., not removing snow unless necessary).	• Restrict wildlife access to waste (e.g., collect domestic and industrial waste and store in temporary containers until transported offsite, empty chemical toilets regularly, prohibit littering, prohibit feeding and harassment of wildlife). • During Construction, the ongoing use of inactive areas by predators will be minimized through physical control measures such as rollback, removal of creek crossings, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. • To minimize ongoing attraction of predators to the Project area, road kill will be cleaned up following best management practices outlined by Ontario's Ministry of Transportation and wildlife access to waste will be restricted. • Progressive reclamation and revegetation would be implemented as non-permanent features would be decommissioned.
WILDLIFE-23	• Furbearers - American Marten	• **Increase in predator access—**Increased access for predators (e.g., coyote, wolf and black bear) may	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• Restrict wildlife access to waste (e.g., collect domestic and industrial waste and store in temporary containers until transported offsite, empty chemical toilets regularly, prohibit littering, prohibit feeding and harassment of wildlife).

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		increase competition for prey and may increase predation risk and decrease survival and reproduction for furbearers.				• During operations, the ongoing use of inactive areas by predators will be minimized through physical control measures such as rollback, removal of creek crossings, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. • To minimize ongoing attraction of predators to the Project area, road kill will be cleaned up following best management practices outlined by Ontario's Ministry of Transportation and wildlife access to waste will be restricted.
WILDLIFE-24	• Furbearers - American Marten	• **Incidental take—**Site preparation and construction (including drilling and blasting) may result in the destruction or abandonment of furbearer dens, lodges (incidental take).	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• The following mitigation measures will be considered during Detail Design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): - Limit the Project footprint to the extent feasible. - Use existing access roads where possible. - Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only.	• Construction traffic will be restricted to designated areas. • Environmental training for workers will include information on American marten den identification and procedures to follow if a den is identified. • If an active den is identified during active construction, including during vegetation removal, work will stop and local Ministry of Natural Resources offices will be contacted immediately. The den will be clearly marked, a 100 m buffer surrounding the den will be established and no vegetation removal will proceed within that buffer until Ministry of Natural Resources is engaged.
WILDLIFE-24	• Furbearers - American Marten	• **Incidental take—**Site preparation and construction (including drilling and blasting) may result in the destruction or abandonment of furbearer dens, lodges (incidental take).	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• Maintenance traffic will be restricted to designated areas. • Minimize habitat loss and alteration to the extent possible. • Environmental training for workers will include information on American marten den identification and procedures to follow if a den is identified. • Herbicides will not be used. • Ground-based pre-clearing surveys ("wildlife sweeps") will be completed along the Construction Disturbance Area under the direction of the Environmental Monitor and Indigenous Environmental Monitor, prior to any clearing or grubbing. The wildlife sweeps will entail surveying for sensitive wildlife features, including mammal dens, beaver lodges, amphibian and reptile habitats, and bat maternity roost habitat.
WILDLIFE-25	• Furbearers - American Marten	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals.	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• During Detailed Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for marten, to the extent feasible. • Standard safe road design configurations and construction methods will be incorporated in the detailed Project design.	• Worker transportation to site will be coordinated to reduce traffic volumes. • Pits and quarries and other infrastructure required for maintenance activities will be gated to limit public access. • Blocking winter roads and temporary access routes and trails no longer required during Construction.
WILDLIFE-25	• Furbearers - American Marten	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals.	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable.	• Operations traffic will be restricted to approved right-of-way, workspace and access roads or trails. • Pits and quarries and other infrastructure required for maintenance activities will be gated to limit public access. • Implement an Environmental Protection Plan that includes the following measures to minimize collisions between wildlife and

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						vehicles during Maintenance: provide driver training to Maintenance workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access roads and on site to other employees, and mandatory reporting of wildlife collisions.
WILDLIFE-26	• Furbearers - American Marten	• **Increase in public access—** Could affect wildlife survival and reproduction through vehicle strikes, and / or legal and illegal hunting	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• An Environmental Protection Plan will be developed to minimize public access.	• Access roads used for permanent maintenance activities will be blocked while not in use. • Employees will be prohibited from hunting or carrying firearms while working on the Project maintenance. • Implement an Environmental Protection Plan that includes the following measures to control, and / or restrict public use of access roads during Construction and operations: speed limits, gates / manned gates, signage, reduced road standard, felling of timber across temporary access roads after reclaimed, removal of temporary watercourse crossings, reduce traffic by locating camps near construction sites. Posting of restricted access and speed signage will follow the *Construction Specification for Temporary Traffic Control Devices* (Ministry of Transportation, 2025c). • Progressive reclamation and revegetation would be implemented as non-permanent features would be decommissioned. • Waste management and site surveillance monitoring would be completed to avoid attraction of wildlife to the Project and associated risks of adverse human-wildlife interactions. Potential problem areas at the Project would be identified as part of monitoring, which could lead to the implementation of targeted mitigation measures in these areas to limit human-wildlife conflicts. The details of the waste management and site surveillance monitoring will be described in the Waste Management Plan and Environmental Protection Plan.
WILDLIFE-26	• Furbearers - American Marten	• **Increase in public access—** Could affect wildlife survival and reproduction through vehicle strikes, and / or legal and illegal hunting.	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• Access roads used for permanent maintenance activities will be blocked while not in use. • Employees will be prohibited from hunting or carrying firearms while working on the Project Maintenance. • Implement an Environmental Protection Plan that includes the following measures to control, and / or restrict public use of access roads during operations: speed limits, gates / manned gates, signage, reduced road standard, felling of timber across temporary access roads after reclaimed, removal of temporary watercourse crossings, reduce traffic by locating camps near construction sites. Posting of restricted access and speed signage will follow the *Construction Specification for Temporary Traffic Control Devices* (Ministry of Transportation, 2025c). • During operations, the Community Access Road will be accessible to the public but access roads for aggregate areas and other infrastructure required for maintenance activities will be gated to limit public access.
WILDLIFE-27	• Furbearers - Beaver	• **Habitat loss and alteration—**Habitat loss is	• Construction	• Ontario Ministry of Natural Resources	• An Environmental Protection Plan and a Cleanup and Reclamation Plan will be developed.	• Any beaver lodge observed will be marked as sensitive and protected.

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		the direct removal or alteration of soil and vegetation that may change furbearer habitat availability, use, and connectivity and influence furbearer abundance and distribution.		• Ontario Parks	Reclamation plans will be confirmed through engagement with Indigenous communities, the Ministry of Natural Resources and local foresters. • During Detailed Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for beaver, to the extent feasible. • The following mitigation measures will be considered during Detail design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): - Limit the Project footprint to the extent feasible. - Use existing access roads where possible. - Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. - Prior to the construction of the Project, an additional arial survey for active beaver lodges will be completed throughout the effects assessment Local Study Area to complement existing conditions data and refine the baseline characterization of beaver distribution.	• Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. • Temporary access roads and trails, construction camps, turnaround areas, waterbody crossings and temporary laydown areas will be reclaimed at the end of construction. • Effectiveness of reclamation efforts will be monitored and managed post-construction. If required, adaptive management will be employed to modify or enhance any reclamation efforts.
WILDLIFE-27	• Furbearers - Beaver	• **Habitat loss and alteration—**Habitat loss is the direct removal or alteration of soil and vegetation that may change furbearer habitat availability, use, and connectivity and influence furbearer abundance and distribution.	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• A Before-After Control-Impact Study is proposed for operations monitoring. Data from operations monitoring will be compared to data collected prior to Construction (i.e., aerial survey) to determine population trends and if predictions made in the Environmental Assessment are valid and to evaluate the effectiveness of applied mitigation.
WILDLIFE-28	• Furbearers - Beaver	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter furbearer habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• Detail design will incorporate industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites. • Detail design will incorporate vegetation buffers to be retained around quarries to reduce noise, where feasible.	• Construction traffic will be restricted to designated areas. • During Construction, access to the Community Access Road corridor will be restricted to construction personnel. • Noise-producing equipment will be fitted with noise-reducing components, where feasible, and these components will be maintained. • Unnecessary idling of vehicles and equipment will be limited on construction sites. • Wildlife awareness training will be provided for road construction workers to reduce vehicle speeds and associated noise and dust emission levels. • Industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites.

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						• Vegetation buffers will be retained around quarries to reduce noise, where feasible.
WILDLIFE-28	• Furbearers - Beaver	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter furbearer habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• Speed limits will be posted and enforced to reduce vehicle speeds and associated noise.
WILDLIFE-29	• Furbearers - Beaver	• **Increase in predator access—**Increased access for predators (e.g., coyote, wolf and black bear) may increase competition for prey and may increase predation risk and decrease survival and reproduction for furbearers.	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• The Project footprint is designed to minimize vegetation clearing and access road requirements to the extent feasible (e.g., concentrate temporary activities spatially, retain habitat outside of scoped Construction Disturbance Area, restrict construction vehicle traffic to established access roads where feasible). • Design and construct temporary linear features to decrease predator efficiency (e.g., retain vegetation under 2 m, minimize width of linear features, switch backs and bends in temporary road construction), and reduce predator mobility (e.g., not removing snow unless necessary).	• Restrict wildlife access to waste (e.g., collect domestic and industrial waste and store in temporary containers until transported offsite, empty chemical toilets regularly, prohibit littering, prohibit feeding and harassment of wildlife). • During Construction, the ongoing use of inactive areas by predators will be minimized through physical control measures such as rollback, removal of creek crossings, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. • To minimize ongoing attraction of predators to the Project area, road kill will be cleaned up following best management practices outlined by Ontario's Ministry of Transportation and wildlife access to waste will be restricted.
WILDLIFE-29	• Furbearers - Beaver	• **Increase in predator access—**Increased access for predators (e.g., coyote, wolf and black bear) may increase competition for prey and may increase predation risk and decrease survival and reproduction for furbearers.	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• Restrict wildlife access to waste (e.g., collect domestic and industrial waste and store in temporary containers until transported offsite, empty chemical toilets regularly, prohibit littering, prohibit feeding and harassment of wildlife). • During operations, the ongoing use of inactive areas by predators will be minimized through physical control measures such as rollback, removal of creek crossings, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. • To minimize ongoing attraction of predators to the Project area, road kill will be cleaned up following best management practices outlined by Ontario's Ministry of Transportation and wildlife access to waste will be restricted.
WILDLIFE-30	• Furbearers - Beaver	• **Incidental Take—**Site preparation and construction (including drilling and blasting) may result in the destruction or abandonment of furbearer dens, lodges (incidental take).	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• The following mitigation measures will be considered during Detail design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): - Ministry of Transportation's *Guide for Fisheries – Best Management Practices* will be followed when beaver dams are removed from within a waterbody supporting fish and fish habitat. - Limit the Project footprint to the extent feasible. - Use existing access roads where possible.	• Screening culverts and regularly checking water crossings for evidence of beaver activity and removing log jams early can reduce the need to remove beaver dams or lodges in ways that could cause incidental take of beavers. • Environmental training for workers will include information on American marten den identification and procedures to follow if a den is identified. • Herbicides will not be used. • If an active lodge is identified during active construction, including during vegetation removal, work will stop and local Ministry of Natural Resources offices will be contacted immediately. If a beaver lodge or dam requires removal then an *Application to Interfere with/Destroy a*

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					- Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only.	*Black Bear or Furbearing Mammal Den, Beaver Dam, Black Bear in Den* will be submitted to the Ministry of Natural Resources. • Ground-based pre-clearing surveys ("wildlife sweeps") will be completed along the Construction Disturbance Area under the direction of the Environmental Monitor and Indigenous Environmental Monitor, prior to any clearing or grubbing. The wildlife sweeps will entail surveying for sensitive wildlife features, including mammal dens, beaver lodges, amphibian and reptile habitats, and bat maternity roost habitat.
WILDLIFE-30	• Furbearers - Beaver	• **Incidental Take—**Site preparation and construction (including drilling and blasting) may result in the destruction or abandonment of furbearer dens, lodges (incidental take).	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• Maintenance traffic will be restricted to designated areas • Environmental training for workers will include information on American marten den identification and procedures to follow if a den is identified.
WILDLIFE-31	• Furbearers - Beaver	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• During Detailed Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for beaver, to the extent feasible. • Standard safe road design configurations and construction methods will be incorporated in the detailed Project design.	• Provide driver training to construction workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access roads and on site to other employees, and mandatory reporting of wildlife collisions. • Pits and quarries and other infrastructure required for maintenance activities will be gated to limit public access. • A reporting protocol and system to report incidental wildlife observations and wildlife-vehicle collisions (bats, furbearers and other large mammals, and reptiles and amphibians) during construction and operations, will be developed. The details of the incidental wildlife and wildlife-vehicle collision reporting system will be described in the Environmental Protection Plan.
WILDLIFE-31	• Furbearers - Beaver	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable.	• Speed limits will be posted and enforced to reduce vehicle speeds and associated collisions with wildlife. • Operations traffic will be restricted to approved right-of-way, workspace and access roads or trails. • Pits and quarries and other infrastructure required for maintenance activities will be gated to limit public access. • Implement an Environmental Protection Plan that includes the following measures to minimize collisions between wildlife and vehicles during Maintenance: provide driver training to Maintenance workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access roads and on site to other employees, and mandatory reporting of wildlife collisions. • Worker transportation to site will be coordinated to reduce traffic volumes. • A reporting protocol and system will be developed to report incidental wildlife observations and wildlife-vehicle collisions during operations.

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						• Blocking winter roads and temporary access routes and trails no longer required as Maintenance proceeds.
WILDLIFE-32	• Furbearers - Beaver	• **Increase in public access—** Could affect wildlife survival and reproduction through vehicle strikes, and / or legal and illegal hunting**.**	• Construction	• Ontario Ministry of Natural Resources • Ontario Parks	• An Environmental Protection Plan will be developed to minimize public access.	• Access roads used for permanent maintenance activities will be blocked while not in use. • Employees will be prohibited from hunting or carrying firearms while working on the Project maintenance. • Implement an Environmental Protection Plan that includes the following measures to control, and / or restrict public use of access roads during construction and operations: speed limits, gates / manned gates, signage, reduced road standard, felling of timber across temporary access roads after reclaimed, removal of temporary watercourse crossings, reduce traffic by locating camps near construction sites. Posting of restricted access and speed signage will follow the *Construction Specification for Temporary Traffic Control Devices* (Ministry of Transportation, 2025c). • Temporary access roads and other temporary construction infrastructure will be reclaimed as quickly as possible following Construction. As part of the reclamation of temporary access roads, access to these roads will be physically blocked to decrease public use. • Waste management and site surveillance monitoring would be completed to avoid attraction of wildlife to the Project and associated risks of adverse human-wildlife interactions. Potential problem areas at the Project would be identified as part of monitoring, which could lead to the implementation of targeted mitigation measures in these areas to limit human-wildlife conflicts. The details of the waste management and site surveillance monitoring will be described in the Waste Management Plan and Environmental Protection Plan.
WILDLIFE-32	• Furbearers - Beaver	• **Increase in public access—** Could affect wildlife survival and reproduction through vehicle strikes, and / or legal and illegal hunting.	• Operations	• Ontario Ministry of Natural Resources • Ontario Parks	• Not applicable	• During operations, the Community Access Road will be accessible to the public but access roads for aggregate areas and other infrastructure required for maintenance activities will be gated to limit public access.
WILDLIFE-33	• Reptiles and Amphibians	• **Habitat loss and alteration—**Habitat loss is the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence reptile and amphibian abundance and distribution.	• Construction	• Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• During Detailed Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for reptiles and amphibians, to the extent feasible. • The following mitigation measures will be considered during Detail design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): - Limit the Project footprint to the extent feasible. - Use existing access roads where possible. - Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the	• Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. • Temporary access roads and trails, construction camps, turnaround areas, waterbody crossings and temporary laydown areas will be reclaimed at the end of construction. • Effectiveness of reclamation efforts will be monitored and managed post-construction. If required, adaptive management will be employed to modify or enhance any reclamation efforts.

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					requirement of the access road and alignment clearing width only.	
WILDLIFE-33	• Reptiles and Amphibians	• **Habitat loss and alteration—**Habitat loss is the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence reptile and amphibian abundance and distribution.	• Operations	• Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• A Before-After Control-Impact Study is proposed for operations monitoring (Section 9.0). Data from operations monitoring will be compared to data collected prior to Construction (i.e., autonomous recording unit anuran call count surveys) to determine population trends and if predictions made in the Environmental Assessment are valid and to evaluate the effectiveness of applied mitigation.
WILDLIFE-34	• Reptiles and Amphibians	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter reptile and amphibian habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Construction	• Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Detail design will incorporate industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites. • Detail design will incorporate vegetation buffers to be retained around quarries to reduce noise, where feasible.	• Construction traffic will be restricted to designated areas. • During Construction, access to the Community Access Road corridor will be restricted to construction personnel. • Noise-producing equipment will be fitted with noise-reducing components, where feasible, and these components will be maintained. • Unnecessary idling of vehicles and equipment will be limited on construction sites. • Wildlife awareness training will be provided for road construction workers to reduce vehicle speeds and associated noise and dust emission levels. • Industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites. • Vegetation buffers will be retained around quarries to reduce noise, where feasible.
WILDLIFE-34	• Reptiles and Amphibians	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter reptile and amphibian habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Operations	• Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Speed limits will be posted and enforced to reduce vehicle speeds and associated noise.
WILDLIFE-35	• Reptiles and Amphibians	• **Incidental take—**Site preparation and construction (including drilling and blasting) may result in the destruction or abandonment of gestation or hibernation site (incidental take).	• Construction	• Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• An Environmental Protection Plan will be developed that includes a worker awareness program. • The following mitigation measures will be considered during Detail design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): - Limit the Project footprint to the extent feasible. - Use existing access roads where possible. - Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the	• Construction traffic will be restricted to designated areas. • Construction personnel will traverse the path of construction equipment, to induce frogs, toads, and snakes to be scared away from the path of oncoming machinery. • Any reptiles or amphibians found within work areas will be relocated to suitable habitat nearby. Safe handling practices will be used to move turtles, snakes and other herpetofauna to areas away from the construction (e.g., *Ontario Species at Risk Handling Manual: For Endangered Species Act Authorization Holders*). • Ground-based pre-clearing surveys (“wildlife sweeps”) will be completed along the Construction Disturbance Area under the direction of the Environmental Monitor and Indigenous Environmental Monitor, prior to any clearing or grubbing. The

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					requirement of the access road and alignment clearing width only. • Should the initiation of construction be delayed for an extended period of time (for example, five or more years), additional baseline monitoring may be required to update an assessment of adverse effects during the *Endangered Species Act* authorization process.	wildlife sweeps will entail surveying for sensitive wildlife features, including mammal dens, beaver lodges, amphibian and reptile habitats, and bat maternity roost habitat.
WILDLIFE-35	• Reptiles and Amphibians	• **Incidental take—**Site preparation and construction (including drilling and blasting) may result in the destruction or abandonment of gestation or hibernation site (incidental take).	• Operations	• Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Follow best management practices and environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks, and Ontario Ministry of Natural Resources.
WILDLIFE-36	• Reptiles and Amphibians	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals.	• Construction	• Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• An Environmental Protection Plan will be developed to minimize collisions between wildlife and vehicles during Construction. • During Detailed Design, efforts will be made to minimize habitat loss and alteration to the extent possible through micrositing to avoid high-quality habitats and sensitive areas for reptiles and amphibians, to the extent feasible. • Subsurface eco-passages and exclusion fencing will be established at culverts along the north-south segment of the Community Access Road. • Standard safe road design configurations and construction methods will be incorporated in the detailed Project design.	• Monitoring for reptiles and amphibians will be conducted during Construction and reptiles and amphibians will be relocated as needed to similar habitat outside of the work area. • Subsurface eco-passages and exclusion fencing will be established at culverts along the north-south segment of the Community Access Road. • Pits and quarries and other infrastructure required for maintenance activities will be gated to limit public access. • Blocking winter roads and temporary access routes and trails no longer required during Construction. • A reporting protocol and system to report incidental wildlife observations and wildlife-vehicle collisions (bats, furbearers and other large mammals, and reptiles and amphibians) during construction and operations, will be developed. The details of the incidental wildlife and wildlife-vehicle collision reporting system will be described in the Environmental Protection Plan.
WILDLIFE-36	• Reptiles and Amphibians	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual animals.	• Operations	• Ontario Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Monitoring for reptiles and amphibians will be conducted during operations and reptiles and amphibians will be relocated as needed to similar habitat outside of the work area. • Signage will be posted in areas where reptiles and amphibians are regularly observed. • Operations traffic will be restricted to approved right-of-way, workspace and access roads or trails. • Pits and quarries and other infrastructure required for maintenance activities will be gated to limit public access. • Implement an Environmental Protection Plan that includes the following measures to minimize collisions between wildlife and vehicles during Maintenance: provide driver training to Maintenance workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access roads and on site to other employees, and mandatory reporting of wildlife collisions.

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						• A reporting protocol and system will be developed to report incidental wildlife observations and wildlife-vehicle collisions during operations. • Subsurface eco-passages and exclusion fencing will be established at culverts along the north-south segment of the Community Access Road.
WILDLIFE-37	• Pollinating Insects	• **Habitat loss and alteration—**Habitat loss is the direct removal or alteration of soil and vegetation that may change furbearer habitat availability, use, and connectivity and influence pollinating insect abundance and distribution.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• An Environmental Protection Plan and a Cleanup and Reclamation Plan will be developed and implemented. Reclamation plans will be confirmed through engagement with Indigenous communities, the Ministry of Natural Resources and local foresters. • The following mitigation measures will be considered during Detail design (i.e., incorporated onto engineering drawings and considered in construction scheduling, where appropriate): - Limit the Project footprint to the extent feasible. - Use existing access roads where possible. - Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only.	• Buffer zones of 30 m will be maintained around waterbodies, clearing of riparian vegetation will be limited to the extent practicable and to the requirement of the access road and alignment clearing width only. • Temporary access roads and trails, construction camps, turnaround areas, waterbody crossings and temporary laydown areas will be reclaimed at the end of Construction. • Effectiveness of reclamation efforts will be monitored and managed post-construction. If required, adaptive management will be employed to modify or enhance any reclamation efforts.
WILDLIFE-37	• Pollinating Insects	• **Habitat loss and alteration—**Habitat loss is the direct removal or alteration of soil and vegetation that may change furbearer habitat availability, use, and connectivity and influence pollinating insect abundance and distribution.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Follow best management practices and environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks, and Ontario Ministry of Natural Resources.
WILDLIFE-38	• Pollinating Insects	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter reptile and amphibian pollinating insect habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• Detail design will incorporate industry best practices used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites.	• Construction traffic will be restricted to designated areas. • During Construction, access to the Community Access Road corridor will be restricted to construction personnel. • Noise-producing equipment will be fitted with noise-reducing components, where feasible, and these components will be maintained. • Unnecessary idling of vehicles and equipment will be limited on construction sites. • Wildlife awareness training will be provided for road construction workers to reduce vehicle speeds and associated noise and dust emission levels. • Industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife sites.

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WILDLIFE-38	• Pollinating Insects	• **Sensory disturbance—** Sensory disturbance (e.g., lights, odours, noise, human activity) can alter reptile and amphibian pollinating insect habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Speed limits will be posted and enforced to reduce vehicle speeds and associated noise.
WILDLIFE-39	• Pollinating Insects	• **Incidental take—**Site preparation and construction (including drilling and blasting) may result in the destruction pollinating insects in various life stages (incidental take).	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• Mitigation measures noted above.	• Mitigation measures noted above.
WILDLIFE-39	• Pollinating Insects	• **Incidental take—**Site preparation and construction (including drilling and blasting) may result in the destruction pollinating insects in various life stages (incidental take).	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• Not applicable.	• Mitigation measures noted above.
WILDLIFE-40	• Pollinating Insects	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual insects.	• Construction	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• An Environmental Protection Plan will be developed to minimize collisions between wildlife and vehicles during Construction.	• Provide driver training to construction workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access roads and on site to other employees, and mandatory reporting of wildlife collisions. • Worker transportation to site will be coordinated to reduce traffic volumes.
WILDLIFE-40	• Pollinating Insects	• **Collision with vehicles and equipment—**Project and public vehicles or heavy equipment use may cause injury or mortality to individual insects.	• Operations	• Ontario Ministry of the Environment, Conservation and Parks • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Speed limits will be posted and enforced to reduce vehicle speeds and associated collisions with wildlife. • Operations traffic will be restricted to approved right-of-way, workspace and access roads or trails. • Implement an Environmental Protection Plan that includes the following measures to minimize collisions between wildlife and vehicles during Maintenance: provide driver training to Maintenance workers to understand the importance of reducing vehicle speeds, spread awareness of local wildlife, give wildlife the right-of-way, communicate the presence of wildlife along access roads and on site to other employees, and mandatory reporting of wildlife collisions. • Worker transportation to site will be coordinated to reduce traffic volumes.

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Bird						
BIRD-01	• All bird Valued Components	• **Introduction and spread of invasive plant species**—can affect plant community composition, which can affect bird habitat availability and distribution.	• Construction	• Ministry of Natural Resources • Ontario Parks	• Prepare the environmental monitoring program that will contain mitigation measures to control invasive plant species.	• Implement the environmental monitoring program, including mitigation for invasive plant species. • A comprehensive list of mitigation measures to control invasive plant species during construction of the Project is provided in the Vegetation and Peatlands IDs.
BIRD-01	• All bird Valued Components	• **Introduction and spread of invasive plant species**—can affect plant community composition, which can affect bird habitat availability and distribution.	• Operations	• Ministry of Natural Resources • Ontario Parks	• Not applicable	• As per the Ministry of Transportation's *Weed Control Maintenance Best Practice (MBP-320)*, invasive plant species will be controlled using a combination of biological, chemical, cultural, manual, and mechanical control methods during operations (Ministry of Transportation, 2003).
BIRD-02	• All bird Valued Components	• **Emissions of criteria air contaminants—**Deposition of particulates in criteria air contaminant emissions (e.g., potential acid inputs) may change soil and vegetation quality and affect bird habitat availability and distribution.	• Construction	• Ministry of Transportation • Ontario Parks	• Potential mitigation measures outlined in the Ontario Ministry of Transportation's Environmental *Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions for Provincial Transportation Projects* (Ontario Ministry of Transportation, 2020) may be implemented during Detailed Design, if feasible. • Prepare the environmental monitoring program that will contain mitigation measures to control dust and air emissions.	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions. • A comprehensive list of mitigation measures that will be implemented to limit air particulate emissions during Construction is provided in the Atmospheric Environment IDs.
BIRD-02	• All bird Valued Components	• **Emissions of criteria air contaminants—**Deposition of particulates in criteria air contaminant emissions (e.g., potential acid inputs) may change soil and vegetation quality and affect bird habitat availability and distribution.	• Operations	• Ministry of Transportation • Ontario Parks	• Not applicable	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions.
BIRD-03	• All bird Valued Components	• **Fugitive dust emissions—** deposition of dust particulates may change soil and vegetation quality and affect bird habitat availability and distribution.	• Construction	• Ministry of Transportation • Ontario Parks	• Potential mitigation measures outlined in the Ontario Ministry of Transportation's Environmental *Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions for Provincial Transportation Projects* (Ontario Ministry of Transportation, 2020) may be implemented during Detailed Design, if feasible. • Prepare the environmental monitoring program that will contain mitigation measures to control dust and air emissions.	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions. • Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks and Ontario Ministry of Natural Resources, will be followed during Construction.
BIRD-03	• All bird Valued Components	• **Fugitive dust emissions—** deposition of dust particulates may change soil and vegetation quality and affect bird habitat availability and distribution.	• Operations	• Ministry of Transportation • Ontario Parks	• Not applicable	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions.

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BIRD-04	• All bird Valued Components	• **Erosion and sedimentation**—can alter surface water, groundwater, soil, and vegetation quality and affect bird habitat availability and distribution.	• Construction	• Ministry of Transportation • Fisheries and Oceans Canada • Ontario Parks	• Prepare the environmental monitoring program that will contain mitigation measures to control erosion and sedimentation. • Erosion and sediment control measures will be developed in accordance with Ontario Provincial Standard Specifications for erosion and sediment control measures (Ministry of Transportation, 2021a, 2021c).	• Implement the environmental monitoring program, including mitigation measures to control erosion and sedimentation during Construction. • Erosion and sediment control measures will be implemented in accordance with Ontario Provincial Standard Specifications for erosion and sediment control measures (Ministry of Transportation, 2021a, 2021c).
BIRD-04	• All bird Valued Components	• **Erosion and sedimentation**—can alter surface water, groundwater, soil, and vegetation quality and affect bird habitat availability and distribution.	• Operations	• Ministry of Transportation • Fisheries and Oceans Canada • Ontario Parks	• Not applicable	• Implement the environmental monitoring program, including mitigation • Mitigation identified in the Ministry of Transportation's Maintenance Quality Standards and Maintenance Best Practices for highway maintenance (Ministry of Transportation, 2003) will be implemented to minimize erosion and sedimentation during operations.
BIRD-05	• All bird Valued Components	• **Surface water quantity—** alteration of surface water drainage patterns, flows, and levels that can cause changes to soils and vegetation, which can affect bird habitat availability and distribution.	• Construction	• Ministry of the Environment, Conservation, and Parks • Fisheries and Oceans Canada • Ontario Parks	• Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks, Fisheries and Oceans Canada, and Ontario Ministry of Natural Resources, will be followed during Detailed Design.	• Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks, Fisheries and Oceans Canada, and Ontario Ministry of Natural Resources, will be followed during Construction.
BIRD-05	• All bird Valued Components	• **Surface water quantity—** alteration of surface water drainage patterns, flows, and levels that can cause changes to soils and vegetation, which can affect bird habitat availability and distribution.	• Operations	• Ministry of the Environment, Conservation, and Parks • Fisheries and Oceans Canada • Ontario Parks	• Not applicable	• Follow Ontario *Provincial Standard Specification 411* (Ministry of Transportation, 2022) and regularly inspect and maintain culverts and bridges.
BIRD-06	• All bird Valued Components	• **Surface water quality—** changes in surface water quality from Project activities could adversely affect bird habitat availability and distribution.	• Construction	• Ministry of the Environment, Conservation, and Parks • Fisheries and Oceans Canada • Ontario Parks	• Mitigations noted above.	• Adhere to federal and provincial regulations and guidelines regarding collection and storage of explosives and solid waste, such as the federal *Explosives Act*. • During the winter periods, sand will be used on the Community Access Road for de-icing instead of road salt.
BIRD-06	• All bird Valued Components	• **Surface water quality—** changes in surface water quality from Project activities could adversely affect bird habitat availability and distribution.	• Operations	• Ministry of the Environment, Conservation, and Parks • Fisheries and Oceans Canada • Ontario Parks	• Not applicable	• During the winter periods, sand will be used on the Community Access Road for de-icing instead of road salt. • Herbicides will not be used.
BIRD-07	• All bird Valued Components	• **Changes to Groundwater—** alteration of groundwater drainage and infiltration patterns, flows, and levels that can cause changes to	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Mitigations noted above.	• Mitigations noted above.

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		soils and vegetation, which can affect bird habitat availability and distribution.				
BIRD-07	• All bird Valued Components	• **Changes to Groundwater—** alteration of groundwater drainage and infiltration patterns, flows, and levels that can cause changes to soils and vegetation, which can affect bird habitat availability and distribution.	• Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• Mitigations noted above.
BIRD-08	• All bird Valued Components	• **Increase in public access—** could affect bird survival and reproduction through legal and illegal hunting.	• Construction	• Ministry of Natural Resources • Fisheries and Oceans Canada • Ontario Parks	• Use existing roads and other linear disturbances where possible.	• Restrict access to the effects assessment Construction Disturbance Area to construction personnel and prohibit firearms. • Monitor central access corridors or have manned gate / security in place, during periods of high activity. • Block winter roads and temporary access routes and trails that are no longer required. • Install access controls (e.g., gates and boulders) to control public vehicle travel on some temporary access routes and trails.
BIRD-08	• All bird Valued Components	• **Increase in public access—** could affect bird survival and reproduction through legal and illegal hunting.	• Operations	• Ministry of Natural Resources • Fisheries and Oceans Canada • Ontario Parks	• Not applicable	• Potential changes in hunter and angler pressure, and fish and bird harvest will continue to be managed by Environment and Climate Change Canada, Ministry of Natural Resources, and Fisheries and Oceans Canada through licensing requirements and by establishing rules in terms of season length, bag / catch limits, and catch-and-release rules for waterbodies near the Project. • Local communities will be responsible for managing their resources by limiting fish catch to a sustainable level for each species.
BIRD-09	• All bird Valued Components	• **Incidental take—**vegetation removal and soil alterations during site preparation for Construction and Maintenance activities, and infrastructure (e.g., camp buildings) decommissioning may result in destruction of nests, eggs, and individuals of birds.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• The migratory bird nesting season and timing of construction activities should be considered during Detailed Design. • Micrositing the Project to avoid high-quality habitats and sensitive areas, to the extent feasible. • Avoiding high-quality habitats and sensitive areas for migratory bird species at risk, to the extent feasible. • Pileated woodpecker habitat assessments, including an evaluation based on aerial interpretation and ground-truthed ahead of pre-clearing activities. These assessments are meant to keep project activities in compliance with the *Migratory Birds Convention Act* (Government of Canada, 1994), specifically identified under the Migratory Birds Regulations in reference to pileated woodpecker. Pileated Woodpecker assessments will be completed in advance of the Project commencing construction, factoring in requirements for nest monitoring per Environment and Climate Change Canada guidance (for	• Vegetation clearing activities will occur from August 15 to April 27, outside the breeding season for most bird species, where possible. • If any vegetation clearing is required during the migratory bird nesting season (April 28 to August 14; Environment and Climate Change Canada, 2023), non-intrusive pre-clearing nest surveys will occur within 7 days prior to clearing. • If any areas are found to have birds exhibiting breeding behaviour, these areas, including an activity disturbance buffer, will be flagged and protected from disturbance until the fledglings have left the nest. • In addition to nest surveys during the migratory bird nesting season, wildlife sweeps will be completed outside of the nesting season to look for and document pileated woodpecker nesting cavities and raptor stick nests. Wildlife sweeps will focus on mature and old growth forest dominated by deciduous trees as these habitats are most likely to have large trees that can support raptor stick nests and pileated woodpecker nests. Wildlife sweeps will be led by avian biologists with support from Indigenous Environmental Monitors, where possible.

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					example, monitoring potential pileated woodpecker nest cavity trees for a period of 3 years).	• The effectiveness of mitigation measures will be evaluated during construction and operations, and mitigation measures will be modified or enhanced as necessary through adaptive management. • Prior to site clearing, wildlife sweeps will also be completed outside of the nesting season to look for and document pileated woodpecker nesting cavities and raptor stick nests. Wildlife sweeps will be focused on mature and old growth forest dominated by deciduous trees as these habitats are most likely to have large trees that can support raptor stick nests and pileated woodpecker nests. Wildlife sweeps will be completed within 10 days prior to vegetation clearing. • Raptor stick nests found during Construction will be marked and isolated as Environmentally Sensitive Sites and setbacks from construction activities and / or staged construction activities will be implemented. • If pileated woodpecker nest cavities are found during wildlife sweeps, the nests will be registered in the Abandoned Nest Registry and monitored for a minimum of 36 months to determine if the nests are actively being used by migratory birds. Any trees with pileated woodpecker nests will not be removed until they are determined to be inactive for at least 36 months after discovery.
BIRD-09	• All bird Valued Components	• **Incidental take—**vegetation removal and soil alterations during site preparation for Construction and Maintenance activities, and infrastructure (e.g., camp buildings) decommissioning may result in destruction of nests, eggs, and individuals of birds.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• The migratory bird nesting season and timing of activities should be considered during Maintenance. • As per the Ministry of Transportation*'s Environmental Protection for Migratory Birds (EP-4)* (Ministry of Transportation, 2003), bridges and culverts will be inspected for the presence of birds and / or nests prior to maintenance activities commencing.
BIRD-10	• All bird Valued Components	• **Collision with vehicles and equipment—**collisions of birds with vehicles or heavy equipment may cause injury or mortality to individual birds.	• Construction	• Royal Canadian Mounted Police • Ministry of Transportation • Ontario Parks	• Incorporating standard safe road design configurations in the detailed Project design. • Micrositing the Project to avoid high-quality habitats and sensitive areas, to the extent feasible. • Avoiding high-quality habitats and sensitive areas for migratory bird species at risk, to the extent feasible.	• Providing wildlife awareness training for road construction workers to reduce vehicle speeds. • Restricting access to the Project to construction personnel during Construction. • Restricting construction traffic to designated areas. • Blocking winter roads and temporary access routes and trails no longer required as construction proceeds.
BIRD-10	• All bird Valued Components	• **Collision with vehicles and equipment—**collisions of birds with vehicles or heavy equipment may cause injury or mortality to individual birds.	• Operations	• Royal Canadian Mounted Police • Ministry of Transportation • Ontario Parks	• Not applicable	• Posting and enforcement of an 80 km/hr speed limit during operations. • As per the Ministry of Transportation's Maintenance Quality Standard for *Brush Control (MQS-324)* and Maintenance Quality Standard for *Grass Control (MQS-326)*, mowing will be completed regularly to maintain vegetation at rest areas and within 185 m of road signs and other objects that need to be seen (e.g., guide rails) below 2 m in height (Ministry of Transportation, 2003).

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BIRD-11	• All bird Valued Components	• **Wildlife attractants—** attraction of wildlife to the Project site can affect bird survival and reproduction through increased mortality risk and changes to predator-prey relationships.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation, and Parks • Ontario Parks	• Prepare an environmental monitoring program that will include policies and actions for handling and storage of waste as well as management of materials and stockpiles.	• Implement the environmental monitoring program, including policies and actions for handling and storage of waste as well as management of materials and stockpiles. • Keeping building and storage container doors closed. • Tarping or fully wrapping structures that have nesting potential (e.g., camp buildings and shipping containers). It is important to avoid using nets or other cover types that could entangle birds and cause potential injury or mortality. • Sealing cracks and holes where birds can enter structures. • Place pallets and other small pieces of equipment low to the ground. • Keeping heavy equipment free of mud, as mud can attract birds, particularly swallows, which use mud to build nests. • Conducting frequent inspections of structures and equipment for evidence of birds, ideally every day during the nesting season, at dawn and dusk when birds are most active. • The slopes of material stockpiles will be maintained at 70 degrees or less to deter bank swallow nesting. • Hanging brightly coloured strips of fabric over slope faces to deter birds. These must be well secured and weighted at the bottom. • Placing geotextile, plastic covers, or tarping over slope faces or stockpiles to prevent access by birds. It is important to avoid using nets or other cover types that could entangle birds and cause potential injury or mortality. • All work areas will be clear of any attractants such as food scraps and food containers. • Food waste will be collected and temporarily stored in wildlife-proof containers. The containers will be transported offsite for recycling or disposed at a licensed disposal facility.
BIRD-11	• All bird Valued Components	• **Wildlife attractants—** attraction of wildlife to the Project site can affect bird survival and reproduction through increased mortality risk and changes to predator-prey relationships.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation, and Parks • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during operations. • The slopes of material stockpiles will be maintained at 70 degrees or less to deter bank swallow nesting. • Hanging brightly coloured strips of fabric over slope faces to deter birds. These must be well secured and weighted at the bottom. • Placing geotextile, plastic covers, or tarping over slope faces or stockpiles to prevent access by birds. It is important to avoid using nets or other cover types that could entangle birds and cause potential injury or mortality. • If material stockpiles or Project infrastructure that may support nesting migratory birds need to be disturbed during the nesting season (April 28 to August 14; Environment and Climate Change Canada, 2023), non-intrusive pre-clearing nest surveys will occur within 7 days prior to maintenance activities beginning. If any areas are found to have birds exhibiting breeding behaviour, these areas, including an activity disturbance buffer, will be flagged and protected from disturbance until the fledglings have left the nest.

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						• As per the Ministry of Transportation's Maintenance Quality Standard for *Debris Control (MQS-331)*, debris less than one m in diameter, including roadkill, will be removed within 48 hours; debris greater than one m in diameter will be removed as detected (Ministry of Transportation, 2003). • Generally, roadkill will be removed from the effects assessment Community Access Road and relocated to adjacent brush areas, as per the Environmental Protection for *Waste and Excess Materials Management (EP-9)* requirements in the Ministry of Transportation's Maintenance Manual (Ministry of Transportation, 2003). As per the Waste and Excess Materials Management Environmental Protection requirements in the Maintenance Manual, depending on the location and weather at the time of roadkill removal, burial of small mammals occur in the roadside ditches. • Rest areas will be available every 50 km along the road during operations. The rest areas will be staggered every 25 km, alternating on each side of the highway. These rest areas will contain waste receptacles. As per the Ministry of Transportation's Maintenance Best Practice for *Rest Area/Picnic Site Maintenance (MBP-325)*, during the rest areas operating season (i.e., months during the year when temperatures remain above 0°C and closing no sooner than October 15), litter in waste receptacles will be removed from rest areas when waste receptacles are 75% full (Ministry of Transportation, 2003).
BIRD-12	• All bird Valued Components	• **Blasting and fly rock—**may result in injury or mortality to birds.	• Construction	• Ministry of the Environment, Conservation, and Parks • Ontario Parks	• Prepare an environmental monitoring program that will include policies and actions for avoiding and minimizing the risks of blasting and blasting materials to wildlife.	• Implement the environmental monitoring program during Construction, including policies and actions for avoiding and minimizing the risks of blasting and blasting materials to wildlife.
BIRD-12	• All bird Valued Components	• **Blasting and fly rock—**may result in injury or mortality to birds.	• Operations	• Ministry of the Environment, Conservation, and Parks • Ontario Parks	• Not applicable.	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during Maintenance. • Implement the environmental monitoring plan during Maintenance, including policies and actions for avoiding and minimizing the risks of blasting and blasting materials to wildlife.
BIRD-13	• All bird Valued Components	• **Chemical or hazardous material stored on the Project site, or spills**—(e.g., petroleum products, ammonium nitrate) can affect bird survival and reproduction.	• Construction	• Ministry of the Environment, Conservation, and Parks • Environment and Climate Change Canada • Ontario Parks	• Prepare an environmental monitoring program that will include policies and actions for managing spills.	• Implement the environmental monitoring program, including include policies and actions for managing spills. • Meet the federal *Transportation of Dangerous Goods Act*, provincial *Dangerous Goods Transportation Act*, and the provincial *Environmental Protection Act* for the transport, storage, and handling of fuels required for Construction.
BIRD-13	• All bird Valued Components	• **Chemical or hazardous material stored on the Project site, or spills**—(e.g., petroleum products, ammonium nitrate) can affect	• Operations	• Ministry of the Environment, Conservation, and Parks • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during Maintenance. • Meet the federal *Transportation of Dangerous Goods Act*, provincial *Dangerous Goods Transportation Act*, and the provincial

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		bird survival and reproduction.				*Environmental Protection Act* for the transport, storage, and handling of fuels required for Maintenance. • Commercial vehicles who are transporting dangerous goods on the Community Access Road should be adhering to the federal *Transportation of Dangerous Goods Act* and provincial *Dangerous Goods Transportation Ac*t.
BIRD-14	• Red-eyed vireo	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks and Ontario Ministry of Natural Resources, will be followed during Detailed Design. • Limit the Project footprint to the extent feasible. • Use existing access roads where possible. • A Preliminary Biodiversity Offset Plan (Appendix AB) has been developed to have no net loss of bird habitat.	• Where possible, decommission and rehabilitate temporary access roads, staging areas, camps, and debris and / or timber stockpiles following Construction. • Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks and Ontario Ministry of Natural Resources, will be followed during Construction.
BIRD-14	• Red-eyed vireo	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of the Environment, Conservation and Parks and Ontario Ministry of Natural Resources, will be followed during operations. • A Before-After Control-Impact study is proposed for operations monitoring. Data from operations monitoring will be compared to data from reference sites (i.e., sites not affected by disturbance) and data collected prior to construction (i.e., baseline survey [2018-2022] point count and autonomous recording unit data) to determine population trends and determine if predictions made in the Environmental Assessment are valid. • Autonomous recording unit and point count surveys at selected reference sites (in other words, locations surveyed in the alternative Project route Local Study Area during breeding bird, nightjar, and marsh bird baseline surveys from 2018 to 2022). Autonomous recording unit and point count surveys will be completed every 2 years for a period of 6 years; the need for surveys beyond 6 years will be determined in consultation with Environment and Climate Change Canada. • Two roadside North American Breeding Bird Survey routes (each 40 km long and containing 50 survey locations) will be initiated along the Project (in other words, one transect along the southern portion of the Project and one transect along the northern portion of the Project). The placement of each route will be negotiated with Environment and Climate Change Canada. Each route will be surveyed annually with the goal for the routes to be completed by the same observer for a period of 5 years; the need for surveys beyond 5 years will be determined in consultation with Environment and Climate Change Canada. Surveys will be completed in accordance with Environment and Climate Change Canada and United States Geological Survey standards. Refer to

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						the Preliminary Biodiversity Offset Plan (Appendix AB) for more information. • Three roadside Canadian Nightjar Survey routes (each 20 km long and containing 12 survey locations) will be initiated along the Project (in other words, one transect along the southern portion of the Project, one transect along the middle portion of the Project, and one transect along the northern portion of the Project). Nightjar surveys will be focused on the detection of Common Nighthawk and Eastern Whip-poor-will. The placement of each route will be negotiated with Birds Canada and / or Environment and Climate Change Canada. Each route will be surveyed annually with the goal for the routes to be completed by the same observer for a period of 5 years; the need for surveys beyond 5 years will be determined in consultation with Environment and Climate Change Canada. Surveys will be completed in accordance with Birds Canada survey standards. Refer to the Preliminary Biodiversity Offset Plan (Appendix AB) for more information. • A minimum of 10 Marsh Monitoring Program survey stations will be initiated along the Project (in other words, spaced evenly along the Project, where suitable habitat is present). The placement of each station will be negotiated with Birds Canada and / or Environment and Climate Change Canada. Each survey station will be surveyed annually with the goal for the routes to be completed by the same observer for a period of 5 years; the need for surveys beyond 5 years will be determined in consultation with Environment and Climate Change Canada. Surveys will be completed in accordance with Birds Canada survey standards. Refer to the Preliminary Biodiversity Offset Plan (Appendix AB) for more information. • A minimum of 20 targeted survey stations for Short-eared Owl will be surveyed each year, over a period of 3 years along the Project (in other words, spaced evenly along the Project, where suitable habitat is present; total of 60 surveys). Each survey station will be surveyed a minimum of once over the 3-year period of monitoring and the total monitoring effort will equal or be greater than 60 survey stations completed. Survey stations are not anticipated to be repeated to align with greater spatial coverage throughout the Project. The placement of each station will be chosen to align with the species breeding habitat.
BIRD-15	• Red-eyed vireo	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• The migratory bird nesting season and timing of construction activities should be considered during Detail Design. • Micrositing the Project to avoid high-quality habitats and sensitive areas, to the extent feasible. • A Preliminary Biodiversity Offset Plan (Appendix AB) has been developed to have no net loss of bird habitat.	• Complete work as quickly as possible to shorten the duration of disturbance. • The migratory bird nesting season and timing of activities should be considered during Construction. Clearing activities should occur from August 15 to April 27 (outside the migratory bird nesting season); if any clearing is required during the breeding bird season, non-intrusive pre-clearing nest surveys will occur within 7 days of the clearing; buffers will be established around each nest, and clearing activities will be restricted near active bird nests or pileated woodpecker nest cavities. • Follow guidance as outlined in Environment and Climate Change Canada's *Avoidance Guidelines for Migratory Birds*.

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						• Surveys will be conducted for ecologically sensitive sites prior to construction; marking, isolation and setbacks implemented if these sites are found. • Control lighting required for construction of the Project, including direction (e.g., focused on work areas and away from undisturbed areas) and timing (e.g., minimize work at night) to minimize effects on birds, while meeting health and safety requirements. • Wildlife awareness training will be provided for road construction workers to reduce vehicle speeds and associated noise and dust emission levels. • Restricting construction traffic to designated areas. • Industry best practices will be used for blasting activities, including scheduling outside of sensitive periods when in the vicinity of sensitive wildlife sites. • Multi-passenger vehicles (e.g., buses) will be used to transport workers to site when practicable.
BIRD-15	• Red-eyed vireo	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• During Maintenance, complete work as quickly as possible to shorten the duration of disturbance. • The migratory bird nesting season and timing of activities should be considered during Maintenance. • Posting and enforcement of an 80 km/hr speed limit to reduce vehicle speeds and associated noise and dust emission levels. • A Before-After Control-Impact study is proposed for operations monitoring. Data from operations monitoring will be compared to data from reference sites (i.e., sites not affected by disturbance) and data collected prior to construction (i.e., baseline survey [2018-2022] point count and autonomous recording unit data) to determine population trends and determine if predictions made in the Environmental Assessment are valid.
BIRD-16	• Ovenbird	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may have effects on habitat abundance, connectivity, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-16	• Ovenbird	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may have effects on habitat abundance, connectivity, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-17	• Ovenbird	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.

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BIRD-17	• Ovenbird	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-18	• Ovenbird	• **Increase in edge habitat—** can change predator-prey dynamics and influence bird survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-18	• Ovenbird	• **Increase in edge habitat—** can change predator-prey dynamics and influence bird survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-19	• Dark-eyed junco	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-19	• Dark-eyed junco	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-20	• Dark-eyed junco	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-20	• Dark-eyed junco	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-21	• Osprey	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability,	• Construction	• Ministry of the Environment, Conservation and Parks	• See habitat loss mitigations presented for red-eyed vireo	• See habitat loss mitigations presented for red-eyed vireo

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		use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.		• Ontario Parks		
BIRD-21	• Osprey	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo
BIRD-22	• Osprey	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Ministry of the Environment, Conservation, and Parks • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-22	• Osprey	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-23	• Boreal owl	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-23	• Boreal owl	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-24	• Wilson's snipe	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		availability, distribution, and survival and reproduction.				
BIRD-24	• Wilson's snipe	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-25	• Wilson's snipe	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-25	• Wilson's snipe	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-26	• Mallard	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-26	• Mallard	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-27	• Mallard	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird survival and reproduction by reducing individual's ability to detect approaching predators and species communications.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
BIRD-27	• Mallard	• **Sensory disturbance -** (e.g., lights, smells, noise, human activity) can alter bird survival and reproduction by reducing individual's ability to detect approaching predators and species communications.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-28	• Palm Warbler	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-28	• Palm Warbler	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-29	• Palm Warbler	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-29	• Palm Warbler	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-30	• Palm Warbler	• **Increase in edge habitat—** can change predator-prey dynamics and influence bird survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-30	• Palm Warbler	• **Increase in edge habitat—** can change predator-prey dynamics and influence bird survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-31	• Common Yellowthroat	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may have effects on habitat abundance,	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		connectivity, and survival and reproduction.				
BIRD-31	• Common Yellowthroat	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may have effects on habitat abundance, connectivity, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-32	• Common Yellowthroat	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-32	• Common Yellowthroat	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-33	• Northern Waterthrush	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-33	• Northern Waterthrush	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-34	• Northern Waterthrush	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-34	• Northern Waterthrush	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		connectivity (movement and behaviour), and survival and reproduction.				
BIRD-35	• Northern Waterthrush	• **Increase in edge habitat—** can change predator-prey dynamics and influence bird survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-35	• Northern Waterthrush	• **Increase in edge habitat—** can change predator-prey dynamics and influence bird survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-36	• Sora	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-36	• Sora	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-37	• Sora	• **Sensory disturbance**—(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-37	• Sora	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-38	• Canada Warbler	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• The Project will be routed to avoid high-quality habitats and sensitive areas for migratory bird species at risk to the extent feasible. • See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
BIRD-38	• Canada Warbler	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-39	• Canada Warbler	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• The Project will be routed to avoid high-quality habitats and sensitive areas for migratory bird species at risk to the extent feasible. • See sensory disturbance mitigations presented for red-eyed vireo.	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-39	• Canada Warbler	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use, and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo.
BIRD-40	• Evening Grosbeak	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-40	• Evening Grosbeak	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-41	• Evening Grosbeak	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use, and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-41	• Evening Grosbeak	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use, and	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		connectivity (movement and behaviour), and survival and reproduction.				
BIRD-42	• Chimney Swift, Bank Swallow, and Barn swallow	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-42	• Chimney Swift, Bank Swallow, and Barn swallow	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-43	• Chimney Swift, Bank Swallow, and Barn swallow	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use, and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-43	• Chimney Swift, Bank Swallow, and Barn swallow	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use, and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-44	• Common Nighthawk and Eastern Whip-poor-will	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-44	• Common Nighthawk and Eastern Whip-poor-will	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
BIRD-45	• Common Nighthawk and Eastern Whip-poor-will	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use, and connectivity (movement and behaviour), and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-45	• Common Nighthawk and Eastern Whip-poor-will	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use, and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-46	• Common Nighthawk and Eastern Whip-poor-will	• **Increase in edge habitat**—can change predator-prey dynamics and influence bird survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-46	• Common Nighthawk and Eastern Whip-poor-will	• **Increase in edge habitat**—can change predator-prey dynamics and influence bird survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-47	• Eastern Wood-pewee	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks • Ministry of the Environment, Conservation and Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-47	• Eastern Wood-pewee	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-48	• Eastern Wood-pewee	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use, and connectivity (movement and	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		behaviour), and survival and reproduction.				
BIRD-48	• Eastern Wood-pewee	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, use, and connectivity (movement and behaviour), and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-49	• Olive-sided Flycatcher	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-49	• Olive-sided Flycatcher	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-50	• Olive-sided Flycatcher	• **Sensory disturbance**—(e.g., lights, smells, noise, human activity) can bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-50	• Olive-sided Flycatcher	• **Sensory disturbance**—(e.g., lights, smells, noise, human activity) can bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-51	• Bald Eagle	• **Habitat loss**—the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-51	• Bald Eagle	• **Habitat loss**—the direct removal or alteration of soil and vegetation that may	• Operations	• Ministry of the Environment, Conservation and Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.		• Ontario Parks		
BIRD-52	• Bald Eagle	• **Sensory disturbance**—(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-52	• Bald Eagle	• **Sensory disturbance**—(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-53	• Short-eared Owl	• **Habitat loss**—the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-53	• Short-eared Owl	• **Habitat loss**—the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-54	• Short-eared Owl	• **Sensory disturbance**—(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-54	• Short-eared Owl	• **Sensory disturbance**—(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-55	• Short-eared Owl	• **Increase in edge habitat**—can change predator-prey dynamics and influence bird survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-55	• Short-eared Owl	• **Increase in edge habitat**—can change predator-prey	• Operations	• Ministry of the Environment, Conservation and Parks	• Not applicable	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		dynamics and influence bird survival and reproduction.		• Ontario Parks		
BIRD-56	• Lesser Yellowlegs	• **Habitat loss**—the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-56	• Lesser Yellowlegs	• **Habitat loss**—the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-57	• Lesser Yellowlegs	• **Sensory disturbance**—(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-57	• Lesser Yellowlegs	• **Sensory disturbance**—(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-58	• Rusty Blackbird	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-58	• Rusty Blackbird	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
BIRD-59	• Rusty Blackbird	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-59	• Rusty Blackbird	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-60	• Rusty Blackbird	• **Increase in edge habitat—** can change predator-prey dynamics and influence bird survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo.	• See habitat loss mitigations presented for red-eyed vireo.
BIRD-60	• Rusty Blackbird	• **Increase in edge habitat—** can change predator-prey dynamics and influence bird survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Habitat loss may result in increased edge habitat. See habitat loss mitigations presented for red-eyed vireo.
BIRD-61	• Yellow Rail	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-61	• Yellow Rail	• **Habitat loss—**the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See habitat loss mitigations presented for red-eyed vireo and Canada warbler.
BIRD-62	• Yellow Rail	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ontario Parks	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.
BIRD-62	• Yellow Rail	• **Sensory disturbance—**(e.g., lights, smells, noise, human activity) can alter bird habitat availability, distribution, and survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See sensory disturbance mitigations presented for red-eyed vireo and Canada warbler.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
Ungulate						
UNGULATE - 01	• Caribou and Moose	• **Introduction and spread of invasive plant species**—Introduction of invasive plants from Project activities can affect plant community composition, which can affect ungulate habitat availability and distribution.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Prepare the environmental monitoring program that will contain mitigation measures to control invasive plant species.	• Implement the environmental monitoring program, including mitigation for invasive plant species. • A comprehensive list of mitigation measures to control weeds during construction of the Project is provided in the Vegetation and Peatlands IDs.
UNGULATE - 01	• Caribou and Moose	• **Introduction and spread of invasive plant species**—Introduction of invasive plants from Project activities can affect plant community composition, which can affect ungulate habitat availability and distribution.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Not applicable.	• As per the Ministry of Transportation's Maintenance Best Practice for *Weed Control (MBP-320)*, invasive plant species will be controlled using a combination of biological, chemical, cultural, manual, and mechanical control methods during operations (Ministry of Transportation, 2003).
UNGULATE - 02	• Caribou and Moose	• **Emissions of Criteria Air Contaminants**—Deposition of criteria air contaminant emissions (e.g., potential acid inputs) may change soil quality and vegetation and affect ungulate habitat availability and distribution.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	▪ Potential mitigation measures outlined in the Ontario Ministry of Transportation's *Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects* (Ontario Ministry of Transportation, 2020) may be implemented during Detailed Design, if feasible. • Prepare the environmental monitoring program that will contain mitigation measures to control dust and air emissions.	▪ Implement the environmental monitoring program, including mitigation measures to control dust and air emissions. ▪ Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of Environment, Conservation and Parks and Ontario Ministry of Natural Resources, will be followed during Construction. • A comprehensive list of mitigation measures that will be implemented to limit air particulate emissions during Construction is provided in the Atmospheric Environment IDs.
UNGULATE - 02	• Caribou and Moose	• **Emissions of Criteria Air Contaminants**—Deposition of criteria air contaminant emissions (e.g., potential acid inputs) may change soil quality and vegetation and affect ungulate habitat availability and distribution.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions.
UNGULATE – 03	• Caribou and Moose	• **Fugitive Dust Emissions**—Deposition of dust particulates may change soil and vegetation quality and affect ungulate habitat availability and distribution.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Prepare the environmental monitoring program that will contain mitigation measures to control dust and air emissions.	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions. • A comprehensive list of mitigation measures that will be implemented to limit air particulate emissions during Construction is provided in the Atmospheric Environment IDs.

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UNGULATE – 03	• Caribou and Moose	• **Fugitive Dust Emissions**—Deposition of dust particulates may change soil and vegetation quality and affect ungulate habitat availability and distribution.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Implement the environmental monitoring program, including mitigation measures to control dust and air emissions.
UNGULATE - 04	• Caribou and Moose	• **Erosion and Sedimentation**—Vegetation clearing, earth moving, pit and quarry development and other Project activities can result in the release of sediment, which may change the composition and function of vegetation communities and affect ungulate habitat availability and distribution.	• Construction	• Fisheries and Oceans Canada • Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Prepare the environmental monitoring program that will contain mitigation measures to control erosion and sedimentation. • Erosion and sediment control measures will be developed in accordance with Ontario Provincial Standard Specifications for erosion and sediment control measures (Ministry of Transportation, 2021a, 2021c).	• Implement the environmental monitoring program, including mitigation measures to control erosion and sedimentation during Construction. • Erosion and sediment control measures will be implemented in accordance with Ontario Provincial Standard Specifications for erosion and sediment control measures (Ministry of Transportation, 2021a, 2021c). • A comprehensive list of mitigation measures that will be implemented during Construction is provided in Vegetation and Surface Water IDs.
UNGULATE - 04	• Caribou and Moose	• **Erosion and Sedimentation**—Vegetation clearing, earth moving, pit and quarry development and other Project activities can result in the release of sediment, which may change the composition and function of vegetation communities and affect ungulate habitat availability and distribution.	• Operations	• Fisheries and Oceans Canada • Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Not applicable	• Implement the environmental monitoring program, including mitigation measures to control erosion and sedimentation during Maintenance. • Erosion and sediment control measures will be implemented in accordance with Ontario Provincial Standard Specifications for erosion and sediment control measures (Ministry of Transportation, 2021a, 2021c). • The mitigation measures established and refined using adaptive management during Project Construction should be maintained during operations. • Mitigation identified in the Ministry of Transportation's Maintenance Quality Standards and Maintenance Best Practices for highway maintenance (Ministry of Transportation, 2003) will be implemented to minimize erosion and sedimentation during operations.
UNGULATE - 05	• Caribou and Moose	• **Changes in Surface Water Quantity**—Alteration of surface water drainage patterns, flows and levels that can cause changes to soils and vegetation, which can affect ungulate habitat availability and distribution.	• Construction	• Fisheries and Oceans Canada • Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• A comprehensive list of mitigation measures to limit changes to surface water quantity during Detail Design is provided in the Surface Water IDs.	• Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of Environment, Conservation and Parks, Fisheries and Oceans Canada, and Ontario Ministry of Natural Resources, will be followed during Construction.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
UNGULATE - 05	• Caribou and Moose	• **Changes in Surface Water Quantity**—Alteration of surface water drainage patterns, flows and levels that can cause changes to soils and vegetation, which can affect ungulate habitat availability and distribution.	• Operations	• Fisheries and Oceans Canada • Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during operations. • Follow *Ontario Provincial Standard Specification 411* (Ministry of Transportation, 2022) and regularly inspect and maintain culverts and bridges. • Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of Environment, Conservation and Parks, Fisheries and Oceans Canada, and Ontario Ministry of Natural Resources, will be followed during operations.
UNGULATE - 06	• Caribou and Moose	• **Changes in Surface Water Quality**—Changes in surface water quality from Project activities could adversely affect habitat availability and distribution.	• Construction	• Fisheries and Oceans Canada • Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of Environment, Conservation and Parks, Fisheries and Oceans Canada, and Ontario Ministry of Natural Resources, will be followed during Detailed Design. • A comprehensive list of mitigation measures to limit changes to surface water quality during Detail design is provided in the Surface Water IDs.	• Adhere to federal and provincial regulations and guidelines regarding collection and storage of explosives and solid waste, such as the federal *Explosives Act*. • During the winter periods, sand will be used on the Community Access Road for de-icing instead of road salt. • Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of Environment, Conservation and Parks, Fisheries and Oceans Canada, and Ontario Ministry of Natural Resources, will be followed during Construction. • A comprehensive list of mitigation measures to limit changes to surface water quality during Construction is provided in the Surface IDs.
UNGULATE - 06	• Caribou and Moose	• **Changes in Surface Water Quality**—Changes in surface water quality from Project activities could adversely affect habitat availability and distribution.	• Operations	• Fisheries and Oceans Canada • Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during operations. • During the winter periods, sand will be used on the Community Access Road for de-icing instead of road salt.
UNGULATE - 07	• Caribou and Moose	• **Changes in Groundwater**—Alteration of groundwater drainage and infiltration patterns, flows, and levels that can cause changes to soils and vegetation, which can affect ungulate habitat availability and distribution.	• Construction	• Fisheries and Oceans Canada • Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• A comprehensive list of mitigation measures to limit changes to groundwater quantity during Detail design is provided in the Surface Water Technical Support Document (Appendix F).	• A comprehensive list of mitigation measures to limit changes to groundwater quantity during Construction is provided in the Groundwater IDs.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
UNGULATE - 07	• Caribou and Moose	• **Changes in Groundwater**—Alteration of groundwater drainage and infiltration patterns, flows, and levels that can cause changes to soils and vegetation, which can affect ungulate habitat availability and distribution.	• Operations	• Fisheries and Oceans Canada • Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during operations.
UNGULATE - 08	• Caribou and Moose	• **Increase in Wildlife Attractants**—Attraction of wildlife to the Project site (e.g., food waste, sewage, petroleum-based products, dust suppressants, explosive powder, site runoff ponds) may increase human-wildlife interactions and change predator-prey relationships, which can affect animal survival and reproduction.	• Construction	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Prepare an Environmental Protection Plan that includes policies and actions anticipated to mitigate the attraction of wildlife to the Construction Disturbance Area, particularly near the temporary construction staging areas and temporary construction camps. • Prepare a Waste Management Plan that describe the appropriate management of solid, liquid and hazardous waste, including: • Construction-related garbage, debris, and surplus materials. • Hazardous materials such as used oil, filter and grease cartridges, lubrication containers. • Domestic garbage and camp waste (i.e., food and grey water). Portable, secure, solid waste receptacles will be provided on work sites, temporary laydown areas and temporary construction camps and periodically emptied. • The method of domestic sewage disposal at temporary construction camps will be determined during detail design. Options may include holding tank systems with offsite disposal or onsite leaching beds designed in accordance with applicable codes and approvals. All required permits and authorizations will be acquired for construction and operation of these. Where subsurface sewage disposal systems are proposed, they will be designed in accordance with the Ontario Building Code for systems under 10,000 L/day. For systems exceeding this threshold, approval under Section 53 of the *Ontario Water Resources Act* (Government of Ontario, 1990a) will be obtained. If required and when feasible, domestic wastewater will be removed by approved disposal trucks and disposed of at wastewater treatment plants with the authorization and capacity to accept this wastewater.	• Implement the Environmental Protection Plan, including policies and actions for handling and storage of waste as well as management of materials and stockpiles. • Construction staff will be educated about hazards of littering and feeding wildlife. A no littering policy will be implemented and enforced. • All work areas will be clear of any attractants such as food scraps and food containers. • Feeding and harassment of wildlife on site will be prohibited. • De-icing salts will not be used on the unpaved Community Access Road during construction or operation. • Roadkill will be cleaned up during construction and operation following best management practices outlined by Ontario's Ministry of Transportation. • Collect domestic (e.g., food) and industrial (e.g., used oil and lubricants) waste and store temporarily in wildlife-proof containers. Transport all waste offsite for recycling or disposal at a licensed disposal facility. • Potentially toxic materials that attract wildlife will be stored in secure areas inaccessible to wildlife (e.g., buildings, storage areas surrounded by wildlife-proof fencing), and toxic materials will be monitored continuously when removed from storage until they are used or returned to storage to prevent wildlife accessing and ingesting the materials. • Empty chemical toilets on site regularly by a licensed sewage-handling contractor.

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UNGULATE - 08	• Caribou and Moose	• **Increase in Wildlife Attractants**—Attraction of wildlife to the Project site (e.g., food waste, sewage, petroleum-based products, dust suppressants, explosive powder, site runoff ponds) may increase human-wildlife interactions and change predator-prey relationships, which can affect animal survival and reproduction.	• Operations	• Environment and Climate Change Canada • Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during operations. • As per the Ministry of Transportation's Maintenance Quality Standard for *Debris Control (MQS-331)*, debris less than 1 m in diameter, including roadkill, will be removed within 48 hours; debris greater than 1 m in diameter will be removed as detected (Ministry of Transportation, 2003). • Generally, roadkill will be removed from the effects assessment Construction Disturbance Area and relocated to adjacent brush areas, as per the Environmental Protection for *Waste and Excess Materials Management (EP-9)* requirements in the Ministry of Transportation's Maintenance Manual (Ministry of Transportation, 2003). As per the Waste and Excess Materials Management Environmental Protection requirements in the Maintenance Manual, depending on the location and weather at the time of roadkill removal, burial of small mammals occur in the roadside ditches, if this activity is permitted under a Certificate of Approval for Waste Management System (Ministry of Transportation, 2003). • Rest areas will be available every 50 km along the road during operations. The rest areas will be staggered every 25 km, alternating on each side of the highway. These rest areas will contain waste receptacles. As per the Ministry of Transportation's Maintenance Best Practice for *Rest Area/Picnic Site (MBP-325)*, during the rest areas operating season (i.e., months during the year when temperatures remain above 0°C and closing no sooner than October 15), litter in waste receptacles will be removed from rest areas when waste receptacles are 75% full (Ministry of Transportation, 2003).
UNGULATE - 09	• Caribou and Moose	• **Blasting and Associated Fly Rock**—May result in injury or mortality to wildlife.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Prepare a Blasting and Communication Management Plan that is in accordance with Ontario Provincial Standard Specification *General Specifications for the Use of Explosives* (Ministry of Transportation, 2025b) and describes specific measures that would be implemented if blasting is required. • Prepare an Environmental Protection Plan that includes policies and actions for avoiding and minimizing the risks of blasting and blasting materials to wildlife, including ungulates.	• Implement the Environmental Protection Plan during Construction, including policies and actions for avoiding and minimizing the risks of blasting and blasting materials to wildlife. • A comprehensive list of mitigation measures to minimize effects from blasting during construction and operations is provided in the Acoustic and Vibration IDs. • Blasting work will be completed as quickly as possible to shorten the duration of disturbance. • Blasting will be suspended within 10 km of known or potential caribou Category 1 areas during sensitive periods to minimize sensory disturbances (nursery areas: May 1 to July 14 very low tolerance, July 15 to September 15 low tolerance; winter use areas: December 1 to March 31). If timing windows cannot be adhered to, follow environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of Environment, Conservation and Parks and Ontario Ministry of Natural Resources. • Open excavations and blasting areas will be fenced off if left unsupervised to avoid injury and mortality of ungulates.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
						• A buffer zone will be placed around the perimeter of blasting activities and surrounding forested habitat. Blasting will be prohibited if large mammals (i.e., moose and / or caribou) are observed within 500 m from the blasting location. Pre-blasting surveys will be developed in the Environmental Protection Plan and followed.
UNGULATE - 09	• Caribou and Moose	• **Blasting and Associated Fly Rock**—May result in injury or mortality to wildlife.	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during Maintenance. • Implement the environmental monitoring plan during Maintenance, including policies and actions for avoiding and minimizing the risks of blasting and blasting materials to wildlife.
UNGULATE - 10	• Caribou and Moose	• **Chemical or Hazardous Material Spill**—(E.g., petroleum products, ammonium nitrate) on site or along access or haul roads can affect wildlife survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Prepare a Spill Prevention and Emergency Response Plan that describes specific measures that would be implemented if a spill occurred.	• Implement the Spill Prevention and Emergency Response Plan that describes specific measures if a spill occurs. • Adhere to federal and provincial regulations and guidelines regarding hazardous substance collection and storage, use and handling, and disposal and treatment, such as the federal *Transportation of Dangerous Goods Act*, provincial *Dangerous Goods Transportation Act*, and the *Environmental Protection Act.* Locate project infrastructure systems away from key habitats (i.e., critical habitat, biophysical attributes as defined in Federal Recovery Strategy, Significant Wildlife Habitat) as much as possible. • Mitigation measures described in the Surface Water, Groundwater Physiography, Terrain, and Soils, and Vegetation IDs will be implemented to minimize effects from chemical and hazardous material spills in the ungulate effects assessment Local Study Area during construction and operations. The transportation, storage, and handling of fuels will be in compliance with the *Technical Standards and Safety Act* (Government of Ontario, 2000) and federal *Transportation of Dangerous Goods Act* (Government of Canada, 1992).
UNGULATE - 10	• Caribou and Moose	• **Chemical or Hazardous Material Spill**—(E.g., petroleum products, ammonium nitrate) on site or along access or haul roads can affect wildlife survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• The mitigation measures established and refined using adaptive management during Project Construction should be maintained during Maintenance. • Meet the federal *Transportation of Dangerous Goods Act*, provincial *Dangerous Goods Transportation Act*, and the provincial *Environmental Protection Act* for the transport, storage, and handling of fuels required for Maintenance. • Commercial vehicles who are transporting dangerous goods on the Community Access Road should be adhering to the federal *Transportation of Dangerous Goods Act* and provincial *Dangerous Goods Transportation Act*.
UNGULATE - 11	• Caribou and Moose	• **Habitat Loss**—the direct removal or alteration of soil and vegetation that may change habitat availability,	• Construction	• Ministry of the Environment, Conservation and Parks	• Engage and consult with Indigenous communities and federal and provincial regulators to confirm the	• Retain function, quality and connectivity of compatible habitat features (e.g., vegetation, trees, wildlife trees, coarse woody debris) as much as possible, particularly in selective, environmentally sensitive areas, to the extent practical and where

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		use, and connectivity and influence ungulate abundance and distribution.		• Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	mitigations to be implemented during construction and operations. • A sensitive data license agreement will be established with the Ministry of the Environment, Conservation and Parks' Species at Risk Branch for the Project (in other words, owner / operator) to acquire boreal caribou protected habitat information, which will support monitoring and other proposed mitigation commitments during construction. • Follow best management practices and environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Fisheries and Oceans Canada, the Ministry of Environment, Conservation and Parks, and the Ministry of Natural Resources, during detail design. • Limit the Project footprint to the extent feasible. • Use existing access road where possible. • Locate the Project route in such a way that minimizes overlap with sensitive habitats to the extent feasible, including provincially identified Category 1 areas for caribou (nursery areas, winter use areas, travel corridors; Government of Ontario, 2013) and potential new Category 1 areas identified in this EA/IS, areas which contain biophysical habitat attributes for caribou (Environment and Climate Change Canada, 2020), and significant wildlife habitat for moose. • Limit to the extent feasible the construction of temporary (e.g., access road) and permanent structures in wetlands or within 30 m setback from a wetland. If construction cannot avoid wetlands and 30 m setback, Ministry of Natural Resources will be notified as soon as possible prior to work starting. Work may will not be conducted unless approval is obtained from the appropriate regulatory agencies. • Plan for construction of the Community Access Road to be conducted in phases (segment by segment) to limit the amount of disturbance at any particular time. • The Project construction schedule will avoid activities during the sensitive timing windows for caribou (i.e., May 1 to September 15 for nursery areas, December 1 to March 31 for winter use areas) within 10 km of known and potential new Category 1 areas, to the extent practical. When activity restrictions cannot be followed, the Ministry	safe to do so (e.g., using proper setbacks of key habitat features, avoid severe water fluctuations, avoid terrestrial islands, avoid mineral licks, avoid unburned areas within wildfire perimeters, avoid migratory pathways). • Limit clearing of riparian vegetation (i.e., within 30 m of waterbodies) to the extent practical and to the requirement of the access road and alignment clearing width only. • Known sensitive ecological features will be clearly marked (e.g., wetlands and significant wildlife habitat) with associated setbacks. Engage with applicable government agency (Ministry of the Environment, Conservation and Parks, Ministry of Natural Resources and Environment and Climate Change Canada) if sensitive ecological features are encountered or cannot be avoided. • Use construction practices which encourage the eventual natural recovery / growth of native species (e.g., winter exploration programs on frozen ground with no ripping or grubbing soil). • Maintain or improve ungulate habitat by using techniques that accelerate revegetation (e.g., minimize topsoil removal, preserve adequate substrate, leave surface vegetation root mat intact). • Under non-frozen conditions and where regulatory approvals allow, install mats (e.g., rig mats, swamp mats or access mats) to limit effects on waterbodies and wetlands, if warranted and surface conditions require. • A Vegetation Management Plan including measures to protect rare plants and rare vegetation communities will be implemented by the owner / operator. • Erosion control practices (e.g., contouring) will limit wind and water erosion on cover soil and overburden stockpiles (e.g., vegetation, erosion mats) as well as will encourage regrowth of vegetation. • Prevent starting wildfires from Project activities (e.g., have readily available fire extinguishers, firefighting equipment, water packs / pails, provide firefighting training to staff, keep equipment clean and in good condition, no smoking outside designated areas, prepare an Emergency Response Plan). • Use progressive restoration and adopt practices to facilitate conifer recovery (e.g., elevate mulching drums) on site once temporary construction areas are no longer needed. The time interval between commencement and completion of any work that disturbs earth surfaces will be a maximum of 20 calendar days. Commencement of such work will be considered to have occurred when the original stabilizing ground cover has been removed, including grubbing, or has been covered with fill material. Completion of such work will be considered to have occurred when the cover material (seed and mulch, seed and erosion control blanket, sod, rip-rap, etc.) has been applied. Where the timing of the operation results in a conflict with the application requirements of the specified cover, the owner / operator will determine appropriate interim measures that afford temporary protection until such a time as final cover can be applied. Additional information

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					of Environment, Conservation and Parks will be engaged to determine alternative approaches. • Where possible, schedule work activities in wet areas during frozen conditions. • Prepare a Cleanup and Reclamation Plan that describes restoration plan including seedling planting, if necessary, to improve restoration success on areas of temporary disturbance (e.g., temporary access roads, laydown areas, camps, and workspaces). Reclamation plans will be confirmed through engagement with Indigenous communities, the Ministry of Natural Resources and local foresters. • A Preliminary Biodiversity Offset Plan (Appendix AB) has been developed to have no net loss of caribou habitat, finalize in detail design. • A Vegetation Management Plan including measures to protect rare plants and rare vegetation communities will be developed by the owner / operator. In the event a rare plant species or a rare vegetation community are encountered unexpectedly, or cannot be avoided, the rare plant protection measures outlined in the Vegetation Management Plan will be implemented. • An Ungulates Management and Monitoring Plan will be developed as part of the Environmental Protection Plan. Recommendations for mitigations and monitoring approaches provided by First Nations during the comment period of the Draft Environmental Assessment / Impact Statement will be considered for inclusion in the Ungulates Management and Monitoring Plan. During construction, the following monitoring programs may be required: • Clearing, construction activities and decommissioning of temporary construction areas in and within 10 km of Category 1 nursery use areas will occur outside the sensitive timing window of May 1 to September 15, to the extent practical. Clearing and construction activities in and within 10 km of Category 1 winter use areas will occur outside the sensitive timing window of December 1 to March 31, to the extent practical. If activity restrictions cannot be followed for construction activities, Indigenous communities, in addition to the Ministry of Environment, Conservation and Parks, will be engaged to determine alternative approaches. This may include daily monitoring of caribou locations with collars and only commencing construction activities if collar data indicates that there are no	about the expected timeline for restoration activities is described in Section 9.4.7.4 of the Final Environmental Assessment / Impact Statement. • Avoid re-entry and disturbance of reclaimed temporary access areas through combined use of physical control measures (rollback, remove of creek crossings, recontouring to surrounding topography, revegetation / reforesting and / or barriers at junctions with active access). • Reclaim temporary access roads, construction camps, waterbody crossings and laydown areas at the end of construction. • Implement the Cleanup and Reclamation Plan including monitoring effectiveness of revegetation efforts post-construction. If required, adaptive management will be employed to modify or enhance any reclamation efforts. • Restore on site should consider maintaining or improving wildlife habitat. Consider planting native trees, preferably conifers, to accelerate revegetation of the access roads and other temporary disturbances (or progressive reclamation through project life cycle). • A Before-After Control-Impact study is proposed which begins during Construction and continues during operations would allow for a quantitative assessment of potential effects of each phase of the Project. Data from Construction monitoring will be compared to data collected prior to Construction (i.e., baseline data collected from caribou collars, remote cameras and winter aerial surveys [2020 to 2024]) and data from reference sites (i.e., sites not affected by Construction disturbance) to determine if predictions made in the Environmental Assessment are valid and to monitor changes in population trends and habitat use though time. • During construction and operations, the following Before-After Control-Impact monitoring programs are potential approaches that could be discussed and evaluated as options during engagement and consultation: • Deploying and maintaining Global Positioning System collars on adult female caribou, for comparison of caribou seasonal movement patterns, habitat use and mortality in the vicinity of the Project compared to historical Ministry of Natural Resources collar data and collar data collected during baseline studies (2021 to 2024). Monitoring the movements of female caribou in the vicinity of the Project will allow for identification of changes related to areas where caribou occur during sensitive / vulnerable periods as well as their seasonal movement patterns, including possible travel corridors, during construction and operations. Monitoring with collars also would include conducting mortality investigations of collared animals as they occur; this will provide information about changes in causes of mortality during Construction and operations. The number of collars and duration of years for monitoring during Construction and operations will be determined through engagement with Ministry of Environment, Conservation and Parks.

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					caribou within pre-defined “cautionary zones” (pre-defined spatial buffer areas). • Cautionary zones will be pre-defined spatial buffer areas based on the level of sensory disturbance expected for the activity. • A hierarchy of mitigation actions based on disturbance type, distance from caribou, and season will be established. • In addition to the intensive monitoring during sensitive seasons described above, ground-based or aerial pre-clearing surveys (“wildlife sweeps”) will be completed outside of the sensitive timing windows and within a biologically relevant distance of the Construction Disturbance Area under the direction of the Environmental Monitor, prior to any clearing or grubbing. The wildlife sweeps will entail surveying for sensitive wildlife features, including mammal dens, beaver lodges, amphibian and reptile habitats, and bat maternity roost habitat, and documenting the presence of large mammals. Trained staff will survey the area to be cleared or where blasting will take place by foot, all-terrain vehicle, snow machine or truck. An Indigenous Environmental Monitor will participate in pre-clearing surveys. Observations of wildlife and sign will be documented and reported to the owner / operator. Environmental Manager and the Environmental Manager will help to confirm all Species at Risk observations will be reported to the Natural Heritage Information Centre as per the Report Rare Species (Animals and Plants) site (Ministry of Natural Resources, 2014) and to Ministry of the Environment, Conservation, and Parks – Species at Risk Branch at SAROntario@ontario.ca. Details of the ground-based pre-clearing surveys (wildlife sweeps) will be described in the Environmental Protection Plan which will be prepared prior to the Project authorization process so as to inform federal and provincial authorizations, as necessary. • Indigenous Environmental Monitors will be on site during construction to confirm adherence to all mitigation and monitoring commitments for the Project. • The effectiveness of mitigation measures will be evaluated during construction, and mitigation measures will be modified or enhanced as necessary through adaptive management. • A reporting protocol and system will be developed to report Species at Risk observations, including resulting from collisions, during construction and	• Deploying and maintaining Global Positioning System collars on adult female moose, for comparison with seasonal movement patterns, habitat use and mortality data from moose collars deployed by Ministry of Natural Resources in the moose Wildlife Management Units pre-construction (anticipated deployment in 2025). Monitoring the movements of female moose in the vicinity of the Project will allow for identification of changes related to areas where moose occur during sensitive / vulnerable periods as well as their seasonal movement patterns during construction and operations. Monitoring with collars also would include conducting mortality investigations of collared animals as they occur; this will provide information about changes in causes of mortality during Construction and operations. The number of collars and duration of years for monitoring during Construction and operations will be determined through engagement with Ministry of Natural Resources. • Remote camera monitoring at selected reference sites (in other words, locations surveyed in the alternative Project route Local Study Area during baseline surveys from 2021 to 2023 and on undisturbed sites) and within the vicinity of the Project. Remote camera monitoring will provide information about the occurrence and distribution of large mammals in the ungulate Local Study Area and whether there are changes in ungulate presence, habitat use and predation risk with the addition of the Project. Remote cameras could be deployed for a continuous period of at least 2 years during construction and at least 2 years during operations; the need for surveys further into operations will be determined through engagement with the Ministry of Environment, Conservation and Parks. • More frequent aerial surveys for moose within the ungulate Local Study Area and the moose Wildlife Management Units in the moose Regional Study Area (01D, 17, 18A) in collaboration with the Ministry of Natural Resources. Aerial survey monitoring will provide information about moose population trends, occurrence and distribution in the ungulate Local Study Area and moose Regional Study Area and whether there are changes in moose population size and demographics with the addition of the Project. Aerial surveys that were conducted by Ministry of Natural Resources in WMUs 01D, 17, and 18A will be used to characterize moose populations at existing conditions and compare to during construction and operations. Aerial surveys could be conducted at least twice during construction and at a regular interval (such as every 3 years) during operations. The need for surveys further into operations will be determined through engagement with Ministry of Environment, Conservation and Parks. • Developing community-based monitoring program in consultation and collaboration with Indigenous communities aimed to monitor Indigenous harvest to identify potential changes to moose hunter harvest in response to increased human access during construction and operations. Monitoring Indigenous harvest through community-led programs will provide information on

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					operations, to the Ministry of Natural Resources Natural Heritage Information centre. The details of the incidental wildlife and wildlife-vehicle collision reporting system will be described in the Environmental Protection Plan.	Indigenous hunter harvest demand and success, and moose population trends. Information on Indigenous harvest from these community-led programs could be used to inform non-Indigenous hunting quotas set by the Ministry of Natural Resources as a method of collaboratively managing moose populations in the moose Regional Study Area. Action levels or triggers for implementing adaptive management measures would be determined through collaboration with Indigenous communities and the Ministry of Natural Resources. • A comprehensive Moose Access and Monitoring Plan will be developed in collaboration with Indigenous communities to identify high-risk moose collision zones to inform adaptive management (in other words, the implementation of signage and reduced speed limits) and for long-term monitoring of moose-vehicle collisions. The plan would be developed to protect the safety of people and moose. High-risk moose collision zones would be identified through community-based observations, collision reporting by Ontario Ministry of Transportation, and results from long-term monitoring of moose occurrence described above (in other words, Global Positioning System collars, remote cameras and aerial surveys). • Designing a long-term sensory disturbance monitoring program, in consultation and collaboration with Indigenous communities, aimed to detect changes in ungulate behaviour in response to noise during construction and operations. This program could fill knowledge gaps and act as a research component of the Preliminary Biodiversity Offset Plan (Appendix AB). • Monitoring will follow standardized / established methods. A monitoring schedule, description of performance indicators that will be used to evaluate the effectiveness of mitigation measures, and adaptative measures to be implemented if necessary to address issues or problems identified during construction monitoring will be detailed prior to construction. The details of the ungulate monitoring programs will be described in the Environmental Protection Plan.
UNGULATE - 11	• Caribou and Moose	• **Habitat Loss**—the direct removal or alteration of soil and vegetation that may change habitat availability, use, and connectivity and influence ungulate abundance and distribution.	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Maintenance activities with high levels of disturbance will avoid the sensitive timing windows for caribou (i.e., May 1 to September 15 for nursery areas, December 1 to March 31 for winter use areas) in known and potential new Category 1 areas, to the extent practical. When activity restrictions cannot be followed, the Ministry of Environment, Conservation and Parks will be engaged to determine alternative approaches. • Complete maintenance work as quickly as possible to shorten the duration of disturbance. • Ongoing use of inactive areas will be prevented through combined use of physical control measures (rollback, remove of creek crossings, recontouring to surrounding topography, revegetation / reforesting and / or barriers at junctions with active access). • Avoid re-entry and disturbance of reclaimed temporary access areas through combined use of physical control measures

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						(rollback, remove of creek crossings, recontouring to surrounding topography, revegetation / reforesting and / or barriers at junctions with active access). • A Before-After Control-Impact study is proposed which begins during Construction and continues during operations would allow for a quantitative assessment of potential effects of each phase of the Project. Data from Construction monitoring will be compared to data collected prior to Construction (i.e., baseline data collected from caribou collars, remote cameras and winter aerial surveys [2020 to 2024]) and data from reference sites (i.e., sites not affected by Construction disturbance) to determine if predictions made in the Environmental Assessment are valid and to monitor changes in population trends and habitat use though time.
UNGULATE - 12	• Caribou and Moose	• **Habitat Alteration**—Alteration of final terrain and soil conditions, and / or plant species composition, could change the types of ecosystems that can be reclaimed on the landscape and adversely affect ungulate habitat availability and distribution, and survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• See mitigations for Habitat Loss • Concentrate activities spatially and temporally to minimize fragmentation and barriers to movement.	• See mitigations for habitat loss. • Minimize elevation and slope of soil piles and berms to allow ungulates to have clear line of sight to adjacent habitat. • Along the Project right-of-way and the access roads, maintain gaps in road berms and snowbanks to facilitate wildlife crossing at drainages, wildlife trails, strategic crossing points informed by movement data and Indigenous Knowledge, or connected habitat patches so that ungulate movements across roads are not blocked.
UNGULATE - 12	• Caribou and Moose	• **Habitat Alteration**—Alteration of final terrain and soil conditions, and / or plant species composition, could change the types of ecosystems that can be reclaimed on the landscape and adversely affect ungulate habitat availability and distribution, and survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• See mitigations for Habitat Loss.
UNGULATE - 13	• Caribou and Moose	• **Sensory Disturbance**—(E.g., lights, smells, noise, human activity) can alter ungulate habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution and adversely affect survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Limit the Project footprint to the extent feasible. • Use existing access road where possible. • Locate the Project route in such a way that minimizes overlap with sensitive habitats to the extent feasible, including provincially identified Category 1 areas for caribou (nursery areas, winter use areas, travel corridors; Government of Ontario, 2013) and potential new Category 1 areas identified in this EA/IS, areas which contain biophysical habitat attributes for caribou (Environment and Climate Change Canada, 2020), and significant wildlife habitat for moose. • Construction of the Community Access Road will be conducted in phases (segment by segment) to	• Implement the Environmental Protection Plan. • Construction will be completed as quickly as possible to shorten the duration of disturbance. • Noise abatement, emission and pollution control equipment on machinery will be in place, properly maintained and in good working order. • Limit aerial operations when possible. When not feasible, a minimum ferry altitude of 400 m above ground level will be maintained during sensitive timing periods to reduce sensory disturbance on caribou. • Limit light disturbance from night-time operational activities by using directional lighting. Lighting required for Construction, including direction and timing to avoid effects on ungulates, will be

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					limit the amount of disturbance at any particular time. • The Project construction schedule will avoid activities during the sensitive timing windows for caribou (i.e., May 1 to September 15 for nursery areas, December 1 to March 31 for winter use areas) within 10 km of known and potential new Category 1 areas, to the extent practical. When activity restrictions cannot be followed, the Ministry of Environment, Conservation and Parks will be engaged to determine alternative approaches. • Prepare an Environmental Protection Plan will be that includes measures to limit noise disturbance from construction activities; this includes prohibiting use of engine retarder brakes, enforcing speed limits, reducing idling of vehicles, designing routes to minimize reversing (backup beeper), reducing traffic by locating camps near construction sites, and restricting construction traffic to designated areas and only construction personnel. • A Preliminary Biodiversity Offset Plan has been developed to have no net loss of caribou habitat.	controlled while meeting operational health and safety requirements. • Industry best practices will be used for blasting activities, including scheduling when in the vicinity of sensitive wildlife habitat areas. Forest buffers (30 m width) will be retained around quarries to reduce noise, where feasible. • Wildlife awareness training will be provided for road construction workers to reduce vehicle speeds and associated noise and dust emission levels. • Restricting construction traffic to designated areas. • Multi-passenger vehicles (e.g., buses) will be used to transport workers to site when practicable. • Prevent ongoing use of inactive areas through combined use of physical control measures (rollback, remove of creek crossings, recontouring to surrounding topography, revegetation / reforesting and / or barriers at junctions with active access). • A comprehensive list of mitigation measures to minimize effects from noise during Construction is provided in the Acoustics IDs.
UNGULATE - 13	• Caribou and Moose	• **Sensory Disturbance**—(E.g., lights, smells, noise, human activity) can alter ungulate habitat availability, use and connectivity (movement and behaviour), which can lead to changes in abundance and distribution and adversely affect survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• A comprehensive list of mitigation measures to minimize effects from noise during operations is provided in the Acoustic and Vibration Technical Support Document (Appendix P). • Complete Maintenance work as quickly as possible to shorten the duration of disturbance. • Posting and enforcement of speed limits to reduce vehicle speeds and associated noise and dust emission levels. • The Environmental Protection Plan will be implemented to minimize sensory disturbance by owner / operator during operations, including prohibiting use of engine retarder brakes, enforcing speed limits, and restricting maintenance traffic to designated areas. • Aerial operations will be limited when possible; when not feasible, minimum ferry altitude of 400 m above ground level will be maintained during sensitive timing periods to reduce sensory disturbance on caribou. • Lighting required for operations, including direction and timing to avoid effects on ungulates, will be controlled while meeting operational health and safety requirements. • Prevent ongoing use of inactive areas through combined use of physical control measures (rollback, remove of creek crossings, recontouring to surrounding topography, revegetation / reforesting and / or barriers at junctions with active access).

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UNGULATE - 14	• Caribou and Moose	• **Linear Barriers**—Roads and snowbanks on roads could decrease habitat connectivity and adversely affect ungulate distribution, which can lead to changes in abundance and distribution and adversely affect survival and reproduction.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Limit the Project footprint to the extent feasible. • Use existing access road where possible. • Locate the Project route in such a way that minimizes overlap with sensitive habitats to the extent feasible, including provincially identified Category 1 areas for caribou (nursery areas, winter use areas, travel corridors; Government of Ontario, 2013) and potential new Category 1 areas identified in this EA/IS, areas which contain biophysical habitat attributes for caribou (Environment and Climate Change Canada, 2020), and significant wildlife habitat for moose. • Limit to the extent feasible the construction of temporary (e.g., access road) and permanent structures in wetlands or within 30 m setback from a wetland. If construction cannot avoid wetlands and 30 m setback, Ministry of Natural Resources will be notified as soon as possible prior to work starting. Work may will not be conducted unless approval is obtained from the appropriate regulatory agencies. • Construction of the Community Access Road will be conducted in phases (segment by segment) to concentrate activities spatially and temporally to minimize fragmentation and barriers to movement across the landscape. • The Project construction schedule will avoid activities during the sensitive timing windows for caribou (i.e., May 1 to September 15 for nursery areas, December 1 to March 31 for winter use areas) within 10 km of known and potential new Category 1 areas, to the extent practical. When activity restrictions cannot be followed, the Ministry of Environment, Conservation and Parks will be engaged to determine alternative approaches. • Prepare an Environmental Protection Plan that includes policies and actions anticipated to mitigate the barrier to movement by caribou. • Prepare a Cleanup and Reclamation Plan that describes restoration plan including seedling planting, if necessary, to improve restoration success on areas of temporary disturbance (e.g., temporary access roads, laydown areas, camps, and workspaces). Reclamation plans will be confirmed through engagement with Indigenous communities, the Ministry of Natural Resources and local foresters.	• Implement the Environmental Protection Plan. • Minimize elevation and slope of soil piles and berms to allow ungulates to have clear line of sight to adjacent habitat. • Along the Project right-of-way and the access roads, maintain gaps in road berms and snowbanks to facilitate wildlife crossing at drainages, wildlife trails, strategic crossing points informed by movement data and Indigenous Knowledge, or connected habitat patches so that ungulate movements across roads are not blocked. • Snowbanks will be limited as much as possible and to a height of less than 1.6 m. • Snow clearing along the access roads will incorporate road pull-outs at regular intervals to provide refuge for wildlife moving along the Community Access Road corridor. • Traffic speeds during construction will be posted. Speeds will be determined by temporary access road conditions and the discretion of the owner / operator. • Vehicular traffic will be confined to approved right-of-way, workspace and access roads or trails. • The time that road Construction materials are left on the ground will be minimized to limit physical barriers to movement. • Use progressive restoration on site once staging areas are no longer needed and prevent ongoing use of inactive areas through combined use of physical control measures (rollback, remove of creek crossings, recontouring to surrounding topography, revegetation / reforesting and / or barriers at junctions with active access). The time interval between commencement and completion of any work that disturbs earth surfaces will be a maximum of 20 calendar days. Commencement of such work will be considered to have occurred when the original stabilizing ground cover has been removed, including grubbing, or has been covered with fill material. Completion of such work will be considered to have occurred when the cover material (seed and mulch, seed and erosion control blanket, sod, rip-rap, etc.) has been applied. Where the timing of the operation results in a conflict with the application requirements of the specified cover, the owner / operator will determine appropriate interim measures that afford temporary protection until such a time as final cover can be applied.

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UNGULATE - 14	• Caribou and Moose	• **Linear Barriers**—Roads and snowbanks on roads could decrease habitat connectivity and adversely affect ungulate distribution, which can lead to changes in abundance and distribution and adversely affect survival and reproduction.	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Not applicable	• Along the Project right-of-way and the access roads, maintain gaps in road berms and snowbanks to facilitate wildlife crossing at drainages, wildlife trails, strategic crossing points informed by movement data and Indigenous Knowledge, or connected habitat patches so that ungulate movements across roads are not blocked. • Snowbanks will be limited as much as possible and to a height of less than 1.6 m. • Snow clearing along the road will incorporate road pull-outs at regular intervals to provide refuge for wildlife moving along the Community Access Road corridor. • Traffic speeds during operations will be posted and enforced. • The time that Maintenance materials are left on the ground will be minimized to limit physical barriers to movement.
UNGULATE - 15	• Caribou and Moose	• **Increased Predator Access**—Increased access for predators (e.g., wolf and black bear) and prey may increase predation risk and decrease survival and reproduction for moose and caribou.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Follow best management practices and environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Fisheries and Oceans Canada, the Ministry of Environment, Conservation and Parks, and the Ministry of Natural Resources, during detail design. • Limit the Project footprint to the extent feasible. • Use existing access road where possible. • Locate the Project route in such a way that minimizes overlap with sensitive habitats to the extent feasible, including provincially identified Category 1 areas for caribou (nursery areas, winter use areas, travel corridors; Government of Ontario, 2013) and potential new Category 1 areas identified in this EA/IS, areas which contain biophysical habitat attributes for caribou (Environment and Climate Change Canada, 2020), and significant wildlife habitat for moose. • Design temporary linear features to decrease predator efficiency (e.g., retain vegetation under 2 m, minimize width of linear features, switch backs and bends in temporary road construction). • Prepare an Environmental Protection Plan that includes measures to control, and / or restrict predator use of access roads during Construction. Measures will include felling of timber across temporary access roads after reclaimed, and removal of temporary watercourse crossings.	• Implement the Environmental Protection Plan. • Restrict wildlife access to waste (e.g., collect domestic and industrial waste and store in temporary containers until transported offsite, empty chemical toilets regularly, prohibit littering, prohibit feeding and harassment of wildlife). • Construct temporary linear features to decrease predator efficiency (e.g., retain vegetation under 2 m, minimize width of linear features, switch backs and bends in temporary road construction), and reduce predator mobility (e.g., not removing snow unless necessary). • During Construction, the ongoing use of inactive areas by predators will be minimized through physical control measures such as rollback, removal of creek crossings, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. • Progressive reclamation and revegetation would be implemented as non-permanent features would be decommissioned. • To minimize ongoing attraction of predators to the Project area, road kill will be cleaned up following best management practices outlined by Ontario's Ministry of Transportation and wildlife access to waste will be restricted.
UNGULATE - 15	• Caribou and Moose	• **Increased Predator Access**—Increased access for predators (e.g., wolf and black bear) and prey may increase predation risk and	• Operations	• Ministry of the Environment, Conservation and Parks	• Not applicable	• Restrict wildlife access to waste (e.g., collect domestic and industrial waste and store in temporary containers until transported offsite, empty chemical toilets regularly, prohibit littering, prohibit feeding and harassment of wildlife).

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		decrease survival and reproduction for moose and caribou.		• Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks		• During operations, the ongoing use of inactive areas by predators will be minimized through physical control measures such as rollback, removal of creek crossings, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. • To minimize ongoing attraction of predators to the Project area, road kill will be cleaned up following best management practices outlined by Ontario's Ministry of Transportation and wildlife access to waste will be restricted.
UNGULATE - 16	• Caribou and Moose	• **Increase in Public Access**—Could affect ungulate survival and reproduction through legal and illegal hunting.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ontario Parks	• Locate the Project route in such a way that minimizes overlap with sensitive habitats to the extent feasible, including provincially identified Category 1 areas for caribou (nursery areas, winter use areas, travel corridors; Government of Ontario, 2013) and potential new Category 1 areas identified in this EA/IS, areas which contain biophysical habitat attributes for caribou (Environment and Climate Change Canada, 2020), and significant wildlife habitat for moose. • Prepare an Environmental Protection Plan that includes measures to control, and / or restrict public use of access roads during Construction. Measures may include gates / manned gates, signage, reduced road standard, reduced speed limits, felling of timber across temporary access roads after reclaimed, and removal of temporary watercourse crossings. Marten Falls First Nation continues to engage in discussions with the Province regarding the ownership and future operations and maintenance of the Community Access Road. Access and ownership, including gating security / ID system, are not within the scope of this Project's Environmental Assessment / Impact Assessment; however, it is a matter that will require further dialogue between the communities and the Province. • The Environmental Protection Plan will also outline measures to minimize wildlife-human interactions during Construction, including an education program that details to staff, owner / operator, and visitors how to take all reasonable precautions to avoid wildlife conflicts, mandatory encounter and incident reporting, and signage identifying dangers of discharging firearms near industrial activity.	• Implement the Environmental Protection Plan. • Posting and enforcement of restricted access and speed signage will follow the *Construction Specification for Temporary Traffic Control Devices* (Ministry of Transportation, 2025c). • During Construction, employees will be prohibited from personal use of motorized recreational vehicles and will be prohibited from hunting or carrying firearms. • During Construction, the ongoing use of inactive areas by the public will be minimized through physical control measures such as rollback, removal of creek crossings, felling of timber across temporary access roads, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. • Progressive restoration and revegetation would be implemented as non-permanent features would be decommissioned. The time interval between commencement and completion of any work that disturbs earth surfaces will be a maximum of 20 calendar days. Commencement of such work will be considered to have occurred when the original stabilizing ground cover has been removed, including grubbing, or has been covered with fill material. Completion of such work will be considered to have occurred when the cover material (seed and mulch, seed and erosion control blanket, sod, rip-rap, etc.) has been applied. Where the timing of the operation results in a conflict with the application requirements of the specified cover, the owner / operator will determine appropriate interim measures that afford temporary protection until such a time as final cover can be applied.
UNGULATE - 16	• Caribou and Moose	• **Increase in Public Access**—Could affect ungulate survival and reproduction through legal and illegal hunting.	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources	• Not applicable	• Access roads for aggregate areas and other infrastructure required for maintenance activities will be gated to limit public access. • Employees will be prohibited from hunting or carrying firearms while conducting maintenance activities. • The ongoing use of inactive areas by the public will be minimized through physical control measures such as rollback, removal of

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				• Environment and Climate Change Canada • Ontario Parks		creek crossings, felling of timber across temporary access roads, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access.
UNGULATE - 17	• Caribou and Moose	• **Collisions with Vehicles and Equipment**—Vehicle or heavy equipment use may cause injury or mortality to individual caribou and moose.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ministry of Transportation • Ontario Parks	• Prepare an Environmental Protection Plan that includes measures to minimize collisions between wildlife and vehicles during Construction. Measures will include an education program that details to staff, owner / operator, and visitors how to take all reasonable precautions to avoid wildlife collisions. In addition, the Environmental Protection Plan will include measures such as: • Giving wildlife the right-of-way. • Signage in areas where wildlife are regularly observed. • Radio communication between staff of wildlife presence in construction area. • Coordinating worker transportation to site to reduce traffic volumes, where practicable. • Confining vehicle traffic to approved right-of-way, workspace and access roads. • Leaving gaps in road berms and snowbanks to allow for movement across the construction area. • Restrictions on the use of motorized recreational vehicles by employees and owner / operator while working, including prohibition of personal snowmobiles, all-terrain vehicles and other motorized recreational vehicles, except for authorized purposes. • Mandatory encounter and incident reporting. • Reduced and enforced speed limits.	• Implement the Environmental Protection Plan. • Environmental approval conditions, permits, or authorizations issued for the Project, including those issued from Environment and Climate Change Canada, Ontario Ministry of Environment, Conservation and Parks and Ontario Ministry of Natural Resources, will be followed. • During Construction, heavy trucks will be travelling at reduced speeds and will be adjusted according to conditions (e.g., wildlife in the area, weather conditions). • Along the Project right-of-way and the access roads, gaps will be maintained in road berms and snowbanks to facilitate wildlife crossing at drainages, wildlife trails, strategic crossing points informed by movement data and Indigenous Knowledge, or connected habitat patches so that ungulate movements across roads are not blocked. • Snow clearing along the access roads would incorporate road pull-outs at regular intervals to provide refuge for wildlife moving along the Community Access Road corridor. • During Construction, the ongoing use of inactive areas by the public will be minimized through physical control measures such as rollback, removal of creek crossings, felling of timber across temporary access roads, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. Progressive reinstatement and revegetation would be implemented as non-permanent features would be decommissioned.
UNGULATE - 17	• Caribou and Moose	• **Collisions with Vehicles and Equipment**—Vehicle or heavy equipment use may cause injury or mortality to individual caribou and moose.	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Environment and Climate Change Canada • Ministry of Transportation • Ontario Parks	• Not applicable	• During operations, mitigation measures applicable to non-commercial traffic will include signage in areas where wildlife are regularly observed and reduced speed limits in Category 1 caribou habitat areas. Additional mitigation for commercial traffic will include reduced and enforced speed limits on the entire road, communication of wildlife presence between drivers, and mandatory reporting of wildlife incidents. • Gaps in snowbanks will be plowed at least every 1 km apart and maintained by road maintenance crews throughout the winter season. • Access roads for aggregate areas and other infrastructure required for maintenance activities will be gated to limit public access. • During operations, the ongoing use of inactive areas by the public will be minimized through physical control measures such as rollback, removal of creek crossings, felling of timber across temporary access roads, recontouring to surrounding topography, revegetating / reforesting and / or barriers at junctions with active access. Progressive reinstatement and revegetation would be

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						implemented as non-permanent features would be decommissioned.
Physiography, Terrain, and Soils						
PTS-01	• Physiography, Terrain, and Soils	• Changes to terrain quantity / distribution from Project activities.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources	• Limit the Project footprint (Construction Disturbance Area) to the extent practicable; and • Develop a Project-specific Soil Management Plan (e.g., soil stripping and handling recommendations, erosion and sediment control [based on the Ontario Ministry of Transportation's Erosion and Sediment Control Guide], reclamation procedures, best management practices and guidelines / policies), which could include the following: - Slope stability monitoring during land clearing, site preparation, and construction of facilities, especially road components adjacent to rivers, creeks, and streams; - Monitoring for admixing of soil, compaction, and erosion during clearing, contouring, and excavation activities; - Monitoring of transportation of soil and stockpiling activities for signs of erosion; - Monitoring of erosion and sedimentation control measures to avoid and minimize sediment mobilization from disturbed areas to drainages, wetlands, or watercourses; - Monitoring of soil stockpiles and the Construction Disturbance Area for invasive species such as weeds. If invasive species are identified within the Construction Disturbance Area, a response plan will be prepared; - Monitoring and managing reclamation concerns pertaining to soil erosion, revegetation, and slope stability; and - Monitoring of aggregate rehabilitation to fully assess the effectiveness of rehabilitation and detect any unintended effects.	• Minimize areas of vegetation clearing and soil disturbance and optimize the use of existing cleared areas for Project activity (i.e., site clearing will be kept to a minimum within the Community Access Road right-of-way). • Minimize the stripping and grading of terrain between the height of land (drainage divide) and the watercourse, or within 100 m of a watercourse crossing, whichever is less, and will be limited to that required to address engineering issues and safety concerns, such as the removal of hazards. If stripping or grading occurs within such areas, the site will be stabilized. • Regrade areas with erosional gullies to conform to the local landform to maintain drainage patterns during decommissioning of temporary infrastructure. • Strip overburden from bedrock quarry areas before drilling, blasting, or excavating and manage in accordance with the *Onsite and Excess Soil Management Regulation* under the Ontario *Environmental Protection Act*. • All pits and quarries will be rehabilitated during their operational lifetime and once extraction is finished as per the Ontario Ministry of Natural Resources *Aggregate Resources Act*. • Inspections and maintenance of roadside ditches and culverts will be conducted as appropriate to limit the risk of road wash-out or sediment release to the environment. The frequency of these inspections will likely vary depending on weather events, amount of traffic, and season. • A program will be conducted to verify that erosion and sediment control measures have been successful (for example, bank restoration and revegetation) and that the stability of each waterbody crossing is maintained (in other words, the channel has not washed out). The post-construction monitoring will occur within one full growing season after the completion of construction, but timing may be extended if needed. • The effectiveness of mitigation measures will be evaluated during construction and operations and will be modified or enhanced as necessary through adaptive management.
PTS-02	• Physiography, Terrain, and Soils	• Changes to terrain quantity and distribution (esker landforms) from Project activities.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources	• Confirm suitable aggregate material in ridged landforms prior to extraction. • The use of eskers or similar geological features for aggregate resources will be minimized or avoided by using bedrock quarries or other sand and gravel resources whenever possible. • Confirm suitable aggregate material in ridged landforms prior to extraction.	• All pits and quarries will be rehabilitated during their operational lifetime and once extraction is finished as per the Ontario Ministry of Natural Resources *Aggregate Resources Act*.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
PTS-03	• Physiography, Terrain, and Soils	• Changes to terrain quantity and distribution (slope stability) from Project activities.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources	• Avoid or minimize the amount of area for construction and subsequent operation facilities that are considered to have terrain that is either unstable or potentially unstable and design slopes for long-term stability; and • The potential effect of Class IV and V terrain to infrastructure planning within the Construction Disturbance Area will be further assessed as part of the detailed design.	• Have construction activities occur under frozen or dry conditions as much as possible; • Avoid construction on highly saturated soil where practicable or use suitable ground equipment to avoid potentially increasing slope instability; • Regrade areas with erosional gullies to conform to the local landform to maintain drainage patterns; • Minimize any exposed mineral soil between the height of land (drainage divide) and the watercourse, or within 100 m of a watercourse crossing, whichever is less, and will be limited to that required to address engineering issues and safety concerns, such as the removal of hazards. If stripping or grading occurs within such areas, the site will be left at a stable angle; • Use low road grades and proper drainage to reduce potential terrain instability, where feasible; and • Implement progressive reclamation and revegetation of disturbed areas no longer required for construction.
PTS-04	• Physiography, Terrain, and Soils	• Changes to soil quantity and distribution from Project activities.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources	• Limit the Project footprint (Construction Disturbance Area) to the extent practicable. • Develop a Project-specific Soil Management Plan [e.g., soil stripping and handling recommendations, erosion and sediment control (based on the Ontario Ministry of Transportation's Erosion and Sediment Control Guide), reclamation procedures, best management practices and guidelines / policies]. • Select erosion and sediment control products that correspond with the nature and duration of the Project as recommended in the Soil Management Plan. • Control potential erosion by utilizing an effective road design (including use of engineered culverts and bridges). • To the extent practicable, avoid work in sensitive areas (i.e., erosive soils, wetland features, and fish habitats) during periods that may result in high flow volumes and / or increased erosion and sedimentation (e.g., spring freshet). • Use low road grades and proper drainage to reduce soil erosion, where feasible; • When practicable, consider pre-fabrication (e.g., parts of structures) at an approved offsite location to minimize onsite construction effects; • Avoid placing soil stockpiles near waterbodies or drainage features (i.e., a minimum distance of 100 m from watercourses). • Manage soil in accordance with the Best Management Practices for Aggregate Pit and	• Minimize areas of vegetation clearing and soil disturbance and optimize the use of cleared area for Project activity (i.e., site clearing will be kept to a minimum within the Community Access Road right-of-way); • Regularly inspect and maintain erosion and sediment control structures (e.g., sediment fences, rip-rap or other sediment control structures) during all Project phases and modify measures as necessary. If control measures are not functioning properly, no further work will occur until the problem is resolved; • Limit duration of soil exposure; phase activities whenever possible, and restore disturbed areas as soon as possible (i.e., implement appropriate erosion and sediment control, and progressive reclamation and revegetation of disturbed areas no longer required); • Selectively cut vegetation and restrict clearing and grubbing within areas with steep slopes or soils prone to risk of erosion; • Do not include mineral soil in the debris piles during clearing; • Have construction activities occur under frozen or dry conditions as much as possible; • Use clearing equipment appropriate to the nature of work being conducted that minimizes surface disturbance, soil compaction, and topsoil loss (e.g., equipment with low ground pressure tracks or tires, blade shoes, and brushes), where feasible. For example, avoid using large machinery when hand tools or smaller scale machinery could be used; • Regrade areas with vehicle ruts and erosion gullies to conform to the local landform to maintain drainage patterns; • Minimize stripping and grading of terrain between the height of land (drainage divide) and the watercourse, or within 100 m of a watercourse crossing, whichever is less, and will be limited to that required to address engineering issues and safety concerns, such

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
					Quarry Rehabilitation in Ontario (Madeh et al., 2021). • Manage any excess construction soil in accordance with the Onsite and Excess Soil Management Regulation under the Ontario *Environmental Protection Act.* • Develop a geochemical testing and monitoring program to assess the potential for acid rock drainage from any soils, or bedrock, which will be exposed during aggregate extraction. • Develop a Spill Prevention and Emergency Response Plan. • Develop a Blasting and Communication Management Plan. • Work with the Ministry of Transportation, and the Northern Road Link and Webequie Supply Road Project Teams to develop a coordinated approach to permafrost assessment. • Develop and follow recommendations outlined in a Permafrost Management Plan.	as the removal of hazards. If stripping or grading occurs within such areas, the site will be left at a stable angle; • Install and regularly maintain mitigation measures prior to the commencement of any site clearing, grubbing, excavation, filling, or grading works, prior to and after runoff events; • Where soils are prone to wind erosion, apply tackifier, cover, and seed, apply water or pack the topsoil stockpiles and windrows with approved equipment, especially during periods of high erosion potential (i.e., summer and fall); • Minimize steepness and length of slopes of disturbed areas and stockpiled soils.
PTS-05	• Physiography, Terrain, and Soils	• Changes to soil quality (compaction and admixing) from Project activities.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources	• Limit the Project footprint (Construction Disturbance Area) to the extent practicable; and • Develop and ia Project-specific Soil Management Plan (e.g., soil stripping and handling recommendations, erosion and sediment control [based on the Ontario Ministry of Transportation's Erosion and Sediment Control Guide], reclamation procedures, best management practices and guidelines / policies).	• Minimize areas of vegetation clearing and soil disturbance and optimize the use of cleared area for Project activity (i.e., site clearing will be kept to a minimum within the Community Access Road right-of-way); • Use clearing equipment appropriate to the nature of work being conducted that minimizes surface disturbance, soil compaction, and topsoil loss (e.g., equipment with low ground pressure tracks or tires, blade shoes, and brushes), where feasible. For example, avoid using large machinery when hand tools or smaller scale machinery could be used; • Have construction activities occur under frozen or dry conditions as much as possible; • Use low pressure or rubber tracked vehicles for the early phase of the Community Access Road construction season and only higher-pressure equipment when the ground surface is strong enough to prevent compaction and rutting; • Avoid construction activities on highly saturated soil (primarily during or immediately after rain events or during freshet) where practicable or use suitable ground equipment to prevent unnecessary soil damage through rutting, for example. Crews should be prepared to stop work in these conditions; • Regrade areas with vehicle ruts and erosion gullies to conform to the local landform to maintain drainage patterns; and • De-compact subsoils, temporary access trails and soils damaged during wet weather.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
PTS-06	• Physiography, Terrain, and Soils	• Changes to soil quality from contamination due to potential leaks or spills of deleterious or hazardous substances from Project activities.	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources	• Develop and ia Spill Prevention and Emergency Response Plan, in the event of a spill; • Provide and make sure holding bats are readily available, so there is less chance of spillage; • Provide adequate lighting at fuelling stations and monitoring so that people clean up after any spills; and • Provide various pit stops along the Community Access Road where drivers can check their tanks and valves.	• Adhere to Standard Operating Procedures for fuel handling; • Construction machinery will arrive on site in a clean condition, free from leaks; • Construction crews will always keep a spill response kit on site during the work; • Contain and clean up spills immediately in accordance with provincial regulatory requirements and the Spill Prevention and Emergency Response Plan; • Transport fuel and hazardous materials in approved containers in licensed vehicles; • Require construction crews and drivers of vehicles using the Community Access Road system to report spills to the Ontario Spills Action Centre at 1-800-268-6060; and • Provide barriers along the sides of bridges to prevent other chemicals from spilling into waterways beneath them.
PTS-07	• Physiography, Terrain, and Soils	• Changes to soil quality from the transport and deposition of air contaminant emissions (e.g., potential acid inputs) and particulate matter (dust) from Project activities.	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources	• Minimize areas of vegetation clearing and soil disturbance and optimize the use of cleared areas for Project activities (i.e., site clearing and maintenance activities will be kept to a minimum within the Community Access Road right-of-way); while maintaining safe traffic and pedestrian flows, and follow best practices for design speeds and expected vehicle traffic Optimize access roads to reduce fuel consumption and emissions from equipment.	• Mitigation measures that will be implemented during construction and operations to reduce changes to soil from emissions and deposition include those listed in the *Air Quality and Greenhouse Gas Technical Support Document* (Appendix S).

AA1.3 People

The summary of potential effects and recommendations for the people valued components is provided in **Table AA1-3**. Before construction, a Project-specific Environmental Protection Plan and Environmental Monitoring Plan will be developed and implemented. These plans will include an implementation strategy for the mitigation and monitoring commitments related to the people valued components.

Table AA1-3 People Potential Effects Summary and Recommendations

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
Aboriginal and / or Treaty Rights and Interests						
• The potential and cumulative impacts summary and recommendations for the Aboriginal and / or Treaty Rights and Interests Valued Components are provided in the confidential community-specific Aboriginal and / or Treaty Rights and Interests: Impact Assessment Reports. Each community received a copy of their Draft Impact Assessment Report to review and provide feedback prior to finalizing their Aboriginal and / or Treaty Rights and Interests: Impact Assessment Report. To support a comprehensive regulatory review, these community-specific reports will be shared with the Regulator. They form part of the evidence base for determining the assessment outcome. Due to confidentiality and / or the sensitive nature of the information, detailed community reports are not being shared publicly.					
Acoustic and Vibration Environment						
ACOUSTIC-01	• Noise	• Increase in noise level during Construction.	• Construction	• Health Canada	• Design access roads to minimize reversing, which is expected to minimize use of backup beepers, where possible. • Engage with Indigenous communities and relevant stakeholders to coordinate the planned construction schedule before the start of construction and prior to specific noisy activities to minimize overlap with the timing of traditional land use activities (e.g., fall and spring hunting seasons).	• Conduct construction activities during the daytime period (i.e., 7 a.m. to 7 p.m.). Night-time work is not anticipated. In the event construction will occur beyond the daytime period, applicable mitigation measures will be reviewed and implemented as required. • Check that equipment and machinery used on site is maintained in good working conditions through regular maintenance and inspection. • Locate and operate construction equipment as far as possible from points of reception. • Where reasonable and practicable, turn off vehicles and equipment when idle, unless weather and / or safety conditions dictate the need for them to remain turned on and in a safe operating condition. • Investigate noise concerns as they arise through a complaint resolution mechanism developed by the owner / operator whereby persons can contact the Project team if there are perceived noise issues. • Operate vehicles and equipment to minimize impulsive noise, where possible.
ACOUSTIC-02	• Noise	• Increase in noise level during operations and Maintenance.	• Operations	• Ministry of the Environment, Conservation and Parks • Health Canada	• Obtain a licence and / or permit for pits and quarries continuing to operate during operations, if licence and / or permit is required, which includes the completion of a noise assessment	• Operate pits and quarries in accordance with *NPC-300* and applicable permitting requirements. • Conduct maintenance activities during the daytime period (i.e., 7 a.m. to 7 p.m.). • Check that equipment and machinery used for site maintenance is maintained in good working conditions through regular maintenance and inspection. • Where reasonable and practicable, turn off maintenance equipment when idle, unless weather and / or safety conditions dictate the need for them to remain turned on and in a safe operating condition. • Operate maintenance equipment to minimize impulsive noise, where possible.
ACOUSTIC-03	• Vibration	• Increase in vibration level during Construction.	• Construction	• Ministry of the Environment, Conservation and Parks	• Develop a Construction Vibration Workplan prior to the start of construction describing the construction schedule, list of construction equipment, list of point of reception locations (i.e., traditional land use, residential, heritage	• Investigate vibration concerns as they arise through a complaint resolution mechanism whereby persons can contact the Project team if there are perceived vibration issues.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
				• Ministry of Natural Resources • Health Canada	structures and utilities), applicable guidance documents including criteria and control measures. • Consider the use of frequency-dependent vibration limits as more detailed information regarding the construction activities is known.	• Construction activities should be limited to the daytime period (i.e., 7 a.m. to 7 p.m.). Night-time work is not anticipated. In the event construction will occur beyond the daytime period, applicable mitigation measures will be reviewed and implemented as required. • Locate and operate construction equipment as far as possible from points of reception. • Avoid operating equipment that is expected to generate significant vibration at the same time. Operating them separately may reduce overall vibration levels. • Construction blasting will be carried out in compliance with the *Ontario Provincial Standard Specification 120* (Ministry of Transportation, 2025b) and *NPC-119* (Ministry of the Environment, 1978). The *Ontario Provincial Standard Specification 120* details items such as vibration limits, protective measures, pre-blast surveys and notification to nearby owners and tenants. All blasts, which might impact local structures or disrupt humans, will be monitored for ground and air vibrations. • Blasting at temporary or existing quarries will be carried out to comply with the conditions provided in the licence or aggregate permit, if a licence or aggregate permit exists or is required. • Blasting delays and blast mats will be used, as appropriate, to control vibration and fly rock as required.
ACOUSTIC-04	• Vibration	• Increase in vibration level during operations.	• Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Health Canada	• Mitigation noted above	• Blasting will be carried out in compliance with *NPC-119*. • Quarry blasting will be carried out to comply with the conditions provided in the licence or aggregate permit, if a licence or aggregate permit exists or is required. • Blasting delays and blast mats will be used, as appropriate, to control vibration and fly rock as required.
Cultural Heritage						
CH-01	• Mid-Albany Cultural Heritage Landscape – Harvest Areas	• The Construction Disturbance Area of the Preferred Route is anticipated to directly overlap all 9 General Harvest Areas in addition to 14 specifically plotted Harvest Areas. • Construction-related activities and / or the long-term use of the roadway may result in displacement of traplines and the fragmentation and / or degradation of terrestrial habitat. This would negatively affect the distribution of furbearing animals, birds, and ungulates, thus affecting the viability of traplines and hunting areas.	• Construction	• Ministry of Citizenship and Multiculturalism • Ministry of the Environment, Conservation and Parks	• Where possible, avoid direct impact to potential heritage attributes of the cultural heritage landscape during the design and implementation of the Project. Refinements of the Preferred Route during the design, and land-use within the 100 m Construction Disturbance Area during construction should be planned to avoid impacting known Harvest Areas, Habitation Areas, Cultural, Spiritual, and Sacred Areas, Travel Routes, and Provincial Parks. If avoidance of potential heritage attributes is not feasible, then further assessment of the impacts and mitigation is required.	• Not applicable

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		• Construction-related activities and / or the long-term use of the roadway may result in the blockage or channelization of water courses, changes to banks or riverbeds, and increased sedimentation as a result of excavation and / or dust. This would negatively affect the quality, connectivity, and quantity of aquatic habitat and the viability of fishing areas. • Construction-related activities and the long-term use of the roadway may impact aquatic and terrestrial habitat beyond the immediate Construction Disturbance Area of the Preferred Route. There is considerable potential for indirect impacts to habitat, within and beyond the Local Study Area that will negatively affect the availability of furbearing animals, ungulates, and birds and negatively affecting hunting, trapping, and fishing areas that are within the Local Study Area, but not directly overlapped by the Construction Disturbance Area of the Preferred Route. • The construction of the roadway will provide new access to the region that may indirectly adversely affect Harvest Areas through habitat changes and / or greater land use by non-local people.			• A Cultural Heritage Evaluation Report will be completed by a Qualified Person(s) to determine the Cultural Heritage Value or Interest of the potential cultural heritage landscape. • If the Project continues to impact the area and it is determined that the potential cultural heritage landscape meets Ontario Regulation 9/06 or Ontario Regulation 10/06, then further assessment of impacts and mitigation is required by completing a Heritage Impact Assessment.	
CH-02	• Mid-Albany Cultural Heritage Landscape – Habitation Areas	• The Construction Disturbance Area of the Preferred Route is anticipated to directly overlap 5 Habitation Areas in addition to the Marten Falls First Nation Reserve. • Potential direct impacts may include the demolition or removal of campground areas and / or temporary or permanent changes in land access at or around Habitation Areas. • Indirect impacts beyond the Construction Disturbance Area of the Preferred Route may include temporary or permanent changes in access to Habitation Areas, including either inhibiting access or opening access to non-local people.	• Construction	• Ministry of Citizenship and Multiculturalism • Ministry of the Environment, Conservation and Parks	• Where possible, avoid direct impact to potential heritage attributes of the cultural heritage landscape during the design and implementation of the Project. Refinements of the Preferred Route during the design, and land-use within the 100 m Construction Disturbance Area during construction should be planned to avoid impacting known Harvest Areas, Habitation Areas, Cultural, Spiritual, and Sacred Areas, Travel Routes, and Provincial Parks. If avoidance of potential heritage attributes is not feasible, then further assessment of the impacts and mitigation is required. • A Cultural Heritage Evaluation Report will be completed by a Qualified Person(s) to determine the Cultural Heritage Value or Interest of the potential cultural heritage landscape.	• Not applicable

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
					• If the Project continues to impact the area and it is determined that the potential cultural heritage landscape meets Ontario Regulation 9/06 or Ontario Regulation 10/06, then further assessment of impacts and mitigation is required by completing a Heritage Impact Assessment.	
CH-03	• Mid-Albany Cultural Heritage Landscape – Cultural, Spiritual, and Sacred Areas	• The Construction Disturbance Area of the Preferred Route is anticipated to directly overlap 6 Cultural, Spiritual, and Sacred Areas. • Potential direct impacts may include the demolition or removal of cultural sites, and temporary or permanent changes in access to culturally significant areas, either impeding local access or opening greater access to non-local people. • Indirect impacts beyond the Construction Disturbance Area of the Preferred Route may include temporary or permanent changes to the surrounding landscape that alter the context of culturally important areas.	• Construction	• Ministry of Citizenship and Multiculturalism • Ministry of the Environment, Conservation and Parks	• Where possible, avoid direct impact to potential heritage attributes of the cultural heritage landscape during the design and implementation of the Project. Refinements of the Preferred Route during the design, and land-use within the 100 m Construction Disturbance Area during construction should be planned to avoid impacting known Harvest Areas, Habitation Areas, Cultural, Spiritual, and Sacred Areas, Travel Routes, and Provincial Parks. If avoidance of potential heritage attributes is not feasible, then further assessment of the impacts and mitigation is required. • A Cultural Heritage Evaluation Report will be completed by a Qualified Person(s) to determine the Cultural Heritage Value or Interest of the potential cultural heritage landscape. • If the Project continues to impact the area and it is determined that the potential cultural heritage landscape meets Ontario Regulation 9/06 or Ontario Regulation 10/06, then further assessment of impacts and mitigation is required by completing a Heritage Impact Assessment.	• Not applicable
CH-04	• Mid-Albany Cultural Heritage Landscape – Travel Routes	• The Construction Disturbance Area of the Preferred Route is anticipated to intersect 27 Travel Routes including 23 land and 4 water routes. • Potential direct impacts to land routes may include the destruction of trail segments, the temporary or permanent obstruction of trails, and long-term changes in rights of way and / or trail access. • Potential direct impacts to water routes may include new transportation infrastructure such as bridges, culverts, and embankments that change the configuration of riverbanks and partially or fully obstruct waterway navigability	• Construction	• Ministry of Citizenship and Multiculturalism • Ministry of the Environment, Conservation and Parks	• Where possible, avoid direct impact to potential heritage attributes of the cultural heritage landscape during the design and implementation of the Project. Refinements of the Preferred Route during the design, and land-use within the 100 m Construction Disturbance Area during construction should be planned to avoid impacting known Harvest Areas, Habitation Areas, Cultural, Spiritual, and Sacred Areas, Travel Routes, and Provincial Parks. If avoidance of potential heritage attributes is not feasible, then further assessment of the impacts and mitigation is required. • A Cultural Heritage Evaluation Report will be completed by a Qualified Person(s) to	• Not applicable

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		and / or portage sites on a temporary or permanent basis. • Indirect impacts to land routes may include changes in access to trails, either impeding local access or opening greater access to non-local people. • Indirect impacts to water routes may include temporary or permanent changes to prevailing currents, and / or long-term changes in patterns of debris deposition and sedimentation, thus altering the navigability of waterways.			determine the Cultural Heritage Value or Interest of the potential cultural heritage landscape. • If the Project continues to impact the area and it is determined that the potential cultural heritage landscape meets Ontario Regulation 9/06 or Ontario Regulation 10/06, then further assessment of impacts and mitigation is required by completing a Heritage Impact Assessment.	
CH-05	• Mid-Albany Cultural Heritage Landscape – Provincial Parks	• The Construction Disturbance Area of the Preferred Route is anticipated to transect the Albany River Provincial Park. • The Albany River Provincial Park is noted for its varied topography, remoteness, and water routes. The Project may result in direct impacts including, but not limited to, changes to the local topography including the destruction, removal, or alteration of landforms and / or grades, and the addition of a bridge over the Albany River, affecting the scenic quality and / or the navigability of the waterway. • The Construction Disturbance Area of the Preferred Route is anticipated to pass within approximately 1 km of the Ogoki River Provincial Park. • The Ogoki River Provincial Park is noted for its natural features, water routes, recreational opportunities, remoteness, and scenic qualities. Indirect impacts may include alterations to the landscape within and around the parks, thus altering the scenic context. • Additionally, the Project may result in temporary or permanent changes in access to both parks, opening both to greater use by non-local people.	• Construction	• Ministry of Citizenship and Multiculturalism • Ministry of the Environment, Conservation and Parks	• Where possible, avoid direct impact to potential heritage attributes of the cultural heritage landscape during the design and implementation of the Project. Refinements of the Preferred Route during the design, and land-use within the 100 m Construction Disturbance Area during construction should be planned to avoid impacting known Harvest Areas, Habitation Areas, Cultural, Spiritual, and Sacred Areas, Travel Routes, and Provincial Parks. If avoidance of potential heritage attributes is not feasible, then further assessment of the impacts and mitigation is required. • A Cultural Heritage Evaluation Report will be completed by a Qualified Person(s) to determine the Cultural Heritage Value or Interest of the potential cultural heritage landscape. • If the Project continues to impact the area and it is determined that the potential cultural heritage landscape meets Ontario Regulation 9/06 or Ontario Regulation 10/06, then further assessment of impacts and mitigation is required by completing a Heritage Impact Assessment.	• Not applicable
CH-06	• Mid-Albany Cultural Heritage Landscape	• To be determined during the Cultural Heritage Evaluation Report.	• Operations	• Ministry of Citizenship and Multiculturalism • Ministry of the Environment,	• If the Project continues to impact the area and it is determined that the potential cultural heritage landscape meets Ontario Regulation 9/06 or Ontario Regulation 10/06, then further assessment of impacts and mitigation is required by completing a Heritage Impact	• To be determined during the Cultural Heritage Evaluation Report.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
				Conservation and Parks	Assessment. The Heritage Impact Assessment should take place during the Detail design Phase, when the specific details of the Project are known, and the recommendations of the Heritage Impact Assessment can be incorporated into the final Design. It is anticipated that the Heritage Impact Assessment would address the longer-term effects of the Project, including during the operations and maintenance phase.	
Archaeology						
Stage 1AA-01	• Archaeology	• Stage 1 archaeological assessment.	• Operations	• Ministry of Heritage, Sport, Tourism and Culture • Ministry of the Environment, Conservation and Parks	• A Stage 2 Archaeological Assessment is required on the areas identified as having archaeological potential in the Stage 1 Archaeological Assessments. • The Stage 2 archaeological assessment must be conducted by a licensed archaeologist and must follow the requirements set out in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011) for special survey conditions in northern Ontario and on Canadian Shield terrain. • Test pit survey is required at 5 m intervals in areas that fall within 50 m of an identified modern water source. • Poorly drained areas and areas of steep slope are to be mapped and photo documented.	• Archaeological investigations have the potential to reveal buried human remains. Should human remains be identified during any stage of work, the Proponent will be informed immediately, and all archaeological work will halt until the proper authorities have been notified and permission to resume work has been granted, if required.
Stage 2AA-01	• Archaeology	• Stage 2 archaeological assessment.	• Operations	• Ministry of Heritage, Sport, Tourism and Culture • Ministry of the Environment, Conservation and Parks	• Any areas identified as having archaeological potential in the future Stage 2 Archaeological Assessment must complete a Stage 3 or Stage 4 Archaeological Assessment. • A Stage 3 site-specific archaeological assessment is recommended for the Caviar (Eilp 1) site. Avoidance and protection are the preferred options either through project redesign or excluding or incorporating the area of the archaeological site into the development plan. Given that the site is located on the periphery of one of the route options, avoidance and protection might be possible upon choosing the preferred route. The site could therefore be avoided and protected during construction and the integrity of the area could remain intact. Should an avoidance and protection strategy for the Caviar (Eilp-1) site be implemented during construction, it must include:	• Archaeological investigations have the potential to reveal buried human remains. Should human remains be identified during any stage of work, the Proponent will be informed immediately, and all archaeological work will halt until the proper authorities have been notified and permission to resume work has been granted, if required. • Test pit survey is required at 5 m intervals in areas that fall within 50 m of an identified modern water source. • Where areas of archaeological potential include land adjacent to historic water sources (i.e., glacial shorelines), or other areas identified as having archaeological potential based on the results of the Stage 1 AA including the AK information, test pits will be placed at a maximum of 5 m intervals between 0 and 50 m from the feature, and at 10 m intervals between 50 and 150 m from the feature.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
					- Placement of a temporary barrier around the site, including a 20-me protective buffer of land surrounding the site; - Monitoring by a licensed consultant archaeologist for any construction activities that occur within 70 m of the site; - The issuance of “no-go” instructions within the 20-m buffer to all onsite construction personnel or others involved in the construction process (for example, engineers and architects) (Government of Ontario, 2011, Section 4.1.1); - Illustration of the location of the area to be avoided on contract drawings, including explicit instructions to avoid the area; - The presence of a licensed archaeologist onsite to inspect fence installation, inspection of the site by a licensed archaeologist after the completion of all soil-disturbing activities, and reporting of the effectiveness of the avoidance and protection strategy to the Ministry of Citizenship and Multiculturalism; and - Should future repairs or improvements be required near the Caviar (EiIp-1) site or should changes to the current Project Study Area be required, archaeological monitoring by a licensed archaeologist will be required to confirm that the No-Go zone remains in place and that the archaeological site is protected from construction or soil disturbance activities. • Poorly drained areas and areas of steep slope are to be mapped and photo documented.	
Atmospheric and Greenhouse Gases						
AIR- 01	• Air Quality	• Elevated concentrations of particulate matter resulting from fugitive emission sources during construction. The effects assessment for th construction indicates that significant residual effects are not anticipated and residual effects will be short term in duration.	• Construction	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources	• Development of a Construction Best Management Practices Plan as well as a fugitive dust management plan prior to construction. The Ontario Ministry of Transportation identifies potential mitigation measures that may be taken, if feasible, for transportation related Projects in the Ontario Ministry of Transportation *Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas emissions of Provincial Transportation Projects* (Ontario Ministry of Transportation, 2020). Examples of	• Implement a Construction Monitoring Plan as a mechanism to help mitigate and / or identify potential conditions that may lead to air quality impacts from construction-related activities. A monitoring program, where feasible, may involve either or both air monitoring as well as construction activity monitoring. Construction activity may include verification that construction best management practices are being applied or identify where additional efforts / mitigation techniques may be necessary to help reduce air quality impacts. Construction monitoring may be beneficial in locations where sensitive receptors are in close proximity to the Construction Disturbance Area.

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					best management practices that may be included are: - Implement watering during fugitive dust generating activities such as drilling and material handling. - Limit vehicle speed, where feasible. - Strategic haul planning to reduce overall number of haul trips required for aggregate material demands. Consider sourcing material from the closest available material transfer points. - Where possible, reduce the quantity of material that is either burned or chipped (i.e., consider salvageable material such as salable lumber). - When burning is required consider avoiding periods where meteorological conditions (e.g., wind speed) may result in smoke impacting sensitive receptor locations. - Maintain equipment as per manufacturing specifications. - Implement anti-idling policies or procedures to reduce total vehicle idling times. - Implement blasting mitigation (e.g., charge size) in quarries. - Use explosives only if alternate methods of excavation to remove materials for foundation systems and roads are not feasible. - Prepare a Blasting and Communication Management Plan that is in accordance with *Ontario Provincial Standard Specification General Specifications for the Use of Explosives* (Ministry of Transportation, 2025b) and describes specific measures that would be implemented if blasting is required. - Development of a Construction Monitoring Plan. This plan may be used to validate that best management practices are being implemented and that mitigation actions taken are effective. Where mitigation is not providing a reduction to overall impacts, mitigation options should be revised. Details specific to the scope of the monitoring program would need to be evaluated further following final detail design phases of the Project. Engagement with the Ministry of the	

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					Environment, Conservation and Parks to establish an appropriate monitoring program may be beneficial. - Re-evaluation of potential significance or effect from temporary work camps is recommended following final design.	
AIR- 02	• Air Quality	• Elevated concentrations of particulate matter resulting from fugitive road dust. Residual effects from construction that were classified to have a high magnitude were determined to be significant.	• Operation	• Ministry of the Environment, Conservation and Parks	• Development of a Best Management Plan for fugitive dust. • It is recommended that the proximity of receptors to the Construction Disturbance Area should be considered when employing mitigation techniques. It should be noted that maximum traffic volumes used to assess potential effects are those Projected for the 2046 year (maximum Projected Annual Average Daily Traffic). Mitigation techniques can be both evaluated and implemented during earlier operational years when traffic volumes are lower than Community Access Road maximum. • Due to the size of the road network, as well as its geographic location, feasibility / limitations will be present for long-term operations monitoring. It is recommended that consideration of input gathered through other technical monitoring programs specific to potential air quality concerns (in other words, potential dust deposition on vegetation) is completed and evaluated for consideration of future mitigation or monitoring options. • Development of a Best Management Plan for fugitive dust prior to operation phase of Community Access Road. Best management practices that may be included within the plan include: - Implement watering or application of Ontario Ministry of Transportation approved dust suppressants that are environmentally friendly; and - Keep vegetation such as grasses shrubs and trees along the highway to enhance gravitational deposition of particles and natural windbreaks. Specifics to this are documented in the Revegetation Plan. • Consideration of input gathered through other technical monitoring programs specific to potential air quality concerns (i.e., potential dust deposition on vegetation) is completed and	• Not applicable.

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					evaluated for consideration of future mitigation or monitoring options.	
Community Well-Being						
CWB-01	• Sustainable Population Growth	• Changes to age distribution and community population.	• Construction and operation and maintenance	• Not applicable	• Owner / operator to implement Diversity, Equity, and Inclusion hiring policy. • The owner / operator will establish a working group with Marten Falls First Nation and Aroland First Nation to meet regularly to discuss community-proposed topics in relation to the construction of the Community Access Road, including those in relation to changes in population or social demographics.	• All construction workers will be housed in autonomous work camps to limit demographic shifts and limit disruptions to social structures and community dynamics.
CWB-02	• Labour Market Dynamics	• Potential barriers to community members from Marten Falls First Nation and Aroland First Nation accessing job market.	• Construction	• Not applicable	• Project owner / operator will provide information on available opportunities to help Marten Falls First Nation and Aroland First Nation community members understand the opportunities and provide time to obtain the necessary qualifications. • Owner / operator will create a Local Training Plan to complete a local skills assessment and utilize local labour force. • Owner / operator will provide ongoing job readiness programs, continuously enhancing training opportunities to support community members in their transition into the workforce and long-term career growth. Timing of training and education will be coordinated in advance of hiring to reduce barriers to participation. • The owner / operator to establish working groups with Marten Falls First Nation and Aroland First Nation to discuss construction-related issues and unemployment by identifying and removing employment barriers, offering job readiness programs, and providing counselling and addiction support services to support community members. • Project owner / operator will implement Community Readiness Strategies and Adaptive Management Plans to assess and respond to community needs through construction. • Owner / operator to implement Diversity, Equity, and Inclusion hiring policy, enhanced through training programs, job fairs, and outreach, to actively prioritize women in construction-related employment opportunities and reduce gender disparities in the work force.	• Owner / operator to gradually integrate new workers into the workforce through shorter days and shift rotations. • All construction workers will be housed in autonomous work camps to limit disruptions to communities.

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CWB-03	• Labour Market Dynamics	• Creation of direct, indirect, and induced jobs. • Increased labour income and Gross Domestic Product contributions.	• Construction • Operations	• Not applicable	• No mitigation measures proposed.	• No mitigation measures proposed.
CWB-04	• Labour Market Dynamics	• Supporting educational attainment.	• Operations	• Not applicable	• No mitigation measures proposed.	• No mitigation measures proposed.
CWB-05	• Economy	• Creation of new business opportunities for Indigenous businesses related to construction contracts and services, as well as in road operation and maintenance and transportation services.	• Construction • Operations	• Not applicable	• No mitigation measures proposed.	• No mitigation measures proposed.
CWB-06	• Economy	• Increased economic activity and output, with significant contributions to Gross Domestic Product, labour income, gross operating surplus, and tax revenues.	• Construction • Operations	• Not applicable	• No mitigation measures proposed.	• No mitigation measures proposed.
CWB-07	• Economy	• Increased productivity of individuals and businesses in the region.	• Construction • Operations	• Not applicable	• No mitigation measures proposed.	• No mitigation measures proposed.
CWB-08	• Economy	• Boost in the value of land that is surrounding the transportation infrastructure.	• Construction • Operations	• Not applicable	• No mitigation measures proposed.	• No mitigation measures proposed.
CWB-09	• Economy	• Improvement in diversifying the economy.	• Construction • Operations	• Not applicable	• No mitigation measures proposed.	• No mitigation measures proposed.
CWB-10	• Economy	• Disruptions to certain businesses that are in the area close to where the road is being developed.	• Construction	• Not applicable	• Project owner / operator will create a Local Content Plan to utilize a certain dollar value or share towards local businesses and owner / operator. • Project owner / operator to consult with local businesses that would be potentially affected by work zone impacts and determine the optimal times and conditions for the construction to take place, such as during off-peak times. • Develop a comprehensive inventory of the labour and business / procurement / contracting requirements for the project by identifying project requirements (in other words, labour needs, business / procurement needs and contracting needs); and categorizing requirements by time frame (in other words, short-term, medium-term, and long-term). • Develop a comprehensive inventory of the Marten Fall First Nation and Aroland First Nation current labour and business / procurement / contracting capacities and	• Project owner / operator will implement Community Readiness Strategies and Adaptive Management Plans to monitor and respond to community needs through construction.

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					capabilities to address the Project's requirements by engaging Marten Falls First Nation and Aroland First Nation leaders and members virtually; collecting data (in other words, labour market information; and business and procurement data); analyzing and categorizing skills inventory, business capabilities and contracting experience. • Conduct a labour and business / procurement / contracting demand and supply gap analysis and develop initiatives to address the gaps.	
CWB-11	• Community Access to Infrastructure and Services	• Disruptions due to increased transportation to and from the community.	• Construction	• Not applicable	• Road owner / operator will develop an Equipment Mobilization Plan with both Marten Falls First Nation and Aroland First Nation for the movement of equipment, personnel, supplies, and resources. Where possible, construction traffic should be separated from community traffic to improve safety and minimize disruptions. The mobilization plan should also include a clear communications strategy to keep the community informed of the mobilization schedule, making residents aware of periods of increased heavy equipment traffic on the winter road.	• The owner / operator, when possible, will transport employees on a charter flight.
CWB-12	• Community Access to Infrastructure and Services	• Increased demand on local infrastructure and essential services including roads, airports, water facilities, and more.	• Construction	• Not applicable	• The owner / operator will establish working groups with Marten Falls First Nation and Aroland First Nation to meet regularly to discuss community-proposed topics in relation to the construction of the Community Access Road, including topics avoiding pressure on local, essential services and infrastructure. • The owner / operator will develop waste management policies to minimize waste production and confirm responsible disposal. Collaboration with the community will be prioritized to develop effective construction waste management and disposal strategies, incorporating local input. • The owner / operator will establish a secure fuel storage facility and confirm a reliable fuel supply throughout the construction season. Fuel deliveries will be planned in advance and transported via the winter road, reducing reliance on costly air transport and preserving community fuel resources.	• All construction workers (including on- and off-reserve members) will be housed in autonomous work camps equipped with independent water, wastewater, and power systems. These systems need to be properly maintained to reduce reliance on community infrastructure and to prevent contamination risks. • All fuel storage sites will comply with safety and environmental regulations to prevent spills and contamination.
CWB-13	• Housing Adequacy	• Changes to housing adequacy and suitability	• Construction • Operations	• Not applicable	• The owner / operator to establish working groups with Marten Falls First Nation and Aroland First Nation to meet regularly to discuss	• All construction workers, including on- and off-reserve members, will be housed in autonomous work camps. This

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	and Suitability				community-proposed topics in relation to the construction of the Community Access Road, including topics associated with housing including monitoring housing demand and adjust to meet changes in housing needs.	will help limit demographic shifts, reduce disruptions, and prevent additional pressure on community housing.
CWB-14	• Cultural Preservation and Change	• Changes within the traditional economy and cultural practices	• Construction	• Not applicable	• Prior to construction, owner / operator will develop Access Management Plans with Marten Falls First Nation and Aroland First Nation in relation to hunting, trapping and gathering activities. All activities must conform to licensing requirements and adhere to the rules and regulations under the Ministry of Natural Resources. • The owner / operator will establish a working group with Marten Falls First Nation and Aroland First Nation, and other interested Indigenous communities, to meet regularly to discuss community-proposed topics in relation to the construction of the Community Access Road, including where to appropriate locate safety pull out areas to promote safe access, and other traditional harvesting issues.	• Provide flexible work schedules during key hunting, trapping, and gathering seasons to support continued access to traditional food resources.
CWB-15	• Cultural Preservation and Change	• Traditional language decline	• Construction	• Not applicable	• N/A	• Owner / operator to provide Training and Work Materials in Indigenous Languages. Offer onboarding materials, safety protocols, and job-related paperwork in Indigenous languages alongside English to provide language accessibility for all workers. • Owner / operator to implement multilingual worksite signage. Reduce language barriers at the worksite by using multilingual signage at work sites, including directional signs, safety notices, workplace policies, and equipment labels, to promote the use of Indigenous languages in the workplace. • Owner / operator to provide Cultural Sensitivity and Language Awareness Training. Educate non-Indigenous supervisors and workers on the importance of Indigenous languages in cultural identity, knowledge transmission, and community well-being. Encourage an inclusive workplace where traditional language use is supported and valued. • Owner / operator to implement a Zero-Tolerance Policy for Language Discrimination. Establish clear workplace policies so that Indigenous workers are not discouraged from speaking their traditional language. Supervisors and project managers should actively reinforce language inclusivity and address any instances of discrimination or bias. • Owner / operator to introduce a workplace mechanism, such as a cultural safety flag, allowing employees to pause work or request support if they feel uncomfortable due to language-

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						related issues. Propose a Cultural Safety and Stop Work Protocol.
CWB-16	• Community and Public Health	• Changes to mental health and well-being.	• Construction	• Not applicable	• Marten Falls First Nation with owner / operator will establish a working group with Marten Falls First Nation and Aroland First Nation to meet regularly to discuss community-proposed topics in relation to the construction of the Community Access Road, which could include topics in relation offering mental health supports, counselling and addiction support services.	• Owner / operator to provide cultural safety training for all workers to promote a safe and inclusive work environment. • Owner / operator to enforce a zero-tolerance policy for workplace discrimination so that Indigenous workers feel respected and included. • Owner / operator to provide all employees training on violence and harassment in the workplace. • Owner / operator to provide mental health counselling, mentorship, and peer support at work camps, with onsite Elders or cultural liaisons to promote emotional and cultural well-being. • Owner / operator to implement a gradual work force integration for community members, introducing shorter workdays and shift rotations.
CWB-17	• Community and Public Health	• Increased risk of substance use.	• Construction	• Not applicable	• The owner / operator to develop and implement monitoring and enforcement, including regular security checks at work camps and entry points (e.g., airport) for alcohol and substances to prevent entry into the community.	• All construction workers (including on- and off-reserve members) will be housed in autonomous work camps to limit demographic shifts and limit disruptions to social structures and community dynamics. • Owner / operator to collaborate with the community (Marten Falls First Nation and Aroland First Nation) to provide mental health counselling, addictions counselling, mentorship, and peer support at work camps, with onsite Elders or cultural liaisons to promote emotional and cultural well-being. • Owner / operator to enforce a zero-tolerance policy for alcohol and substance use at work camps. • Owner / operator to implement a gradual work force integration for community members, introducing shorter workdays and shift rotations (e.g., starting with 2-3 days on with a day or two break instead of 10 consecutive days) to ease new workers into construction roles. • Owner / operator to provide cultural safety training for all workers, including supervisors and non-Indigenous employees, to complete training on Indigenous culture, traditions, and historical experiences, to promote a safe and inclusive work environment. • Owner / operator to hold training session on violence and harassment prevention. • Owner / operator to enforce a zero-tolerance policy for workplace discrimination so that Indigenous workers feel respected and included. • Owner / operator to provide cultural and recreational activities, when possible, in work camps.

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CWB-18	• Community and Public Health	• Decrease in mental health and well-being due to loss of connectivity to the land, change in sense of place and identity due to presence of the road.	• Operations	• Not applicable	• Owner / operator to form a Working Group with Marten Falls First Nation, Aroland First Nation, the Road Contractor, and the Road Owner to develop a Safety and Wellness Plan that addresses project-related mental health and well-being concerns.	• Not Applicable
CWB-19	• Community and Public Health	• Increase in substance use due to easier access to drugs and alcohol.	• Operations	• Not applicable	• Owner / operator to form a Working Group with Marten Falls First Nation, Aroland First Nation, the Road Contractor, and the Road Owner to co-develop a Safety and Wellness Plan that addresses project-related substance use concerns. • Owner / operator will develop a community-based reporting system that enables Indigenous community members and employees to anonymously report concerns, including those relating to violence, harassment, and crime, providing an option for anonymous reporting.	• Owner / operator to implement a monitoring program and perform safety checks at work camps and entry points (for example, airport) for alcohol and substances to prevent entry into the community.
CWB-20	• Access to Clean Water	• Changes in access and cost of clean water. • Changes in quality of drinking or recreational water due to construction or operations activities.	• Construction • Operations	• Not applicable	• Conduct an existing conditions assessment of surface water used for drinking and recreational purposes. • Technical study recommendations to protect surface water and groundwater.	• During construction, implement temporary water storage tanks or other measures to accommodate peak water demands during construction, reducing reliance on flown-in water and helping to balance the construction and community needs. • During construction and operations adhere to required mitigations to protect surface water quality. Conduct monitoring of surface water and groundwater quality during construction and operations. • Human health team to review monitoring to evaluate for potential impacts to human health.
CWB-21	• Reliance on Store-Bought Food	• Change in reliance on store-bought food in the community.	• Construction • Operations	• Not applicable	• Not applicable.	• Owner / operator to coordinate bulk-orders of a diversity of fresh, high-quality foods to increase availability and selection of high-nutritional value foods during construction. • Owner to sponsor community-led educational efforts related to nutritional, healthy food choices.
CWB-22	• Traditional Foods	• Change in the availability of traditional foods.	• Construction • Operations	• Not applicable	• The owner / operator will establish a working group with Marten Falls First Nation and Aroland First Nation, and other interested Indigenous communities, to meet regularly to discuss community-proposed topics in relation to the construction of the Community Access Road, including identifying key harvesting areas to implement measures that can minimize construction disturbances to traditional food resources during harvesting seasons, adjusting construction activities to avoid peak harvesting periods etc.	• Owner / operator to provide flexibility in work schedules during important traditional food hunting and gathering periods. • Owner / operator to sponsor community-led harvesting initiatives in Marten Falls First Nation and Aroland First Nation.

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					• Owner to work with Ontario's Ministry of Natural Resources to encourage more frequent patrols of Conservation Officers along the Community Access Road to confirm hunters and fishermen are not exceeding their limits and that they have the proper tags and licenses. • Owner / operator to work with communities and governments, as required, to support education and development of Indigenous Conservation Officer (Game Warden) program.	
CWB-23	• Traditional Foods	• Change in the quality of country foods.	• Construction • Operations	• Not applicable	• Supplement existing conditions information related to the chemicals or concern present in country foods with the collection of additional samples from Marten Falls and Aroland Community Members over several years. • Continue an existing conditions assessment of country foods and review monitoring reports during construction and operations to evaluate potential for effects to country foods quality. • Review monitoring reports for surface water, sediment, air and groundwater quality during construction and operations to evaluate potential for effects to country foods quality.	• Not applicable.
CWB-24	• Public Safety	• Increased road-related accidents lack of driver's licences, and increased strain on emergency services.	• Construction	• Not applicable	• Explore opportunities to increase total Driver Licence holders, alongside the Ministry of Transportation, including partnerships with third-party remote licence providers. • Develop Equipment Mobilization Plans with local First Nations for the movement of equipment, personnel, and supplies. • Develop, with the Ministry of Health, onsite safety and emergency preparedness programs to include fire suppression systems, medical care, security personnel, monitor safety compliance, emergency response plans and clear communication protocols between construction teams and emergency responders.	• Implement driver safety training tailored to winter road conditions and remote community travel. • Comply with all relevant health and safety requirements, including but not limited to, preparation of a Health and Safety Policy.
CWB-25	• Public Safety	• Increased violence and harassment	• Construction	• Not applicable	• Owner / operator to establish working groups with Marten Falls First Nation, Aroland First Nation to meet regularly to discuss community-proposed topics in relation to the construction of the Community Access Road, including: - Financial literacy programs for workers and families to help manage income fluctuations and reduce financial stress, addressing	• House workers in autonomous work camps to limit unsupervised interactions with the community and prioritize gender-divided living quarters in the work camps. • Enforce zero-tolerance policies for harassment and violence. • Provide cultural safety and language awareness training for all workers, including supervisors and non-Indigenous employees, to complete training on Indigenous culture, traditions, and historical experiences to understand

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					economic disparities that could contribute to resentment and lateral violence. - Measures to strengthen cultural programming and land-based activities to reinforce community cohesion and well-being. Strengthening cultural identity and offering community-driven programs can provide positive coping mechanisms for workers and families experiencing stress due to shift work and can offer a protective factor against violence and social disruption by strengthening support networks and reducing isolation. - Supports for unemployed community members by identifying employment barriers and offering job readiness programs to support community members facing unemployment.	Indigenous cultural norms and appropriate community interactions to reduce instances of harassment or violence. • Comply with the *Human Rights Code* to prevent workplace discrimination and uphold employee rights to reduce work force tensions. • Mental health counselling, mentorship, and peer support at work camps to reduce stress-related aggression. Onsite Elders or cultural liaisons will offer emotional support and traditional guidance to workers. • Implement a gradual work force integration for community members, starting with shorter workdays and shift rotations. • Implement Diversity, Equity, and Inclusion hiring policy.
CWB-26	• Public Safety	• Increased in road-related injuries due to increase in road traffic.	• Operations	• Not applicable	• The Owner / operator will establish a working group with Marten Falls First Nation and Aroland First Nation to meet regularly to discuss community-proposed topics in relation to the operation of the Community Access Road, including advocating for funding to build a local fire station, recruit paramedics, and expand medical transport services; develop emergency preparedness plans, first responder training programs, and informing in independent medical providers (e.g., dentists and physiotherapists) for potential for increased demand.	• The owner to engage with law enforcement to implement increased monitoring; prepare for the opening of the road, allowing for an increased presence to monitor traffic, enforce speed limits, and deter impaired or reckless driving. • The owner to consider alternative methods to using salt on roadways to prevent attracting wildlife, minimizing the potential for vehicle-wildlife collisions. • The road owner will need to engage with law enforcement to implement increased monitoring of traffic and reckless driving to reduce road safety incidents. • The owner to consider the installation of road signage in both English and Indigenous languages indicated speed limits, sharp turns, wildlife crossings, and other hazards.
CWB-27	• Public Safety	• Increased in violence and harassment	• Operations	• Not applicable	• The Owner / operator to establish working groups with Marten Falls First Nation, Aroland First Nation, and other interested Indigenous communities from the Regional Study Area, to meet regularly to discuss community-proposed topics in relation to the construction of the Community Access Road, including, could include the consideration of developing community-based violence prevention programs, including safe shelters and crisis support for victims; strengthening mental health, addictions, harm reduction programs, and family support services to address root causes.	• To address potential effects anticipated during operations, the owner / operator will establish several different working groups with Marten Falls First Nation and Aroland First Nation to meet regularly to discuss community-proposed topics in relation to the Community Access Road. In many cases, these working groups should be established in detail design and then carry through construction and, potentially, into operations.
CWB-28	• Biophysical Determinants of Human Health	• Change in the quality of soils, sediment, and air • Change in noise levels	• Construction • Operations	• Not applicable	• Compile information on use of surface water for transient recreational and potable water sources and locations of use.	• During construction, monitoring of surface water quantity and quality parameters (including but not limited to water taking and discharge rates, pH, total suspended solids, turbidity, temperature, dissolved oxygen, biochemical oxygen demand,

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		• Potential for accidents and malfunctions			• Conduct surface water sampling where project effects are likely to interact with use of surface water for transient recreational and potable water sources to establish existing conditions. • Supplement existing conditions information related to the chemicals or concern present in country foods with the collection of additional samples from Marten Falls First Nation and Aroland First Nation members over several years. • Chemical analysis of quarry materials to be used in road construction should be completed during detail design. These materials will ultimately make up the majority of the fugitive dust created during road construction and operations. Interpretation of this information can be used to source materials with the least potential impacts and to support appropriate mitigations are implemented. • For groundwater, a pre-construction geochemical testing and monitoring program to assess the potential for acid rock drainage from any soils or bedrock that will be exposed during construction. The groundwater quality samples should be analyzed for general water quality parameters at minimum (such as, pH, temperature, conductivity, hardness, alkalinity, chloride, nitrate, nitrite, sulphate, phosphate, ammonia, total dissolved solids, dissolved organic carbon, calcium, copper, iron, magnesium, manganese, potassium, sodium, and zinc). Additional parameters of concern should also be sampled for where identified. • During detail design, develop a geochemical testing and monitoring program to assess the potential for acid rock drainage from any soils or bedrock that would be exposed during aggregate extraction. Include assessment of the material proposed to be used for road construction for potential for metal leaching and metal composition. Fugitive dust from the Project will be made up of materials proposed to be used for road construction. • Details are included in the Problem Formulation for Human Health Risk Assessment.	and other contaminants of concerns as required). Monitoring of total suspended solids and / or turbidity instrumented measurements and / or visual observations), as well as visual inspections to confirm the presence or absence of oil or sheen. • A construction groundwater monitoring program to continue the pre-construction monitoring through construction activities to identify and quantify any impacts to groundwater levels or quality resulting from construction activities. Groundwater quality should be sampled at the monitoring stations at least monthly for the same parameters as the pre-construction monitoring. • During construction, a construction monitoring program is recommended as a mechanism to help mitigate and / or identify potential conditions that may lead to air quality impacts from construction-related activities. An air monitoring station should be set up in Marten Falls throughout construction and into operations. Air monitoring in the community should have transparency in data to allow sensitive individuals to be aware of levels and remain inside during times of high particulate concentrations. • Details are included in the Problem Formulation for Human Health Risk Assessment. • During operations, monitoring of water quality, sediment 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 considerations. The specific monitoring locations will be determined during the permitting and design stages of the Project; however, it is expected that waterbodies of varying size (small, medium, large) would be captured, recognizing that this would allow the performance / effectiveness of mitigation and enhancement measures to be evaluated Monitoring of surface water quantity and quality parameters will include but not limited to water taking and discharge rates, pH, total suspended solids, turbidity, temperature, dissolved oxygen, biochemical oxygen demand, and other contaminants of concerns as required). Monitoring of total suspended solids and / or turbidity instrumented measurements and / or visual observations, as well as visual inspections to confirm the presence or absence of oil or sheen. • An operations groundwater monitoring program to continue the construction monitoring until sites without impacts are decommissioned. Site where impacts to groundwater were observed should continue monitoring until a return to existing equivalent conditions is observed or a site-specific remediation monitoring plan is implemented. Groundwater monitoring should continue at applicable sites used

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						continuously or intermittently during operations, with monitoring starting and ending according to the established construction monitoring programs for the intermittently active sites. • During operation, it is recommended that consideration of input gathered through other technical monitoring programs specific to potential air quality concerns (in other words, potential dust deposition on vegetation) is completed and evaluated for consideration of future mitigation or monitoring options. An air monitoring station should be set up in Marten Falls throughout construction and into operations. Air monitoring in the community should have transparency in data to allow sensitive individuals to be aware of levels and remain inside during times of high particulate concentrations.
Land and Resource Use						
LRU- 01	• Land Use Compatibility	• The preferred route overlaps with approximately 1,257.1 ha of lands identified as Draft Dedicated Protected Area within the Draft Marten Falls First Nation Community-Based Land Use Plan. The Plan remains in draft form and continues to be developed. Draft Dedicated Protected Areas have been considered and the project team has learned that Marten Falls First Nation will revise the draft to remove these locations. • Constance Lake First Nation currently has a Terms of Reference issued for development of its Community-Based Land Use Plan; the Terms of Reference identifies an area of interest (including “Shared planning area #2”) that overlaps with the Project Study Area. • The Project is not located within any land use designations under the Municipality of Greenstone Official Plan. • Crown land management policies could support future construction of this road under the Public Lands Act (Crown Land Use Policy Atlas) and Far North Act jurisdiction. • The Proposed Route must be withdrawn from mining rights. • Potential for future development proposals during operations and	• Construction	• Ministry of Natural Resources • Ministry of Mines • Ontario Parks	• Involve Marten Falls First Nation in land and resource use planning activities to manage new development. • Engage with Aroland First Nation for additional measures. • Where relevant, consider any additional Community-Based Land Use Plan planning information that becomes available from Constance Lake First Nation through Community-Based Land Use Plan Terms of Reference process. • The owner / operator to negotiate with land users for the area that have expressed concerns with impacts associated with socio-economic losses as a result of the Community Access Road. Continued consultation during detail design will be required to address these concerns and comments. Future discussions and engagement with Ontario Parks will be completed during detail design to implement a communication strategy in order to provide ample notice for recreation users in the areas of construction.	• Not applicable

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		maintenance phase due to new access provided by the road. • No anticipated effects on Gender-Based Analysis Plus sub-groups.				
LRU- 02	• Ontraio Parks and Protected Areas	• Direct removal of 5.7 ha of Albany River Provincial Park land, representing 0.006% of the park's total area. • Potential noise and air quality effects on park users including canoeing and kayaking activities during construction, with noise levels up to 70 dBA at the bridge crossing in Albany River Provincial Park and 45 dBA at the most eastern end of Ogoki River Provincial Park. • Visual impact from new bridge in Albany River Provincial Park. • Improved access to Albany River and Ogoki River Provincial Parks, potentially increasing user volumes and changing the wilderness character of these parks. • No anticipated effects on Gender-Based Analysis Plus sub-groups.	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ontario Parks	• Continued consultation between Ontario Parks and the owner of the road to develop an aesthetically pleasing bridge structure and to determine appropriate access or restrictions at the Albany River. • Any potential access considerations will be explored further through ongoing consultation with Ontario Parks so that future decisions align with park management objectives and protection priorities. • Marten Falls First Nation with the owner / operator to have further discussions with Ontario Parks regarding the Albany and Ogoki river crossings, access issues, and user impacts as well as identification of requirements for updates to Ogoki and Albany River Provincial Parks Management Statements and / or future Management Plans.	• Refer to mitigations as outlined in the Air Quality IDs. • Limit clearing and use of land within Parks to the minimum necessary for construction; locate temporary work areas outside of parks.
LRU-03	• Recreation and Tourism	• Improved access to remote crown lands and water resources, potentially increasing recreation and tourism opportunities and negative impacts on remote outfitter operations. • Potential negative effects on navigation during construction due to bridge construction over watercourses. • Changes in environmental conditions (i.e., noise, air quality, viewscapes) affecting recreation and tourism activities. • Potential increase in hunting pressure of key species which could affect their populations. Any restrictions on public access for hunting and / or fishing in the local area due to Indigenous community concerns would reduce the recreation benefits of the project. • No anticipated effects on Gender-Based Analysis Plus sub-groups	• Construction • Operations	• Ministry of Natural Resources • Ministry of Tourism Culture and Gaming • Ontario Parks	• Continued consultation with Ministry of Natural Resources and Ministry of Tourism Culture and Gaming to seek feedback related to potential introduction of access. • Collaborate on appropriate signage related to messaging on poaching, legal hunting, fishing or potential portage crossing (at Ogoki River). • Conduct monitoring measures as outlined in the air quality, noise, visual, surface water, fish, wildlife, and ungulates technical reports to manage impacts related to remote outfitters and recreation (fish and game harvesting) activities.	• Design and install proper water crossing structures to accommodate flow, drainage, and fish passage. • Navigable crossings to be installed in areas identified as navigable. • Minimize vegetation clearing to only what is required for construction and staging. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction. • Provide signage along the Preferred Route to inform road users about possible interaction with recreation users and wildlife. • Assess need for parking control along roadway for safety reasons. • A cleared width of 60 m will be maintained, buffer zones of 30 m will be maintained around waterbodies, and vegetation clearing activities will be limited. • The Proponent will discuss possible restrictions for hunting in the Project Area with the Ministry of Natural Resources.

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LRU-04	• Extractive Resource Industry	• 2,234 ha of operational mining claims affected by the road and associated Project components. • Improved access to mineral resource areas, facilitating the development of mines and providing economic benefits. • No anticipated effects on Gender-Based Analysis Plus sub-groups.	• Construction • Operations	• Ministry of Mines • Ministry of the Environment, Conservation and Parks	• Engage with Wabassi Resources Inc. regarding their exploratory mining lease on lands of aggregate site SG-20.	• Engage with mining claim holders during the road design stage to minimize impacts on known mineral deposit areas and / or proposed mining activities including exploration activities. • Mining companies to be advised of any access needs to the roadway including location of any planned roadway entrances. • Monitoring programs should be established to monitor use of the land once the road is operational with respect to collisions and recreation activities (such as, boating, fishing and hunting) so that wildlife and fish populations impacts are monitored and noted during maintenance and rehabilitation. A public reporting systems should be developed to report vehicle-wildlife collisions.
LRU-05	• Forest Industry	• Removal of 283 ha of forest within the Ogoki Forest, representing 0.04 percent of the forest's total area. • Potential increase in access to lands northeast of the Ogoki Forest containing merchantable timber stands. • No anticipated effects on Gender-Based Analysis Plus sub-groups.	• Construction	• Ministry of Natural Resources • Ontario Parks	• Engage with GreenForest Management Inc. to discuss the Annual Work Schedules as part of the Ogoki Forest Management Plan (2020-2030, and future plans) to learn of future vegetation clearing which could align with future construction as well as potential access through Painter Lake Road required for forestry operations.	• Should any commercial forest trees be felled within the Ogoki Forest Management area for the construction of the Project, the value of the timber will be determined.
LRU-06	• Remote Outfitters	• Six remote tourism outfitter camps were identified within 5 km of the Construction Disturbance Area. • Change in remoteness and attractiveness of outfitter camps due to new road access. • Potential noise, air quality (construction), and visual impacts on outfitter operations and guest experience. • Potential changes in wildlife affecting outfitter activities. • No anticipated effects on Gender-Based Analysis Plus sub-groups.	• Construction • Operations	• Ministry of the Environment, Conservation and Parks • Ministry of Natural Resources • Ontario Parks	• The owner of the road should continue to consult and negotiate with remote outfitters as Detail Design phase progresses.	• Engage • Engage further with the impacted • outfitters / commercial outpost camp owners. • Provide at least one year notice to the remote outfitters in advance of construction start. • Implement mitigation measures for air quality, noise, visual, surface water, fish, wildlife, and ungulates as outlined in the appropriate Technical Support Documents. • The possession and use of firearms will not be permitted for construction personnel. • Restrict public access to the Marten Falls Community Access Road corridor during construction. Gate temporary access roads and block and restore as soon as possible after they are no longer needed. Permanent access roads used for maintenance activities will be gated while not in use. • Develop and implement an Environmental Protection Plan that includes the following measures to control, and / or restrict public use of access roads during construction and operation: speed limits, gates / manned gates, signage, reduced road standard, felling of timber across temporary access roads after reclaimed, removal of temporary watercourse crossings, reduce traffic by locating camps near construction sites. Posting of restricted access and speed signage will follow the *Construction Specification for*

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						Temporary Traffic Control Devices (Ministry of Transportation, 2025c). • During operations and maintenance, the Marten Falls Community Access Road will be accessible to the public but access roads for aggregate areas and other infrastructure required for maintenance activities will be gated to limit public access. Employees will be prohibited from hunting or carrying firearms while working on the Project maintenance.
LRU-07	• Trapping	• Overlap with seven traplines. • Potential disturbance to furbearing species (i.e., wolverine, American marten, beaver) due to noise and human presence. • Improved access to 13 identified trapping areas. • No anticipated effects on Gender-Based Analysis Plus sub-groups. • Reduced areas available for trapping activity. • Disturbances to Project adjacent lands during construction and operations (e.g., from noise)	• Construction • Operations	• Ministry of Natural Resources	• Continued engagement with trapline holders through communication protocols and development of signage and appropriate posting locations that is determined through the detail design phase (in sequence areas of future road construction).	• Provide notice to trapline holders about construction timelines and allow access through the Construction Disturbance Area when safe. • Permit travel through the Project corridor by trappers during construction with appropriate safety measures. • An Environmental Protection Plan will be implemented that includes the following measures to control, and / or restrict public use of access roads during construction and operation: speed limits, gates / manned gates, signage, reduced road standard, berming or felling of timber across temporary access roads after reclaimed, removal of temporary watercourse crossings, reduce traffic by locating camps near construction sites. Posting of restricted access and speed signage will follow the *Construction Specification for Temporary Traffic Control Devices* (Ministry of Transportation, 2025c). • Implement Environmental Protection Plan measures to protect sensitive sites like beaver lodges. • Communicate with trapline tenure holder in advance of, and during construction. • Permit travel through the project corridor by the trapper during construction. • Same mitigation measures previously outlined for the Valued Component #7 Trapping.
LRU-08	• Energy and Linear Infrastructure	• Marten Falls Community Access Road would promote linear infrastructure parallel to the road corridor. • Potential for increased opportunity for new energy facilities and linear infrastructure along the Project's route during operations and maintenance. • No anticipated effects on Gender-Based Analysis Plus sub-groups.	• Operations	• Ministry of Infrastructure	• Not applicable	• No specific mitigation recommended, but any potential energy projects must undergo their own Environmental Assessment / Impact Assessment process.
Visual						

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VIS-01	• Cultural Heritage Resources and Indigenous Experience and Sense of Place • Parks and Protected Areas • Recreation and Tourism • Permanent Settlements	• Construction activities may result in temporary changes to visual character and views due to the presence of equipment, temporary works, cleared approaches, exposed soils, and short-term dust deposition. • Construction lighting may affect night sky viewing and night-time wilderness character if not controlled. • Operations may result in long-term changes to visual character and views due to the presence of permanent bridge structures and maintained corridor opening, with localized medium-magnitude effects in very close-range river crossing views and generally low-magnitude effects in broader viewsheds • Indirect effects may include maintained openings due to vegetation management and seasonal snow windrows • Intermittent headlight beams may be perceptible, especially near open-water crossings and the Community approach.	• Construction • Operations	• Ontario Parks	• Use matte or weathered finishes for steel; consider colour or texture for exposed concrete; non-glare fasteners; avoid bright, specular surfaces in the design. • Co-develop finish palette, and bridge design, edge form, and opening limits with Indigenous knowledge holders and community members, • Site temporary staging, batch plants, and stockpiles behind landforms or retained vegetation where possible; cap material or equipment stack heights below the treeline where feasible. • Shape abutments and approach embankments to follow adjacent slopes where possible; use local rock; place coarse woody debris to restore texture; implement rapid stabilization and planting within the same season where possible. • Develop pre-clearing inspection forms. Stake meandering clearing limits; keep visible openings at shorelines to the smallest practicable width; feather edges with retained clumps and shrub screens where possible. • Point Receptor Validation and Protected or Priority No-Go View Cone Mapping: Field verification with Indigenous knowledge holders, Parks representatives, or other applicable community representatives to confirm exact lines of sight for specific locations that hold unique, sacred, or otherwise special, Indigenous cultural or sense of place value points identified during this assessment or through further engagement. These are locations that would be considered absolute no-go locations for Project-related visual environment effects; wherein destruction of the overall visual character (e.g., clearing of all vegetation and constructing a road) of this precise location would be detrimental. One example of this type of location could be a burial ground. Further engagement and ground-truthing is required to identify these precise locations during the final design and micrositing stages of the Project. - Deliverable: Georeferenced view cones of absolute no-go locations, including limit-of-clearing stakes signed off prior to clearing. The clearing limits should leave enough vegetation to prevent views of the	• Prohibit floodlighting; allow downward facing, fully shielded task lights only; enforce dark hours. • Schedule visually intrusive tasks outside peak paddling and cultural use periods identified with communities and outfitters where feasible • Apply water or equivalent suppressant; cover or stabilize stockpiles; promptly stabilize exposed soils; clean hard surfaces at staging areas. • Salvage and respread organics; seed with native species or allow natural regeneration; decommission temporary access; restore topography (progressive reclamation) • Provide clear advance notices for intrusively visible works; maintain one or more quiet, dark vantage spaces away from bridge view for elders and youth during key seasons. • Field checks from pre-construction (existing conditions) photo points and along staked limits; compare to edge plans; Site layout review versus “staging outside view cones” plan prior to set-up and after any relocation • Night audits; lux spot checks at ground (qualitative pass / fail), photograph capture, confirming no night-time lighting or night light pollution • Monitoring of dust and surface lightening near water and community approach, • Shoreline shaping and materials; As-built checks versus drawings; photograph from water level to confirm final form aligns with intended design • Confirm reclamation of temporary work areas is progessing; • Should community member complain about headlight light spill; Observational checks at identified lines of sight (with resident consent), including night photographs to confirm nuisance. If confirmed, installation of low berms or dense planting to prevent lines of site where possible.

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					Construction Disturbance Area from these absolute no-go locations. • Existing Conditions Photographs: Install permanent, surveyed photo-stations (minimum three at each of the Albany River Crossing and Ogoki River Crossing): upstream near, upstream mid, downstream near; plus two along Marten Falls Community approach, and any area identified in the task and deliverable preceeding (Point Receptor Validation and Protected or Priority No-Go View Cone Mapping). Capture leaf-on and leaf-off daytime sets; one night set under dark, clear conditions. - Deliverable: Existing Conditions Photograph Log with coordinates, bearings, lens, exposure, sky condition, with focus and attention to the absolute no-go protected or priority view cone locations.	
Climate Adaptation and Resiliency						
CLIMATE-01	• Extreme (high) Temperature and Heat Wave – Construction camps	• Extreme temperature and heat waves can reduce productivity and cause delays in construction and maintenance work. • Extreme temperature and heat waves can increase indoor air temperature in construction trailers and therefore the need for cooling/ventilation systems. • High temperature and heat waves will reduce the loading rate (maximum power rate) of above ground transformers and other electrical equipment like generators. The life expectancy for transformers (as for other electrical equipment) is reduced by 50% for every 10°C over their rated temperature limit. • The demand for water may increase during periods of high temperature and heat waves.	• Construction	• Ministry of Labour, Immigration, Training and Skills Development • Health Canada	• Increase thermal efficiency (e.g., insulation, ventilation, choice of materials, green or pale coloured/reflective roofs) of construction trailers to decrease indoor air temperature, as well as power demand from cooling during hot days. • Use white "cooling" boxes for outdoor electrical equipment (e.g., on the roof tops) to prevent overheating of power and heating equipment.	• Enforce breaks for workers during the construction, provide protective equipment and air conditions in camps, and implement flexible work schedules during heat waves.
CLIMATE-02	• Extreme (high) Temperature and Heat Wave – People	• Extreme temperature and heat waves can cause various health impacts, including skin rash, heatstroke, fainting, exhaustion, muscle cramps, dehydration, and edema. • Extreme temperatures and heat waves can affect vulnerable people in greater proportions and intensity.	• Construction	• Ministry of Labour, Immigration, Training and Skills Development • Health Canada	• Provide designated cool, shaded, or air-conditioned areas for workers in order to limit their exposure to extreme temperatures and heat.	• Limit the exposure of workers to extreme temperatures and heat waves by modifying physically demanding work schedules during periods of increased temperature, humidity, or insulation.

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CLIMATE-03	• Extreme (high) Temperature and Heat Wave – People	• Extreme temperature and heat waves can cause various health impacts, including skin rash, heatstroke, fainting, exhaustion, muscle cramps, dehydration, and edema. • Extreme temperatures and heat waves can affect vulnerable people in greater proportions and intensity.	• Construction • Operations	• Ministry of Labour, Immigration, Training and Skills Development • Health Canada • Ministry of Emergency Preparedness and Response	• Not applicable	• Implement an alert protocol designed to identify and communicate hot weather and heat wave conditions that could impact the well-being of community members, visitors, and workers. • Communicate the health risks of extreme heat events with the public, as recommended by Health Canada (2011). For example, share heat wave warnings and health safety tips on display signs in construction camps and in community buildings.
CLIMATE-04	• Melting Degree Days – Culverts and bridges	• The increase in melting degree days can increase the amount of runoff water that converges in culverts.	• Construction	• Ministry of Transportation	• Not applicable	• Schedule inspections and maintenance of culverts to prevent the worsening of wear and tear following the winter season.
CLIMATE-05	• Melting Degree Days – People	• The increase in melting degree days can lead to an increase in snow and ice melt, which in turn can lead to the deterioration of road conditions and accidents.	• Construction • Operations	• Ministry of Transportation	• Not applicable	• Communicate the condition of the roadway with the public in order to encourage people to be careful when travelling. For example, sharing the location of the greatest damage in construction camps and in community buildings.
CLIMATE-06	• Extreme Daily Rainfall, Short-duration, high-intensity Rainfall (50-year event), and Multi-day Heavy Precipitation – Community Access Road	• Extreme rainfall can cause the erosion of the road surface and can create rills and gullies. • Road washouts are possible in areas where runoff or surface water congregates (i.e., culvert or bridge). Washouts may render the road impassable for an extended period. • Extreme rainfall may cause flooding. Road segments with culverts and bridges may be more vulnerable to flooding.	• Construction	• Ministry of Transportation	• Design drainage systems to cope with heavy rainfall with well defined overland flow routes. On larger fill sites with expansive grade slopes, confirm that erosion protection measures are employed (blanket to foster revegetation growth, synthetic ditch checks, straw wattle, and others) to slow down erosive forces. • Use non-moisture susceptible building materials so that work can continue during rain events (e.g., quarried rock, granular fill materials).	• Not applicable
CLIMATE-07	• Extreme Daily Rainfall, Short-duration, high-intensity Rainfall (50-year event), and Multi-day Heavy Precipitation – Community Access Road	• Extreme rainfall can cause the erosion of the road surface and can create rills and gullies. • Road washouts are possible in areas where runoff or surface water congregates (i.e., culvert or bridge). Washouts may render the road impassable for an extended period. • Extreme rainfall may cause flooding. Road segments with culverts and bridges may be more vulnerable to flooding.	• Operations	• Ministry of Transportation	• Not applicable	• Increase inspections and maintenance after extreme rainfall event to prevent the worsening of wear and tear of the road during heavy rainfall and flooding events. • Conduct frequent grading and maintenance of the road to fill potholes and maintain a crowned (4%) surface that can handle heavy rainfall more effectively.
CLIMATE-08	• Extreme Daily Rainfall, Short-duration, high-intensity	• Extreme precipitations can cause an accelerated deterioration of culverts by increasing the amount of runoff water that converges through them.	• Construction	• Ministry of Transportation	• Choose oversized culverts to take into account the increase in the recurrence of floods and extreme rainfall of about 172 mm (i.e., a 100-year rainfall event in 2071-2100).	• Not applicable

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	Rainfall (50-year event), and Multi-day Heavy Precipitation – Culverts and bridges	• Extreme precipitations can increase the scour rate of bridge foundations. • High volumes of water can overwhelm culverts and lead to failure and flooding.			• Raising the bridge deck will increase the hydraulic capacity of bridges, limiting damages sustained during flooding event.	
CLIMATE-09	• Extreme Daily Rainfall, Short-duration, high-intensity Rainfall (50-year event), and Multi-day Heavy Precipitation – Culverts and bridges	• Extreme precipitations can cause an accelerated deterioration of culverts by increasing the amount of runoff water that converges through them. • Extreme precipitations can increase the scour rate of bridge foundations. • High volumes of water can overwhelm culverts and lead to failure and flooding.	• Operations	• Ministry of Transportation	• Not applicable	• Proceed to scour monitoring to limit the extent of the damaged to bridges during a flood. • Increase inspections and maintenance of culverts to prevent the worsening of wear and tear during heavy rainfall and flooding events.
CLIMATE-10	• Extreme Daily Rainfall, Short-duration, high-intensity Rainfall (50-year event), and Multi-day Heavy Precipitation – Construction camps	• Extreme rainfall may result in premature deterioration of exterior building elements (e.g., windows, exterior doors) and the construction trailers due to water infiltration, resulting in increased inspections and maintenance costs. • Extreme rainfall can lead to water accumulation on flat roofs (ensuing drainage difficulties). • Extreme rainfall can cause delays in construction and maintenance work. • Extreme rainfall can cause the erosion of the hard surfaces and can cause flooding	• Operations	• Ministry of Labour, Immigration, Training and Skills Development • Health Canada	• Not applicable	• Increase inspections and maintenance of construction trailers and other installations to prevent the worsening of wear and tear during heavy rainfall and flooding events.
CLIMATE-11	• Extreme Daily Rainfall, Short-duration, high-intensity Rainfall (50-year event), and Multi-day Heavy Precipitation – Rest stops and road turnout	• Extreme rainfall can cause the erosion of the road turnout surface and can create rills and gullies. • Road washouts are possible in areas where runoff or surface water congregates (i.e., culvert or bridge). Washouts may render the road impassable for an extended period. • Extreme rainfall may cause flooding. Road turnouts near culverts and bridges may be more vulnerable to flooding.	• Construction	• Ministry of Transportation	• Design drainage systems to cope with heavy rainfall with well defined overland flow routes.	• Not applicable

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CLIMATE-12	• Extreme Daily Rainfall, Short-duration, high-intensity Rainfall (50-year event), and Multi-day Heavy Precipitation – Rest stops and road turnout	• Extreme rainfall can cause the erosion of the road turnout surface and can create rills and gullies. • Road washouts are possible in areas where runoff or surface water congregates (i.e., culvert or bridge). Washouts may render the road impassable for an extended period. • Extreme rainfall may cause flooding. Road turnouts near culverts and bridges may be more vulnerable to flooding.	• Operations	• Ministry of Transportation	• Not applicable	• Increase inspections and maintenance to prevent the worsening of wear and tear of the rest stops and road turnouts after heavy rainfall and flooding events.
CLIMATE-13	• Extreme Daily Rainfall, Short-duration, high-intensity Rainfall (50-year event), and Multi-day Heavy Precipitation – People	• Extreme rainfall can cause dangerous driving conditions by reducing visibility and traction. Road conditions can deteriorate quickly. • Extreme rainfall may cause flooding or flash floods. Floods can reduce road safety for users and may cause road closures. This can cause delays in the mobilization and arrival of first responders during emergency situations.	• Construction • Operations	• Ministry of Transportation • Ministry of Emergency Preparedness and Response	• Develop an Emergency Preparedness and Management Plan in the case of a heavy rainfall or flood event.	• Communicate the condition of the road with the public in order to encourage people to be careful when travelling. For example, share the location and status of floods or road washouts in construction camps and in community buildings. Include the road in the internet feed for road conditions reporting. • Implement an Emergency Preparedness and Management Plan in the case of a heavy rainfall or flood event.
CLIMATE-14	• Daily Snowfall (50-year event) – People	• Heavy snowfall can cause dangerous driving conditions which can lead to skidding and collisions. • Heavy snowfall can increase frequency and effort needed during snow removal operations. This can cause delays in the mobilization and arrival of first responders during emergency situations	• Construction • Operations	• Ministry of Transportation • Ministry of Emergency Preparedness and Response	• Develop an Emergency Preparedness and Management Plan in the case of a heavy snowfall event.	• Communicate the conditions of the roadway with the public in order to encourage people to be careful when travelling. For example, share the status of plowing operations in construction camps and in community buildings. • Implement an Emergency Preparedness and Management Plan in the case of a heavy snowfall event.
CLIMATE-15	• Wildfire – Community Access Road	• Wildfires can cause the closure of the road for safety reasons, preventing the road users from using it, causing delays in the mobilization and arrival of first responders, and disrupting supply chains. • Wildfires in surrounding areas can create dangerous driving conditions, such as reduced visibility from smoke and ash. Heat from wildfires can damage vehicles. • The road should not be damaged directly from wildfire flames and heat.	• Operations	• Ministry of Transportation • Ministry of Emergency Preparedness and Response	• Not applicable	• Conduct regular maintenance and inspection of the road and its cleared 60 m right-of-way to prevent the accumulation of flammable debris and improve safe travel. • Implement early warning systems to prepare for wildfire events and make informed decisions about road closures.

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CLIMATE-16	• Wildfire – Culverts and bridges	• The flames and heat generated by forest fires can damage Marten Falls Community Access Road components, including bridges and culverts. • Wildfires can cause accelerated deterioration of bridge materials, especially fire-vulnerable materials such as timber. Such damage may affect the structural integrity of a concrete structure.	• Construction	• Ministry of Transportation	• The use of timber in bridge structures is discouraged, and steel/concrete will be incorporated.	• Not applicable
CLIMATE-17	• Wildfire – Culverts and bridges	• The flames and heat generated by forest fires can damage Marten Falls Community Access Road components, including bridges and culverts. • Wildfires can cause accelerated deterioration of bridge materials, especially fire-vulnerable materials such as timber. Such damage may affect the structural integrity of a concrete structure.	• Operations	• Ministry of Transportation	• Not applicable	• Conduct regular maintenance and inspection of bridges to prevent the accumulation of flammable debris and improve safe travel. • Increase inspections and maintenance after wildfire events to prevent the worsening of wear and tear of bridges and culverts.
CLIMATE-18	• Wildfire – Construction camps	• Wildfires can cause major damages to construction camps and decrease air quality, resulting in operational impact. • Evacuation may be necessary. • If wildfires reach explosives storages, large explosions may occur.	• Construction	• Ministry of Transportation • Ministry of Natural Resources • Ministry of Labour, Immigration, Training and Skills Development • Health Canada	• Develop early warning systems to prepare for wildfire events and make informed decisions about construction camp closures.	• Remove ground litter and high ignition vegetation (e.g., dead, dying, dried and overmature trees) on a regular basis to limit the presence of fire fuel around construction camp infrastructure, especially near explosives storage. • Keep grasses near the construction camp infrastructure cut at less than 10 cm in height during the fire season. • Install an external unmanned sprinkler system and have sources of water available (especially near storage of explosive materials). • Implement early warning systems to prepare for wildfire events and make informed decisions about construction camp closures.
CLIMATE-19	• Wildfire – People	• The intense heat caused by nearby wildfires can affect the integrity of vehicles. • Wildfires can cause the closure of the road, causing delays in the mobilization and arrival of first responders. • Wildfire smoke can decrease air quality by increasing the amount of Particular Matter (PM) 2.5. Wildfire smoke can be carried for considerable distances and for an extended period	• Construction	• Ministry of Labour, Immigration, Training and Skills Development • Health Canada	• Not applicable	• Monitor air quality and limit the exposure of workers to smoke by modifying work schedules during wildfire season. Keep monitoring the following website for smoke intensity and forecasts (https://firesmoke.ca/forecasts/current/).

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		of time, depending on wind intensity and direction. • Decreased visibility due to wildfire smoke and debris on the road can cause dangerous driving conditions which can lead to accidents.				
CLIMATE-20	• Wildfire – People	• The intense heat caused by nearby wildfires can affect the integrity of vehicles. • Wildfires can cause the closure of the road, causing delays in the mobilization and arrival of first responders. • Wildfire smoke can decrease air quality by increasing the amount of Particular Matter (PM) 2.5. Wildfire smoke can be carried for considerable distances and for an extended period of time, depending on wind intensity and direction. • Decreased visibility due to wildfire smoke and debris on the road can cause dangerous driving conditions which can lead to accidents.	• Construction • Operations	• Ministry of Labour, Immigration, Training and Skills Development • Health Canada • Ministry of Emergency Preparedness and Response	• Develop an Emergency Preparedness and Management Plan in the case of a wildfire event	• Communicate the health risks of wildfires and wildfire smoke with the public. For example, share wildfire, road, and evacuation status on display signs in construction camps and in community buildings. • Implement an Emergency Preparedness and Management Plan in the case of a wildfire event
CLIMATE-21	• Thunderstorm – Community Access Road	• Thunderstorms, combined with heavy winds and/or precipitations, may cause flooding and soil erosion.	• Construction	• Ministry of Transportation	• Design drainage systems to cope with heavy rainfall with well defined overland flow routes	• Not applicable
CLIMATE-22	• Thunderstorm – Community Access Road	• Thunderstorms, combined with heavy winds and/or precipitations, may cause flooding and soil erosion.	• Operations	• Ministry of Transportation	• Not applicable	• Design drainage systems to cope with heavy rainfall with well defined overland flow routes • Conduct frequent grading and maintenance of the road to fill potholes and maintain a crowned (4%) surface that can handle heavy rainfall more effectively.
CLIMATE-23	• Thunderstorm – Culverts and bridges	• Thunderstorms, combined with heavy winds and/or heavy precipitations, can cause an accelerated deterioration of bridges. • High volumes of water can overwhelm culverts and lead to failure and flooding.	• Operations	• Ministry of Transportation	• Not applicable	• Increase inspections and maintenance of culverts to prevent the worsening of wear and tear during heavy rainfall and flooding events.
CLIMATE-24	• Thunderstorm – Illumination	• Dense clouds associated with thunderstorms can extend the duration of illumination of the roadway and therefore use up the battery charge. • Thunderstorms, including heavy precipitations, strong winds, lightning	• Operations	• Ministry of Transportation	• Not applicable	• Keep backup solar streetlights in stock in order to be able to replace quickly any damaged equipment after a thunderstorm.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to be Carried Forward to Construction / Operations
		and/or hail, can damage solar streetlights.				
CLIMATE-25	• Thunderstorm – Construction Camps	• Thunderstorms, combined with heavy winds, heavy precipitations, lightning, and/or hail, can cause damage to construction site equipment. • Thunderstorms can cause delays in construction and maintenance work.	• Construction	• Ministry of Labour, Immigration, Training and Skills Development • Health Canada • Ministry of Emergency Preparedness and Response	• Develop an Emergency Preparedness and Management Plan in the case of a thunderstorm.	• Secure construction equipment and material in preparation of thunderstorms (heavy wind). • Communicate the health risks of thunderstorms with the public. For example, track and share status of thunderstorms on display signs in construction camps and in community buildings. Use the following website to confirm threat (https://weather.gc.ca/lightning/index_e.html). • Implement an Emergency Preparedness and Management Plan in the case of a thunderstorm.
CLIMATE-26	• Thunderstorm – Rest stops and road turnout	• Thunderstorms, combined with heavy winds and/or precipitations, may cause flooding and soil erosion.	• Construction	• Ministry of Transportation	• Design drainage systems to cope with heavy rainfall with well defined overland flow routes.	• Not applicable
CLIMATE-27	• Thunderstorm – Rest stops and road turnout	• Thunderstorms, combined with heavy winds and/or precipitations, may cause flooding and soil erosion.	• Operations	• Ministry of Transportation	• Not applicable	• Increase inspections and maintenance after a thunderstorm to prevent the worsening of wear and tear of the rest stops and road turnouts.
CLIMATE-28	• Thunderstorm – People	• Thunderstorms, including heavy winds, heavy rain and lightning, can cause dangerous driving conditions which can lead to accidents.	• Construction • Operations	• Ministry of Labour, Immigration, Training and Skills Development • Health Canada • Ministry of Emergency Preparedness and Response	• Not applicable	• Establish a storm warning system that alerts road users in advance so that they can plan their travel. • Establish and communicate guidelines on what to do in case of a thunderstorm to road users.

AA1.4 References

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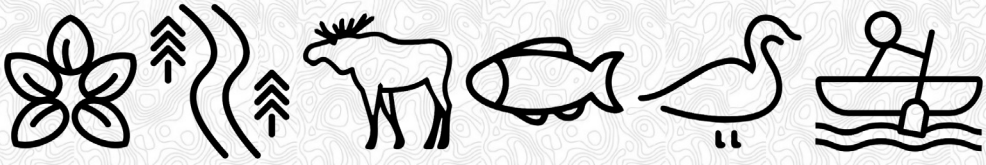
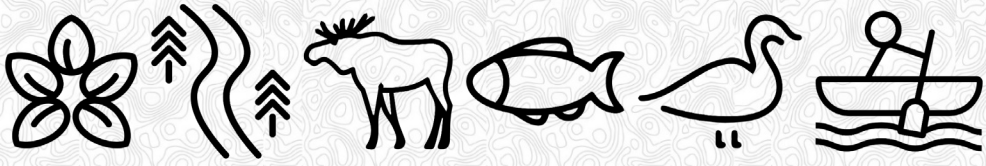
Phone: 1-800-764-9114 **Email:** eaisinput@martenfallsaccessroad.ca **Web:** http://www.martenfallsaccessroad.ca



Appendix AA2

Permits and Approvals



AA2.1 Permits and Approvals

To facilitate the construction of the Community Access Road, including construction activities and temporary infrastructure, Marten Falls First Nation will need to acquire permits and approvals from provincial, federal government and other jurisdictional agencies. A preliminary list of permits and approvals anticipated to be applicable or potentially applicable to the Project is provided in **Table AA2-1**. A complete list of permits and approvals will be determined and confirmed during detail design.

Table AA2-1: Summary of Potential Permits, Licenses, Approvals or Authorization Requirements for the Project

Permit / Approval	Issuing Authority	Purpose / Scope	Considerations /
Aggregate Permit under the *Aggregate Resources Act, 1990*	Ministry of Natural Resources	Permit required for the excavation of sand, gravel, clay, earth, or stone on private land in designated areas, Crown land or lake / riverbeds.	For a permit to be issued, additional studies, mitigation plans, consultation and monitoring commitments may be required. To be confirmed during detail design.
Approval under *Ontario Planning Act, 1990*	Ministry of Municipal Affairs and Housing	Approval required for official plan amendments, zoning by-law amendments and subdivision plans.	To be confirmed during detail design.
Environmental Compliance and Approval under *Ontario Environmental Assessment Act, 1990*	Ministry of the Environment, Conservation and Parks	Required for discharges to air, land, or water. Required to assess noise due to the extraction of aggregate from a pit and quarry. Required for Waste Management Systems.	Applicable if wastewater discharges to the environment are required. To be confirmed during detail design.
Registration, permit or authorization under *Ontario Endangered Species Act, 2007 or Species Conservation Act, 2025* (1)	Ministry of the Environment, Conservation and Parks Species at Risk Branch	Required to engage in activity that would potentially impact Species at Risk.	Should Lake Sturgeon be uplifted from *Species of Special Concern* to *Threatened* status, or any other species at risk be found in the Project area prior to the permitting phase of the Project, additional permitting may be required for these Species at Risk. To be confirmed during detail design.

Permit / Approval	Issuing Authority	Purpose / Scope	Considerations /
Permit or Approval under *Federal Species at Risk Act, 2002*	Environment and Climate Change Canada	Required if the Project activities will destroy or remove a Species at Risk listed under the Species at Risk Act 2002 or its habitat.	Should Lake Sturgeon be uplifted from *Species of Special Concern* to *Threatened* status, or any other species at risk be found in the Project area prior to the permitting phase of the Project, additional permitting may be required for these Species at Risk. To be confirmed during detail design.
Fisheries Act Authorization	Fisheries and Oceans Canada	Required for projects taking place in or near water where all Measures to Protect Fish and Fish Habitat (Fisheries and Oceans Canada, 2025a) cannot be met.	Fisheries and Oceans Canada will determine whether to provide a Letter of Advice or if a Fisheries Act Authorization is required. Will include preparation of a Request for Review from Fisheries and Ocean's Canada. To be confirmed during detail design.
Approval under the *Fish and Wildlife Conservation Act, 1997*	Ministry of Natural Resources	Required due to Project activities such as clearing, grubbing, blasting, dewatering, and damming that will result in the destruction of beaver dams, furbearer dens, black bear dens, and / or bird nests and eggs.	To be required for construction activities.
Wildlife Scientific Collectors Permit under the *Fish and Fish Habitat Conservation Act*	Ministry of Natural Resources	To facilitate capture and transfer of wildlife from one site to another.	May be required for construction activities (e.g. to relocate herpetofauna that are at risk of harm). Will be required prior to conducting wolverine hair snag surveys as part of the before-after control monitoring. Applicable if wildlife will be handled associated with the project construction. To be confirmed during detail design.
Permit under the *Migratory Birds Convention Act, 1994*	Environment and Climate Change Canada	If the Project activities will destroy, harm or harass any migratory birds or their nests. If a nest is found on a culvert or bridge and removal is needed.	To be confirmed at detail design.
Permit to Take Water, under the *Water Resources Act, 1990*	Ministry of the Environment, Conservation and Parks	Authorizes water withdrawals exceeding 50,000 L/day.	Applicable if dewatering or water supply is required, to be determined in detail design.

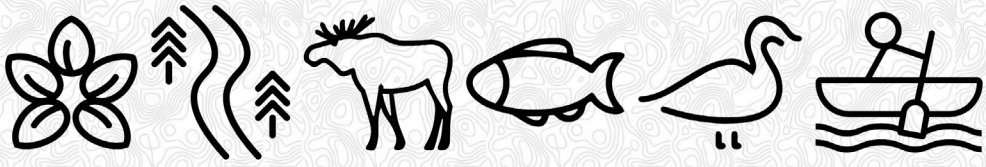
Permit / Approval	Issuing Authority	Purpose / Scope	Considerations /
Registration under the Environment Activity and Sector Registry	Ministry of the Environment, Conservation and Parks	Authorizes water withdrawals exceeding 50,000 L/day in certain cases instead of a Permit to Take Water.	Applicable if certain dewatering activities are required, to be confirmed in detail design.
Works Permits, Land Use Occupational Authority, and/or Letter of Authorization under *Lakes and Rivers Improvement Act, 2019*	Ministry of Natural Resources	Consult with Ontario Parks at detail design to determine permitting, mitigation and /or compensation / offsetting expectations for direct impacts to Provincial Parks.	Applicable for water crossings (for example, bridges, culverts). Fording of a waterbody. To be confirmed at detail design, in consultation with Ontario Parks.
Ministry of Citizenship and Multiculturalism concurrence with Cultural Heritage Evaluation Report and Heritage Impact Assessment and Minister's Consent under *Ontario Heritage Act, 1990*	Ministry of Citizenship and Multiculturalism	Minister's Consent may be required if a potential Buit Heritage Resource or Cultural Heritage Landscape is anticipated to be impacted by the Project and meets Ontario Regulation 10/06.	To be confirmed during detail design.
Acceptance of all Archaeological Assessments under the *Ontario Heritage Act, 1990*	Ministry of Citizenship and Multiculturalism	Review and acceptance of Archaeological Assessments.	Ministry of Citizenship and Multiculturalism acceptance of all Archaeological Assessments into Ontario Public Register of Archaeological Reports. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the Ontario Heritage Act. The proponent or 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 Ontario Heritage Act.
Notification of Human Remains under the *Funeral, Burial, and Cremation Services Act, 2002*	Registrar of Burial Sites, War Graves, Abandoned Cemeteries, and Cemetery Closures at the Ministry of Government and Consumer Services	If human remains are discovered during Archaeological Assessment.	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 and Procurement, which administers provisions of that Act related to burial sites. In situations where human remains are

Permit / Approval	Issuing Authority	Purpose / Scope	Considerations /
			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.
Mining Rights Withdrawal under the *Mining Act, 1990*	Ministry of Energy and Mines	To remove mining claims and exploration of the lands for the preferred route.	Application to be submitted by Right-of-Way owner.
Concurrence with the Project Evaluation Policy under the *Provincial Parks and Conservation Reserves Act, 2006*	Ministry of Environment, Conservation and Parks	Required for deregulation of Albany River Provincial Park.	To be confirmed during detail design.
Crown Land Plan	Ministry of Natural Resources	Required for acquisition and survey of lands for Road ownership.	To be confirmed during detail design.
Application for Approval for Scheduled Waterways under *Canadian Navigable Waters Act, 1985*	Transport Canada Navigation Protection Program	Required to confirm navigability of existing waterbodies.	To be confirmed during detail design.

Note: (1) On June 5, 2025 the Province of Ontario passed Bill 5: Protecting Ontario by Unleashing our *Economy Act*, 2025 which included amendments to the *Endangered Species Act*, 2007 that are currently in force, and the creation of the *Species Conservation Act*, 2025, which is not yet in effect.

Appendix AA3

Consultation Commitments



AA3 Consultation

The list of commitments to be carried over following the submission of the Final Environmental Assessment / Impact Statement are provided in **Table AA3-1.**

Table AA3-1: Consultation Commitments

Valued Component	Summary of Comment or Concern	Commenter	Project Phase	To be Carried Forward after Submission of the Final Environmental Assessment / Impact Statement to the appropriate Project phase
General\	Concerns regarding access and questions about the future management, operations, and maintenance of the Community Access Road.	Animbiigoo-Zaagi'igan Anishinaabek Constance Lake First Nation Marten Falls First Nation Red Sky Métis Independent Nation	Operations	Decisions and discussions on access will be the responsibility of the future owner / operator and the province.
Consultation / Field Work	Request for participation in fieldwork conducted in Aroland First Nation traditional territory.	Aroland First Nation	Detail Design	The MFFN CAR Project Team will continue to offer opportunities to participate in the field study programs and monitoring, when applicable.
Consultation	Original concern from the Progress Report: Aroland First Nation noted in 2022 that the community had not consented to the Community Access Road being built on their territory. Correspondence with Marten Falls First Nation to hold a Nation-to-Nation meeting followed. In 2024, a closed-door meeting was held between the two nations, followed by further meetings and correspondence.	Aroland First Nation	Detail Design Construction	The MFFN CAR Project Team encourages ongoing Nation-to-Nation meetings to continue dialogue about southern portions of the Community Access Road. The future owner / operator to continue dialogue with Aroland First Nation during construction.
Cultural Heritage and Archaeology	Request to be included as partners in the Archaeological study conducted in Aroland First Nation's Traditional Territory.	Aroland First Nation	Detail Design	If a Stage 3 Archaeological Assessment is required within Aroland First Nation territory, the MFFN CAR Project Team will invite Aroland First Nation on the Stage 3 Archaeology Assessment and share the report.
Aboriginal and/or Treaty Rights and Interests	Interest expressed in submitting existing and archival data and / or Indigenous Knowledge.	Constance Lake First Nation Long Lake #58 First Nation	Detail Design	Efforts to receive and incorporate Indigenous Knowledge from interested Indigenous Communities will continue to be pursued during detail design.
Cultural Heritage and Archaeology	Feedback on the Stage 1 Archaeology Assessment Report, expressing interest in collaborating to identify and assess archaeologically important areas.	Fort Albany First Nation	Detail Design	Per the Response to Fort Albany First Nation's feedback on the Stage 1 Archaeology Assessment Report, the MFFN CAR Project Team will assess any areas of archaeological importance that are identified by Fort Albany First Nation in the Stage 2 Archaeological Assessment fieldwork.
Aboriginal and/or Treaty Rights and Interests Cultural Heritage	A request for a ceremony to be held before construction of the road begins.	Ginoogaming First Nation	Construction	The request for a ceremony to be conducted prior to the start of construction will be considered by the future owner / operator of the road.
Community Well-Being	Assurances that employment and training opportunities for community members are accounted for in the Project contract.	Long Lake #58 First Nation Marten Falls First Nation	Construction	The owner / operator will share information about future training and employment opportunities related to construction in detail design, construction and / or maintenance phases.

Valued Component	Summary of Comment or Concern	Commenter	Project Phase	To be Carried Forward after Submission of the Final Environmental Assessment / Impact Statement to the appropriate Project phase
Community Well-Being	Provision of aggregate resources available for Project use.	Long Lake #58 First Nation Marten Falls First Nation	Construction	The owner / operator to continue conversations regarding potential aggregate supplies in the detail design, construction and / or operations phases.
Land and Resource Use Community Well-Being	Concerns about how construction camps will be managed and the potential environmental impacts.	Marten Falls First Nation	Construction	The future owner / operator will be responsible for construction related contracts. Environmental Protection Plans must be prepared by construction companies who are awarded work.
Cultural Heritage and Archaeology	Métis Nation of Ontario of noted that the methodology for the Stage 1 and Stage 2 Archaeological Reports only included “First Nations” or “European”, when Métis should fall under its own category.	Métis Nation of Ontario	Detail Design Construction Operations	The owner / operator will follow-up with Métis Nation of Ontario in relation to archaeology studies and information, as well as the inclusion of Métis in future archaeological studies, as a commitment into detail design, construction and / or maintenance.
Aboriginal and / or Treaty Rights and Interests	All Indigenous communities were provided a community-specific ATRI: Draft Impact Assessment Report in July 2025 with a 90-day review period. Feedback received to be incorporated into the Final ATRI Impact Assessment Report.	All Indigenous Communities	Post-Final EA / IS submission	Each community will receive their community-specific Final ATRI Impact Assessment following in spring 2026.
Land and Resource Use	Twin Lakes Outfitters expressed their concern about the river crossings that are close to their camps and the proposed worker camp site that are near them.	Twin Lakes Outfitters	Construction	The future owner / operator will continue consultation with Twin Lakes Outfitters into the detail design phase related to river crossings and proximity to camps.
Land and Resource Use	Inquiry as to who owns the logging rights to the wood that will be cut down (to clear the area for construction) and if there is an option for Marten Falls First Nation on-reserve membership to obtain the wood for heat.	Interested Person	Detail Design Construction	Consideration for the future owner / operator on how wood from clearing and grubbing operations (pre-construction) might be provided to Marten Falls First Nation for their use.
Land and Resource Use	Concerns raised about the potential impact of workers in the area accessing the river to fish.	Interested Person	Construction	The future owner / operator will be responsible for construction related contracts. Environmental Protection Plans must be prepared by construction companies who are awarded work and restrictions will be applied to workers at these camps.