

**Marathon Palladium Project  
Environmental Impact Statement  
Addendum**

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Environmental Assessment by Review  
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## Abbreviations

AIR	Additional Information Request
ARD/ML	Acid Rock Drainage / Metal Leaching
BN	Biigtigong Nishnaabeg
CIAR	Canadian Impact Assessment Registry
CMC	Carboxy-methyl-cellulose
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
EEM	Environmental Effects Monitoring
EIS	Environmental Impact Statement
EMMP	Environmental Monitoring and Management Program
EMS	Environmental Management System
EPRP	Emergency Preparedness and Response Plan
ESC	Erosion and Sediment Control
GenPGM	Generation PGM Inc.
GHG	Greenhouse Gas
HDPE	High Density Polyethylene
IDF	Intensity-Duration-Frequency
IR	Information Request
LSA	Local Study Area
MDMER	Metal and Diamond Mining Effluent Regulations
MECP	Ontario Ministry of the Environment, Conservation and Parks

## MARATHON PALLADIUM PROJECT ENVIRONMENTAL IMPACT STATEMENT ADDENDUM

MENDM	Ontario Ministry of Energy, Northern Development and Mines
MNRF	Ontario Ministry of Natural Resources and Forestry
MoU	Memorandum of Understanding
MRSA	Mine Rock Storage Area
MTO	Ministry of Transportation Ontario
NPC-300	Noise Pollution Control (Environmental Noise Guideline - Stationary and Transportation Sources - Approval and Planning, NPC-300)
OPP	Ontario Provincial Police
OPSS	Ontario Provincial Standard Specifications
PAG	Potentially Acid Generating
PM <sub>10</sub>	Particulate Matter (with a diameter of 10 microns or less)
PM <sub>2.5</sub>	Particulate Matter (with a diameter of 2.5 microns or less)
PSMF	Process Solids Management Facility
PTTW	Permit to take water
RSA	Regional Study Area
SIR	Supplemental Information Request
SSA	Site Study Area
SWM	Stormwater Management
TLRU	Traditional Land and Resource Use
TSP	Total Suspended Particulate
USEPA	United States Environmental Protection Agency
VEC	Valued Ecosystem Component
WHMIS	Workplace Hazardous Materials Information System
WMP	Water Management Pond

## MARATHON PALLADIUM PROJECT ENVIRONMENTAL IMPACT STATEMENT ADDENDUM

WRMMP	Waste and Recycling Material Management Program
WWR	Water well record

## 8.0 UPDATED TABLE OF COMMITMENTS

Chapter 8 of the original EIS (2012) included a Table of Commitments that the Proponent would carry out should the Project be approved and developed. These commitments pertained to the implementation of mitigation measures, environmental protection measures, contingency planning, monitoring, and reclamation / rehabilitation of the site upon closure. This Table of Commitments was updated in response to Additional Information Request (AIR) #14 ([CIAR #665](#)), which took into account the work undertaken in response to information requests (IRs), supplemental information requests (SIRs), and AIRs.

Table 8.1 provides an updated consolidation of Project commitments based on the results of the EIS Addendum. This table is generally organized according to the EMMP and VEC-specific measures proposed as part of the Project. GenPGM is committed to implementing these commitments should the Project be approved.

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<b>ENVIRONMENTAL MONITORING AND MANAGEMENT PROGRAM (EMMP)</b>	
<p>GenPGM’s EMMP is intended and will be designed to:</p> <ul style="list-style-type: none"> <li>• Maintain compliance with applicable performance standards (e.g., limits and requirements imposed or a result of approval of this EIS and subsequent federal and provincial permits and approvals)</li> <li>• Verify the predicted effects and effectiveness of mitigation measures</li> <li>• Reduce risk of potential accidents and malfunctions</li> <li>• Provide a structure for the implementation of an adaptive management strategy</li> <li>• Streamline program and subsequent plans to meet applicable Federal and Provincial regulatory requirements and informed by agreements and through consultation with Indigenous communities and the Town of Marathon</li> </ul>	<p>Conceptual EMMP developed through the EIS Addendum will be refined through detailed design and applicable permits and approvals.</p>
<p><b>Management Plans</b> will be developed and implemented for:</p> <ul style="list-style-type: none"> <li>• Waste and recycling material management (see Section 1.5.4.15 (EIS Addendum (Vol 1) <a href="#">(CIAR #727)</a> and Section 7.1.2.1 of this EIS Addendum [Vol 2])</li> <li>• Access management (see Section 1.5.4.11 of EIS Addendum [Vol 1])</li> <li>• Concentrate transfer station (rail load-out facility) management (see Section 1.5.6.3 of EIS Addendum (Vol 1))</li> <li>• Tailings (process solids) impoundment operations (see Section 1.5.4.6 of EIS Addendum [Vol 1])</li> <li>• Materials handling (non-mined materials) (see Sections 1.5.4.13 and 1.5.5 of EIS Addendum [Vol 1])</li> <li>• Emergency preparedness and response (see Section 7.1.2.2 of this EIS Addendum [Vol 2])</li> <li>• Erosion prevention and sediment control (see Sections 6.2.3 and 6.2.5 of this EIS Addendum [Vol 2])</li> <li>• Fish Habitat Offsetting Strategy and Compensation Plan (see Section 6.2.4 and Appendix D6 of this EIS Addendum [Vol 2])</li> <li>• Atmospheric quality management, including: <ul style="list-style-type: none"> <li>○ Air quality management (including air emissions and greenhouse gas (GHG)) (see Section 6.2.1 of this EIS Addendum [Vol 2])</li> <li>○ Noise management (including noise and vibration) (see Section 6.2.2 of this EIS Addendum [Vol 2])</li> </ul> </li> <li>• Water Management: <ul style="list-style-type: none"> <li>○ Surface water management (including quality and quantity) (see Section 1.5.4.8 of EIS Addendum (Vol 1) <a href="#">(CIAR #727)</a> and Section 6.2.3 of this EIS Addendum [Vol 2])</li> <li>○ Groundwater management (see Section 1.5.4.8 of EIS Addendum (Vol 1) and Section 6.2.3 of this EIS Addendum [Vol 2])</li> </ul> </li> <li>• Acid Rock Drainage / Metal Leaching (ARD/ML) management (see Sections 1.5.4 and 6.2.3 of this EIS Addendum [Vol 2])</li> <li>• Vegetation management (including invasive species) (see Section 6.2.6 of this EIS Addendum [Vol 2])</li> <li>• Wildlife and Species at Risk management (see Sections 6.2.7, 6.2.8 and 7.4.2 (wildlife-human conflicts) of this EIS Addendum [Vol 2])</li> <li>• Reclamation and closure (see Section 1.5.2.3 of EIS Addendum [Vol 1])</li> </ul>	<p>Conceptual information on these programs is provided in the original EIS (2012), responses to IRs, SIRs, and AIRs, and as updated to reflect project design changes in Chapter 1 (EIS Addendum Vol 1) and Chapter 7 of this EIS Addendum (Vol 2).</p> <p>Further, program details to be developed in consultation with applicable regulatory agencies and stakeholders after the EA process either as part of permitting, prior to commencement of Site Preparation and Construction.</p>

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• Soil salvage and storage (see Table 1.5-1 of EIS Addendum [Vol 1])</li> <li>• General construction and operations management (see Sections 1.5.2.1 and 1.5.2.2 of EIS Addendum [Vol 1])</li> <li>• Spills Prevention and Response Plan (See Sections 6.2.3 and 6.2.4 of this EIS Addendum [Vol 2])</li> <li>• Occupational health and safety (see Section 7.4 of this EIS Addendum [Vol 2])</li> </ul>	
<p><b>Follow-up and monitoring programs</b> will be developed and implemented for:</p> <ul style="list-style-type: none"> <li>• atmospheric environment (including air quality, noise, and greenhouse gases)</li> <li>• groundwater (including levels and quality)</li> <li>• surface water (including quality and quantity)</li> <li>• sediment and benthos</li> <li>• fish and fish habitat (including mitigation and compensation measures)</li> <li>• soils and terrain (including soil quality and geotechnical stability)</li> <li>• vegetation (including invasive and noxious plants)</li> <li>• wildlife (including wildlife mortality and encounters)</li> <li>• migratory birds (including conformity with the <i>Migratory Bird Convention Act</i>)</li> <li>• species at risk (including Woodland Caribou use)</li> <li>• socio-economics (including demography and community services / infrastructure usage)</li> <li>• human health (including connection to the air, surface water and groundwater programs)</li> <li>• country foods (including blueberries, fish, and moose)</li> <li>• archaeological and heritage resources</li> </ul> <p>Indigenous land use and rights, Indigenous employment and contracting, country foods, and archaeological resources will be monitored as part of the EMMP by GenPGM and in partnership with BN, the Town of Marathon and other Indigenous groups impacted by the Project.</p>	<p>Conceptual information on these programs is provided in the original EIS (2012), responses to IRs, SIRs, and AIRs, and in Chapter 7 of this report.</p> <p>Further, program details to be developed in consultation with applicable regulatory agencies and stakeholders after the EA process either as part of permitting, prior to commencement of Site Preparation and Construction or, in the case of socio-economics, in consultation with the Town of Marathon as part of current MoU discussions</p>
<b>INDIGENOUS CONSIDERATIONS</b>	
<p>All commitments made for the Project are proposed to reduce potential adverse environmental and social effects of the Project that could adversely affect Indigenous communities and people. With regard to Indigenous communities potentially affected by the Project, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Inform the design through consultation with communities, consideration of traditional knowledge/TLRU reports provided by communities and reduced the mine’s physical footprint</li> <li>• Maintain access to the Pic River via Camp 19 Road and to Bamooos Lake via the existing trail through Hare Lake</li> <li>• Develop a protocol for use of the initial portion of the Camp 19 Road from which there is access to the Pic River and other travel corridors used to access areas for traditional wildlife, fish and plant harvesting</li> <li>• Provide limited access to areas of the SSA that are outside of the primary areas of mining activity for Indigenous communities, to the extent possible</li> <li>• Design and operate the mine and associated infrastructure to reduce environmental effects (including the various measures described in</li> </ul>	<p>Throughout mine life, as appropriate</p>



**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<p>this table) with a focus on water and waterbodies identified by Indigenous communities as VECs, fisheries, and air quality</p> <ul style="list-style-type: none"> <li>• Provide appropriate accommodation for impacts to traditional land and resource use</li> <li>• Offer education and training programs to build capacity and increase employability and job ready skills to support Indigenous workers and offer employment opportunities to Indigenous workers</li> <li>• Work with economic development groups of Indigenous communities to increase contracting opportunities for qualified and cost-competitive bids</li> <li>• Establish a joint sustainability committee with representation from Indigenous communities that have demonstrated rights and use of the Project site and the Town of Marathon</li> <li>• Offer training, participation, development, and implementation of environmental monitoring programs</li> <li>• Ongoing Indigenous consultation on the results of the mine environmental effects monitoring (EEM) program through the joint sustainability committee</li> <li>• Implementation of a country foods monitoring program, as described in the response to AIR #16 (<a href="#">CIAR #659</a>)</li> <li>• Implement a Harvester Training Fund to support annual harvests and trapline training programs</li> <li>• Commitment to ongoing monitoring of socio-economic effects on the BN community</li> <li>• Compensation for the loss of access, economic benefits of trapping, and use of a portion of BN Community Trapline within the SSA</li> </ul> <p>Other measures, as appropriate, that may result from ongoing consultation and agreements with Indigenous communities affected by the Project.</p>	
<b>WASTE AND RECYCLING MATERIAL MANAGEMENT PROGRAM (WRMMP)</b>	
<p>GenPGM will develop and implement a WRMMP that will describe the Project’s waste storage and disposal infrastructure, which includes the following components:</p> <ul style="list-style-type: none"> <li>• A solid non-hazardous waste disposal area, currently envisioned to be a segregated portion of the process solids management facility (PSMF)</li> <li>• A material storage area, which allows storage of all recyclable and potentially re-usable items that will ultimately be shipped off site</li> <li>• A special waste area to handle certain wastes; for example, waste oil, oil filters, diesel fuel, anti-freeze, solvents, and lubricants (and containers in which they are contained), aerosol containers, hydraulic hoses and batteries</li> <li>• Proper on-site management and off-site disposal of food refuse, lubricants, and other waste that may be attractive to wildlife.</li> <li>• A hazardous waste area, which allows for temporary storage of all hazardous waste materials that will ultimately be shipped off site</li> <li>• A sewage system to manage sewage on site.</li> </ul> <p>On-site waste facilities will follow standard environmental protection measures; hazardous wastes will be stored in secondary containment, will be constructed to reduce footprint, and drainage will be managed within the PSMF.</p>	<p>WRMMP to be developed prior to commencement of Site Preparation and Construction</p>

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<p>Procedures and policies for the storage, transport and disposal of waste and recycling materials will be developed as part of the WRMMP. Waste management policies will be developed to meet current waste management legislation.</p>	
<b>MATERIAL HANDLING (NON-MINED MATERIAL)</b>	
<p>To mitigate the potential for an incident involving hauling concentrate, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Retain appropriately licensed or trained operators both for long distance transport of concentrate and for on-site haul trucks</li> <li>• Post and monitor speed limits along the site access road and roads within the site</li> <li>• Follow up with contractors/employees on reports of haul trucks travelling at excessive speeds</li> <li>• Equip trucks with soft covers to prevent dusting during transport</li> <li>• Require all trucks to have a means of communicating with the Project site or their dispatch</li> </ul>	<p>Throughout mine life as appropriate</p>
<p>To mitigate the potential of a chemical release during transport, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Only allow licensed companies to deliver to site</li> <li>• Require third-party contractors to have active service agreements with licensed release response contractors</li> <li>• Require all drivers to have appropriate training, including release response training</li> <li>• Require all trucks to have appropriate communication capabilities</li> <li>• Maintain vehicles and equipment operated by GenPGM that are used to transport chemicals</li> <li>• Post and monitor speed limits on the site access road and on-site roads</li> </ul>	<p>Throughout mine life as appropriate</p>
<p>To mitigate the potential of a fuel release during transport, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Only contract appropriately licensed companies and drivers to deliver to site</li> <li>• Require third-party contractors to have active service agreements with licensed release response contractors</li> <li>• Require all on-site drivers to be appropriately trained, including release response training</li> <li>• Require all trucks to have appropriate communication capabilities</li> <li>• Maintain vehicles operated by GenPGM</li> <li>• Post and monitor speed limits on the site access road and roads within the site and will follow-up with any reports of excess speed</li> </ul>	<p>Throughout mine life as appropriate</p>

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<p>To mitigate the potential of a fuel release from on-site storage, the facilities will contain the following design features:</p> <ul style="list-style-type: none"> <li>• Fuel storage areas (excluding small containers moveable by hand) will be isolated from watercourses, waterbodies and other sensitive environments by a minimum of 100 m</li> <li>• Areas used for day tanks will have been previously cleared to facilitate site development and will be isolated from sensitive features</li> <li>• Fuel storage equipment will comply with applicable legislative requirements</li> <li>• Tanks will have secondary containment and/or will be double-walled with collision protection</li> <li>• The main fuel farm will have lined aprons and collection catchments</li> <li>• Release response equipment will be maintained on site</li> <li>• Operational procedures will be posted at all storage facilities</li> <li>• A high-level alarm will be placed on Project storage tanks (or an equivalent approach will be provided), so that that the operators are made aware of the fill level during filling operations</li> <li>• Automatic shut-off valves and other such equipment will be installed to further reduce the risk of spills during fuel transfer operations</li> </ul> <p>Details regarding the safe handling and storage of fuels on site, and the measures to be followed in the event of an accidental spill, will be defined in an Emergency Preparedness and Response Plan and Materials Handling Plan</p>	<p>Throughout mine life as appropriate</p>
<p>To mitigate the potential of a fuel release during on-site dispensing, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Provide fuel dispensing equipment that complies with applicable legislative requirements</li> <li>• Require that mobile refuelling vehicles are properly maintained and inspected regularly for leaks</li> <li>• Maintain suitable setbacks and appropriate containment between portable dispensing equipment and sensitive environmental features</li> <li>• Design the main fuel dispensing location with compacted gravel or concrete containment pads with drive-on facilities capable of capturing minor releases</li> <li>• Maintain release response equipment on site</li> <li>• Develop operational procedures and training materials</li> <li>• Install automatic shut-off valves to further reduce the risk of spills during fuel transfer operations</li> </ul> <p>Details regarding the safe handling and storage of fuels on-site, and the measures to be followed in the event of an accidental spill, will be defined in a Materials Handling Plan (per EMMP) and EPRP.</p>	<p>Throughout mine life as appropriate</p>
<p>To mitigate the potential of an explosives incident, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Follow appropriate regulatory requirements, including the installation of chain-link fencing surrounding the explosives facility</li> <li>• If a third-party contractor is employed, they would be licensed to operate the storage facility and/or manufacturing plant, as well as using specifically designed secure storage magazines for blasting accessories</li> </ul>	<p>Throughout mine life as appropriate</p>

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• Follow good housekeeping practices</li> <li>• Develop explosives storage, handling, and blasting procedures and train personnel appropriately</li> <li>• Provide suitable protection for above ground fuel tanks used in the explosives manufacturing process in accordance with Subsection 4.3.7 of the National Fire Code of Canada (2015)</li> </ul> <p>Details regarding the safe handling and storage of explosives will be defined in procedures</p>	
<p>To mitigate the potential of a chemical release within the mine site, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Construct buildings or structures for chemical storage that include sealed floors and sumps or drains and collection tanks to contain material released to ground</li> <li>• Establish on-site transport routes with consideration of appropriate setbacks from environmentally sensitive features</li> <li>• Store and handle all chemicals as appropriate according to material safety data (MSD) sheet information</li> <li>• Appropriately train (e.g. WHMIS) all personnel handling chemicals</li> </ul> <p>Details regarding the safe handling and storage of chemicals on site and the measures to be followed in the event of an accidental spill will be defined in a Materials Handling (non-mined materials) Plan (per the EMMP) and EPRP</p>	Throughout mine life as appropriate
<b>EMERGENCY PREPAREDNESS AND RESPONSE PLAN (EPRP)</b>	
<p>GenPGM will develop and implement an EPRP in accordance with appropriate federal and provincial regulations that will include the following elements:</p> <ul style="list-style-type: none"> <li>• An emergency response policy – a concise policy that highlights the company’s commitment to and support for the EPRP</li> <li>• Roles and responsibilities – the identification of those responsible for emergency preparedness and response plan coordination and planning</li> <li>• An emergency identification, prevention and protection process – the EPRP will define resources as necessary to identify potential emergency situations that may arise and document appropriate prevention and protection measures</li> <li>• An emergency notification procedure – a procedure to notify required personnel in the event of an emergency - will be in place</li> <li>• The designation of an emergency management centre – the physical location of the emergency management centre will be identified and its location and telephone numbers shall be noted</li> <li>• The definition of duties and responsibilities of mine personnel – key emergency personnel will be named as individuals or named as per their job titles and their corresponding duties and responsibilities will be outlined</li> <li>• An evacuation plan – including escape routes and muster areas</li> <li>• A crisis communication plan – the EPRP will outline the means of communication in the event of an emergency or crisis</li> <li>• A training plan – a training plan for all individuals named in the emergency procedures will be developed and implemented so that key personnel will know how to react</li> </ul>	EPRP to be developed in consultation with the Town of Marathon and emergency service providers prior to commencement of Site Preparation and Construction

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>A continual improvement plan – the EPRP will be updated periodically according to standard industry practice and/or legal requirements as appropriate</li> </ul>	
<p>To mitigate the potential of project-related fires, GenPGM will:</p> <ul style="list-style-type: none"> <li>Install fire detection and alarm systems, where appropriate</li> <li>Co-ordinate with local emergency response services</li> <li>Design fire protection systems consistent with applicable codes and regulations</li> <li>Equip remote buildings with portable extinguishers</li> <li>Have a pumper truck on site equipped with a foam generation system</li> <li>Prepare a fire response plan and conduct regular fire drills</li> </ul> <p>Details regarding fire safety, prevention and response will be defined in the EPRP</p>	Throughout mine life as appropriate
<p>To mitigate the potential for a process solids slurry or reclaim water pipeline failure, GenPGM will:</p> <ul style="list-style-type: none"> <li>Specify that the pipeline design considers appropriate safety factors</li> <li>Route the pipelines in a manner that allows for access and inspection</li> <li>Regularly inspect the pipeline</li> <li>Position pipelines, where possible, to direct a release resulting from a failure into the PSMF or other means of containment</li> <li>Route pipelines away from sensitive environmental features, where practical</li> <li>Install emergency catchment features (e.g., berms, ditches and catch basins) to manage the risk of failure that may result in the release of material to a sensitive environmental feature</li> <li>Install a telemetric flow meter on the pipeline to monitor real-time pipeline flow rates</li> </ul> <p>Details regarding the measures to be followed in the event of a process solids slurry or reclaim water pipeline failure will be defined in the EPRP.</p>	Throughout mine life as appropriate
<b>ACCESS MANAGEMENT</b>	
<p>To provide and manage access to the mine site, GenPGM will:</p> <ul style="list-style-type: none"> <li>Construct a new site access road joining the mine to Camp 19 Road</li> <li>Construct and operate a site guard house (security) and gate near the entrance to the mine site, which will be staffed 24 hours a day, to restrict access to the site.</li> <li>Maintain access to the Pic River via Camp 19 Road and to Bamooos Lake via the existing trail through Hare Lake</li> </ul>	Throughout mine life as appropriate
<b>CONCENTRATE TRANSFER STATION (RAIL LOAD-OUT FACILITY) MANAGEMENT</b>	
<p>If the rail load-out option is selected, it will contain the following design features:</p> <ul style="list-style-type: none"> <li>A concentrate storage building that is enclosed</li> <li>Equip trucks with soft covers to prevent dusting during transport</li> <li>Unload concentrate either by bottom dumping from the bottom of the trailer or as a side tip arrangement directly onto a concrete floor slab. Concentrate will be transferred to rail cars with a dedicated rubber-tired loader that remains within the load-out facility</li> <li>Drainage capture points to hold spills or overfills at the facility</li> </ul>	Throughout mine life as appropriate

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>An appropriate setback distance and engineered controls to meet applicable air and noise criteria</li> </ul>	
<p>To reduce potential noise and vibrations associated with the rail load-out facility, specific mitigation strategies will be implemented such as:</p> <ul style="list-style-type: none"> <li>Shunting concentrate rail cars at the rail load-out facility only during the daytime hours of 7:00 am to 7:00 pm</li> <li>Limiting shunting of concentrate rail cars to allow the rail carrier to complete a pickup</li> <li>Only shunt concentrate rail cars in the zones where compliance with applicable NPC-300 impulsive noise criteria can be met</li> </ul>	Throughout mine life as appropriate
<b>TAILINGS (PROCESS SOLIDS) IMPOUNDMENT OPERATIONS</b>	
<p>To mitigate the potential for unanticipated seepage from the PSMF, GenPGM will:</p> <ul style="list-style-type: none"> <li>Design the upstream surface and bedrock interface of the PSMF to be appropriately lined or sealed to decrease dam permeability, more specifically:                             <ul style="list-style-type: none"> <li>Install HDPE liner or better technology on upstream face of embankments where designed</li> <li>Appropriately anchor liner material to manage seepage between the liner and permeable bedrock</li> </ul> </li> <li>Clean and inspect bedrock surfaces and treat them with slush grout where required</li> <li>Develop a process solids deposition plan and management strategy aimed at maintaining potentially reactive Type 2 material in a saturated state to prevent oxidation</li> <li>Monitor seepage during and after operations, pursuant to the Water Monitoring Plan</li> <li>Install seepage collection basins and ditches along the downstream toes of dams to intercept seepage water and runoff water from the embankments</li> <li>Install groundwater monitoring wells downgradient of the PSMF</li> </ul> <p>Details regarding the design of the PSMF, including associated tailings impoundment operations and ARD/ML management, will be defined in the Operations, Maintenance and Surveillance Manual for the PSMF (per the EMMP)</p>	Throughout mine life as appropriate
<p>To mitigate the potential of a PSMF slope failure, conservative design criteria and design safeguards have been incorporated into the PSMF including:</p> <ul style="list-style-type: none"> <li>A design that meets or exceeds the requirements of the <i>Lakes and Rivers Improvement Act</i> and the Canadian Dam Association safety guidelines</li> <li>Maintain an Engineer of Record for dam construction, raises and operation</li> <li>Spillway design to allow controlled release of the intensity-duration-frequency (IDF) during all PSMF development stages</li> <li>Install survey monuments on the crests of the embankments to monitor for potential settlement and/or movement and monitoring phreatic surfaces within the embankments</li> <li>Reduce free standing water behind dam structures at closure</li> <li>Complete dam safety inspections at appropriate intervals</li> </ul>	Throughout mine life as appropriate

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Commitment	Timing
<ul style="list-style-type: none"> <li>Develop and implement an Operations, Maintenance and Surveillance Manual detailing regular monitoring, inspection and reporting requirements and emergency response measures in the event of upset operating conditions</li> </ul> <p>Details regarding the design of the PSMF and geotechnical stability will be defined in the design summary report for the PSMF.</p>	
<b>EROSION AND SEDIMENT CONTROL</b>	
<p>To mitigate adverse effects on erosion and sediment in receiving watercourses, including effects on sediment quality and benthos, GenPGM will:</p> <ul style="list-style-type: none"> <li>Reduce the potential loss of aquatic habitat through mine design by reducing the level of interaction between aquatic habitat features and Project infrastructure</li> <li>Comply with water discharge requirements as defined in the Metal and Diamond Mining Effluent Regulations (MDMER) and Environmental Compliance Approval (provincial)</li> <li>Employ standard management practices for erosion control such as:                             <ul style="list-style-type: none"> <li>Isolating disturbed areas with sediment fences, sediment curtains, or similar structures</li> <li>Maintaining appropriate work area setbacks from surface water features</li> <li>Grading and/or covering surfaces to reduce erosion potential</li> <li>Controlling run-off from erosion-sensitive features</li> <li>Providing settling ponds or basins in which solids can be collected (i.e., WMP and SWM Pond)</li> <li>Promptly stabilize shoreline or banks disturbed by activities associated with the Project to prevent erosion and/or sedimentation, preferably through revegetation with native species appropriate for the site</li> </ul> </li> </ul> <p>Details regarding the management of sediment quality and measures to protect benthos will be defined in the Water Management Plan and the Erosion and Sediment Control (ESC) Plan.</p>	Throughout mine life as appropriate
<p>To mitigate the potential of an MRSA slope failure and release of mine rock to the Pic River, the MRSA design criteria and safeguards will include:</p> <ul style="list-style-type: none"> <li>Slope angles that do not exceed the natural angle of repose and maintain a suitable factor of safety as defined by a professional engineer</li> <li>Utilization of the natural site topography to support and contain the MRSA</li> <li>Foundation will consist of bedrock or suitably competent material</li> <li>Adequate setback from the Pic River</li> </ul> <p>Details regarding the design of the MRSA and geotechnical stability will be defined in the design summary report for the MRSA (per the EMMP)</p>	Throughout mine life as appropriate
<b>FISH AND FISH HABITAT</b>	
<p>To mitigate and compensate for adverse effects on fish and fish habitat, GenPGM will:</p> <ul style="list-style-type: none"> <li>Develop and implement an offset plan under Section 35(2) and Section 27.1 of MDMER of the <i>Fisheries Act</i> to offset project-related</li> </ul>	Throughout mine life as appropriate

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<p>effects to fish and fish habitat and restoration of Streams 2, 3 and 6 after closure</p> <ul style="list-style-type: none"> <li>• Apply culvert design, installation and maintenance that follows and conforms to appropriate DFO and MNRF operational statements, guidance, interim codes of practice, and protocols including:               <ul style="list-style-type: none"> <li>○ Sizing culverts to convey water under high flow conditions</li> <li>○ Maintaining fish passage during low flow conditions</li> <li>○ Embedding the culverts to allow the creation of natural substrates</li> </ul> </li> <li>• Implement PSMF discharge pipeline design that follows and conforms to appropriate DFO and MNRF operational statements, guidance and protocols including but not limited to:               <ul style="list-style-type: none"> <li>○ Scheduling the constructing and decommissioning work to coincide with times of year that reduce risk to resident fish species as necessary (i.e., fisheries timing windows)</li> <li>○ Avoiding where possible or maintaining setbacks and buffers from sensitive features, where necessary</li> <li>○ Isolating access and work areas with temporary sediment control features such as berms and providing for the collection of drainage from disturbed areas</li> <li>○ Restoring disturbed areas as soon as is practical following disturbance</li> <li>○ incorporate an end-of-pipe screen compliant with the DFO guidelines, or a screen design otherwise approved by DFO</li> </ul> </li> <li>• Implement management practices for work around water including:               <ul style="list-style-type: none"> <li>○ Avoiding where possible or maintaining setbacks from sensitive features</li> <li>○ Isolating work areas via temporary berms</li> <li>○ Providing for the collection of drainage from disturbed areas in channels and settling basins</li> <li>○ Restoration of disturbed areas as soon as is practical following disturbance</li> </ul> </li> <li>• Implement management practices for work in water including:               <ul style="list-style-type: none"> <li>○ Avoiding using explosives in or near water. Where this is necessary use the guidelines for the <i>DFO Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters</i> (Wright and Hopky 1998) to identify appropriate setback distances to avoid lethal or sub-lethal effects to fish</li> <li>○ Planning in-water work, undertaking or activity to respect timing windows to protect fish, including their eggs, juveniles, spawning adults, the organisms upon which they feed and migrate.</li> <li>○ Where possible conduct instream work during periods of low flow (e.g., summer or winter) to further reduce the risk to fish</li> <li>○ Whenever possible, operate machinery on land above the high-water mark, on ice, or from a floating barge in a manner that limits disturbance to the banks and bed of the waterbody</li> <li>○ Adherence, as applicable, to the Interim Code of Practice for Temporary Cofferdams and Diversion Channels (DFO, 2020)</li> <li>○ Prior to commencement of work, prepare and execute a fish salvage plan in discussion with responsible authorities</li> </ul> </li> </ul>	



**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• Water takings from local surface waters would incorporate an end-of-pipe screen compliant with the DFO guidelines, or a screen design otherwise approved by DFO</li> <li>• Limit access to waterbodies and banks to protect riparian vegetation and limit bank erosion</li> <li>• Allow controlled access to Claw Lake for baitfish collection</li> <li>• Focus fish monitoring programs in water bodies such as Pic River extending downstream of the Project site to the mouth of Lake Superior, the outlet of Hare Creek at Port Munro and Stream 6 (Angler Creek) and the outlet at Sturdee Cove that are important VECs to Indigenous communities and work with associated communities to develop and implement the program.</li> </ul> <p>Details regarding mitigation measures and compensation habitat to offset adverse effects on fish and fish habitat will be defined in the Updated Proposed Fish Habitat Offsetting Strategy and Compensation Plan</p>	
<b>ATMOSPHERIC QUALITY MANAGEMENT</b>	
<p>To mitigate emissions of fugitive dust (TSP, PM<sub>10</sub>, PM<sub>2.5</sub>), associated metals, and SO<sub>2</sub> emissions, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Maintain all site roadways in good condition, with regular inspections and timely repairs to reduce silt loading on the roads</li> <li>• Implement standard dust suppression activities such as water sprays, regular road maintenance and posting and monitoring of speed limits</li> <li>• Apply water on roads and construction areas when conditions require and / or apply calcium or magnesium chloride to roads seasonally and when initial application is no longer achieving mitigation</li> <li>• Equip the concentrate handling facility with fugitive emission control technology</li> <li>• Load trucks with concentrate, during operation, in a covered environment</li> <li>• Reduce the amount of beach exposed in Cell 2 of the PSMF and mitigate airborne dust by wetting or chemically stabilizing exposed beach areas with polymers and/or “crusting” agents as is safe and practicable</li> <li>• Maintain water cover on Cell 1 in the PSMF during operations</li> <li>• Locate the primary crusher within an enclosed structure with an appropriate dust collection system</li> <li>• Cover the crushed ore stockpile</li> <li>• Install dust collection on the lime delivery, lime slaking and CMC feed bin systems</li> <li>• Control particulate emissions from the assay lab, assay furnace and cupel furnace with dust collectors</li> <li>• Provide scrubbers on the base metals fume hood and the assay lab AA unit</li> <li>• Reclaim, in a progressive manner as reasonable and practicable, exposed surfaces that are dust sources, especially during decommissioning and closure</li> <li>• Use low sulphur diesel for equipment</li> <li>• Use and properly maintain equipment that meets Transport Canada off-road emission requirements</li> </ul>	<p>Throughout mine life as appropriate</p>

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• Purchase new mining vehicles and mining equipment that meet US EPA Tier 4 emission standards</li> <li>• Monitor fugitive dust from the site</li> <li>• Aggregate crushing systems will include the use of water addition and water sprays to maintain moisture levels to effectively suppress and mitigate the generation of dust</li> <li>• incorporating design features such as wind breaks to limit fugitive dust emissions.</li> </ul> <p>Details regarding the mitigation and management measures to be implemented to reduce air emissions from mobile and non-mobile equipment will be defined in an Atmospheric Management Plan (per EMMP)</p>	
<p>To mitigate the potential for effects from noise, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Purchase vehicles and equipment that meet the applicable noise suppression regulations</li> <li>• Schedule concentrate delivery at times of the day to reduce complaints whenever possible</li> <li>• Implement an overpressure and vibration monitoring program on-site upon commencement of blasting operations, assessing and modifying the program as site specific data becomes available</li> </ul> <p>Details regarding the mitigation and management measures to be implemented to reduce noise emissions from mobile and non-mobile equipment will be defined in an Atmospheric Management Plan (per the EMMP)</p>	
<p>A formal complaints procedure for nuisance noise will be established for stakeholders and Indigenous peoples during the construction, operation, and decommissioning phases of the Project. A response protocol will also be established so that appropriate follow up occurs.</p>	<p>Procedure to be developed prior to Site Preparation and Construction</p>
<p>To reduce potential light emissions, specific mitigation strategies will be implemented such as:</p> <ul style="list-style-type: none"> <li>• Optimization of lighting design to reduce total amount of lighting needed</li> <li>• Using directional lighting</li> <li>• Using shielded fixtures to reduce glare, reduce sideways and upward light leakage, and light pollution</li> <li>• Affixing fixtures on poles or buildings at the lowest possible height</li> </ul>	<p>Throughout mine life as appropriate</p>
<b>SURFACE WATER QUALITY AND QUANTITY</b>	
<p>To mitigate adverse effects on surface water quality, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Develop and implement a site-wide water management plan that provides an integrated framework to manage water quality that includes provision for water management practices for each of the primary site aspects, as well as areas of the site where there is contact water. The overarching goal of the plan is to maintain care and control of water during all mine phases for the purpose protecting downstream uses (habitats, aquatic biota, use by people).</li> <li>• Plan activities near water such that deleterious materials including, but not limited to, paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals do not enter the watercourse</li> </ul>	<p>Throughout mine life as appropriate</p>

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• Wash, refuel, and service machinery and store fuel and other materials for the machinery in a manner that prevents deleterious substances from entering the water</li> <li>• Implement a Spill Prevention and Response Plan (SPRP)</li> <li>• For operations, develop and implement appropriate operating practices for explosives and blasting operations to reduce nitrogen residuals in mine water.</li> <li>• For operations, collection of water associated with the MRSA and management of these waters so that there will not be a routine discharge to the Pic River.</li> <li>• Maintaining the water management system in place during the closure phase of the Project until such time that water quality is suitable to release to the environment.</li> <li>• Monitoring and management/treatment as required so that water discharge objectives are achieved as defined in the Environmental Compliance Approval (provincial) and the <i>Metal and Diamond Mining Effluent Regulations</i>.</li> <li>• Develop and implement focused monitoring programs on waterbodies such as Pic River extending downstream of the Project site to the mouth of Lake Superior, the outlet of Hare Creek at Port Munro and Stream 6 (Angler Creek) and the outlet at Sturdee Cove that have significance to Indigenous communities.</li> <li>• Work with the associated communities to develop and implement the program and develop a framework to share the results for the purpose of assessing the performance of the water management system.</li> </ul> <p>Details regarding the management of surface water will be defined in the Water Management Plan and the Erosion and Sediment Control Plan.</p>	
<p>To mitigate adverse effects on surface water quantity, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Appropriately size water management design features (e.g., retention and collection ponds, drainage infrastructure, ditches) to manage water volumes associated with storm and/or flow events</li> <li>• Plan to discharge only that water from the site that is considered excess from a management/need point of view (e.g., recycle and re-use water as much as practical)</li> <li>• Diversion of surface water runoff from undisturbed areas away from disturbed areas</li> <li>• Discharge water from the site in a manner that is consistent with the natural hydrograph of the receiving water body</li> <li>• Monitor the quantity of water taken from Hare Lake, Pic River, or other surface water sources as per PTTW requirements</li> <li>• Monitor the quantity of water discharged from the site</li> <li>• Restore natural drainage patterns to the extent possible at the end of the mine life</li> </ul> <p>Details regarding the management of surface water, including water balance, intake and discharge, will be defined in the Water Management Plan</p>	<p>Throughout mine life as appropriate</p>

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<b>GROUNDWATER</b>	
<p>To mitigate adverse effects on groundwater quantity and quality, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Limit construction footprint (i.e., SSA) to the extent possible to reduce the potential for reductions in groundwater recharge and limit the number of watersheds overprinted by the SSA</li> <li>• Use standard management practices throughout the Project, including drainage control and excavation and open pit dewatering</li> <li>• Use standard construction methods, such as seepage cutoff collars, where trenches extend below the water table to mitigate preferential flow paths</li> <li>• Design the MRSA to increase the amount of runoff and reduce the amount of infiltration through the MRSA, thereby reducing the recharge and loading to groundwater</li> <li>• Monitoring locations will be maintained until the location is no longer required. If a monitoring location/station is no longer required but is identified as part of a regulatory approval, it will only be removed from the monitoring program once the required amendments are approved</li> <li>• Monitor groundwater levels and water quality in monitoring wells upgradient, cross-gradient, and downgradient of the MRSA and PSMF to monitor for changes in groundwater quality and flow regime due to Project development</li> <li>• Monitor groundwater levels and water quality in background monitoring wells</li> <li>• Collaborate with BN to identify any groundwater springs on the east site of SSA that are important to the community for consideration as part of the monitoring program</li> <li>• Complete a water well survey within and adjacent to the SSA to confirm the results of the MECP WWR and PTTW database review.</li> </ul>	
<b>ACID ROCK DRAINAGE AND METAL LEACHING MANAGEMENT</b>	
<p>To properly manage potential acid-generating mine rock, GenPGM will implement a mine rock segregation program that includes the following:</p> <ul style="list-style-type: none"> <li>• Developing a detailed mine rock management strategy centering around the distribution of Type 1 (non-PAG) and Type 2 (PAG) materials, including the selection of materials to be used for mine site construction</li> <li>• Storing Type 2 rock in designated areas to allow for effective drainage management</li> <li>• Stockpiling Type 1 rock in the MRSA and only using Type 1 rock for site construction</li> <li>• Maintaining a sulfur content cut-off percentage of 0.18% that distinguishes Type 1 (non-PAG) and Type 2 (PAG) material</li> <li>• Developing a program of ongoing testing that will be carried out during operations to assess the metal leaching and acid-generating potential of mine rock being removed to confirm water quality predictions</li> <li>• Employ high precision GPS and associated technology on loading units to identify ore grades within the deposit to segregate Type 1 and Type 2 mine rock as it is mined from the open pits</li> </ul>	Throughout mine life as appropriate

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>Permanent storage of Type 2 rock in a saturated state to prevent ARD after closure</li> </ul> <p>Details regarding the management of ARD / ML will be defined in the EMMP.</p>	
<p>To properly manage Type 1 and Type 2 process solids in the PSMF, GenPGM will:</p> <ul style="list-style-type: none"> <li>Sample Type 1 process solids during operations to verify the low sulphur content and confirm material as non-PAG</li> <li>Separate Type 1 and Type 2 process solids in the Process Plant and manage separately in the PSMF</li> <li>Permanently store Type 2 material below the water table</li> <li>Cover Type 2 process solids with a minimum 2 m layer of Type 1 process solids in the PSMF at closure</li> <li>Run humidity cell tests on Type 1 run-of-mill process solids to confirm water quality predictions</li> </ul> <p>Details regarding the management of the PSMF, including associated tailings impoundment operations and ARD / ML management, will be defined in the Operation, Maintenance and Surveillance Manual for the PSMF</p>	Throughout mine life as appropriate
<b>VEGETATION MANAGEMENT</b>	
<p>To mitigate adverse effects on vegetation, GenPGM will:</p> <ul style="list-style-type: none"> <li>Optimize the location of the site infrastructure (e.g., pit development, aggregate and rock fill supply) and size of the footprint to reduce the potential effects on the environment</li> <li>Transplant rare plants found on site to other local sites as described in the response to AIR# 9</li> <li>Implement mitigation measures associated with dust creation, as noted under atmospheric quality management above</li> <li>Construct a concentrate handling facility within a reduced footprint, and, if possible, within a previously disturbed or developed site</li> <li>Implement a number of additional measures to reduce the effect of the transmission line (and access road) such as:                         <ul style="list-style-type: none"> <li>Leaving vegetated buffer zones around watercourses and other sensitive features</li> <li>Leaving lower vegetation in place while harvesting larger trees</li> <li>Not grading or stripping within the transmission line corridor to the extent that the mitigation of potential fire hazards allows</li> <li>Hand-clearing vegetation at sensitive stream crossings and within erosion control zones to reduce soil disturbance</li> <li>Seeding the transmission line corridor and decommissioned roads at closure (consistent with the Closure Plan)</li> <li>Stabilizing disturbed soil to assist vegetation regrowth and to control erosion</li> </ul> </li> <li>Development of the reclamation plan and progressive reclamation commencing as early in the site development process as practicable to provide early re-establishment of vegetation</li> <li>Rehabilitation of as much of the mine site as possible to a natural even-aged conifer dominated forest after decommissioning</li> </ul>	Throughout mine life as appropriate

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• Vegetation control measures consistent with provincial standards</li> <li>• Re-vegetate approximately 275 ha of PSMF and 85 ha of the horizontal portion of the MRSA benches, augmenting with overburden and seed as needed.</li> <li>• Incorporation of plant species of interest to Indigenous communities during rehabilitation) where the use of these species is appropriate and technically feasible</li> <li>• Removing buildings and covering other disturbed surfaces with overburden as needed, and seed at closure (consistent with the Conceptual Closure Plan)</li> <li>• Implement specific mitigation measures to prevent establishment of invasive species such as:                             <ul style="list-style-type: none"> <li>○ Implementing an invasive species awareness and control program</li> <li>○ Isolating sensitive areas until adequate native vegetation is established through reclamation</li> <li>○ Maintaining healthy, non-invasive, vegetative cover wherever possible on site</li> <li>○ Managing areas with exposed soil to prevent the establishment of unwanted vegetation in disturbed/high traffic areas</li> <li>○ Evaluating the quality control of reclamation seed mixes so that seed mixes are of high quality</li> <li>○ Progressive reclamation of disturbed lands</li> </ul> </li> </ul>	
<b>WILDLIFE AND SPECIES AT RISK MANAGEMENT</b>	
<p>To mitigate adverse effects on wildlife during construction of the transmission line, GenPGM will:</p> <ul style="list-style-type: none"> <li>• avoid, where practical, clearing of vegetation during bird nesting and bat breeding season</li> </ul>	Throughout mine life as appropriate
<p>To mitigate adverse effects on wildlife, GenPGM will implement the following general wildlife mitigation measures:</p> <ul style="list-style-type: none"> <li>• Reclamation plans that aim to restore forest habitat</li> <li>• Posting speed limits on roads to reduce collisions</li> <li>• Sufficiently clear ROW to provide adequate lines of sight to give advance warning of wildlife, particularly on corners</li> <li>• Installing wildlife crossing signs at the beginning of the main access road coming from both directions and at strategic locations, as necessary</li> <li>• Driver training to reduce risk of collision</li> <li>• Plowing practices in winter that provide gaps where mammals can easily exit the road (OMNR 2013).</li> <li>• Decommissioning roads and transmission line by re-establishing vegetation consistent with the Caribou Conservation Plan</li> <li>• Stabilizing disturbed soil to assist vegetation regrowth and to control erosion</li> <li>• Removing animal remains from active mining areas and mine roads to protect raptors and scavengers who might feed on them</li> <li>• Establishment of a wildlife policy and training, including SAR awareness training, to reduce human interaction with wildlife and decrease the potential for habituation, including strict waste management protocols to limit human food sources for wildlife (e.g. bird feeders)</li> </ul>	Throughout mine life as appropriate

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• Designing the site infrastructure to reduce the area of the disturbed footprint therefore reducing habitat alteration with special attention paid to sensitive habitats (i.e., water crossings)</li> <li>• Avoiding direct impacts to identified raptor nesting areas and contacting a qualified avian biologist for direction</li> <li>• Using directional lighting</li> <li>• Installing luminescent and/or reflective markers on transmission lines over Canoe Lake where there is greater risk of collision due to the topography and presence of waterbodies</li> <li>• Clearing vegetation within 50 m of the side of building with windows to reduce potential bird abundance and collisions, where practical</li> <li>• Proper handling and disposal of road salt, reagents used in ore processing, or other substances that may be attractive to moose or other mammals craving dietary salt or trace minerals.</li> </ul>	
<p>To mitigate adverse effects on nesting birds, GenPGM will implement the following wildlife mitigation measures:</p> <ul style="list-style-type: none"> <li>• All clearing will be completed in accordance with the <i>Migratory Bird Convention Act, Fish and Wildlife Conservation Act</i> and other applicable guidance thereunder</li> <li>• Where possible, tree and brush clearing will be scheduled outside the bird nesting season</li> <li>• Where tree and brush clearing occur during the migratory bird nesting season, areas that are to be cleared will be surveyed for nest sites, and any identified nests will be marked, and appropriate protections put in place to prevent such trees from being harvested at that time</li> </ul>	Throughout mine life as appropriate
<p>To mitigate adverse effects on bats and bat habitat, GenPGM will implement the following wildlife mitigation measures:</p> <ul style="list-style-type: none"> <li>• Avoiding forest clearing during the window May 15 to August 31 to reduce the risk of destruction of bat occupied maternity trees.</li> <li>• If limited clearing must be done during this window, bat maternity surveys using the Significant Wildlife Habitat and Wind Project Protocol would be used to confirm bat presence/absence in any suitable trees (e.g., large diameter chicots) and appropriate protection measures applied</li> <li>• Installation of bat boxes as an alternate form of maternity roost in LSA</li> </ul>	Throughout mine life as appropriate
<p>To decrease potential effects on Woodland Caribou habitat, GenPGM will implement the following on-site mitigation measures:</p> <ul style="list-style-type: none"> <li>• Reducing the design footprint of the mine and associated infrastructure</li> <li>• Suspended construction activities if individual caribou are observed until caribou have left the area and the observation reported to the MNRF</li> <li>• Prohibition of hunting by Project personnel at the Project site to avoid risk of inadvertent caribou mortality due to misidentification or poaching</li> <li>• Prohibition of recreation of snowmobile and ATV / UTV use by Project personnel at the Project site</li> <li>• Posting educational signage at the start of the access road to increase awareness of the potential presence of caribou to reduce</li> </ul>	Throughout mine life as appropriate

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<p>the potential for collisions, encourage reporting, and reduce accidental hunting mortality.</p> <ul style="list-style-type: none"> <li>• Pits and trenches that are not geologically important will be backfilled or contoured to a stable angle of repose and, if greater than 3 m deep, will provide at least one sloped ramp as a point of egress for caribou</li> <li>• Non backfilled pits or trenches &gt;3m deep will be fenced unless a means of egress for caribou is provided by a sloped ramp</li> <li>• Disturbed bedrock will be stockpiled on site in a safe and stable manner</li> <li>• Non-merchantable timber and slash will be piled at appropriate locations along trails and roads to reduce predator sight lines and foraging efficiency. Trails will be otherwise left for natural regeneration</li> </ul>	
<p>To benefit off-site Woodland Caribou, GenPGM will implement the following off-site mitigation measures to be developed in consultation with MNRF and BN:</p> <ul style="list-style-type: none"> <li>• Selection of locations for rehabilitation that will provide connectivity, consider landscapes on a regional scale, and builds off the long-term caribou and forest management plan for the region</li> <li>• Enhanced silviculture (e.g. aerial/ground spray, infill planting, seeding, clearing, tending, slash pile burning, etc.) and road decommissioning, where appropriate</li> <li>• An effectiveness monitoring program that will focus on the success of the silviculture treatments</li> </ul> <p>Details regarding off-site mitigation for Woodland Caribou will be defined in the Updated Caribou Habitat Offset Mitigation Report</p>	<p>Throughout mine life as appropriate</p>
<b>RECLAMATION AND CLOSURE</b>	
<p>The draft Closure Plan includes activities designed so that the mine site is decommissioned and closed in a manner that reduces the potential effects on the social and natural environments and, to the extent possible, returns the site to a land use that is supported by Indigenous peoples, the public, government and wildlife including:</p> <ul style="list-style-type: none"> <li>• Restoring the natural drainage patterns as much as possible</li> <li>• Taking reasonable steps to reclaim some disturbed areas of the Project site in a progressive manner, including re-establishment of vegetation conditions supportive of Woodland Caribou, monarch and yellow-banded bumble bees where possible</li> <li>• Maintaining overall MRSA slopes of approximately 2.3 horizontal:1 vertical (2.3H:1V), with minor re-contouring of the overall slopes at closure</li> <li>• Contouring slopes of the PSMF at closure, reducing standing water on PSMF, establishing a vegetative cover, decommissioning, and dismantling management and process solids slurry pipeline systems, ongoing monitoring to confirm suitable water quality, overflow at closure preferred to Stream 6</li> <li>• Decommissioning roads to the extent possible while maintaining access to the site for necessary closure and long-term land uses</li> <li>• Use of overburden on horizontal surfaces of the MRSA to promote revegetation as a proactive reclamation strategy, when necessary</li> <li>• Use of non-merchantable coarse woody debris from site clearing in rehabilitation efforts</li> </ul>	<p>Closure Plan to be developed prior to Site Preparation and Construction</p>



**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• Removing and/or covering concrete foundations with overburden to support revegetation</li> <li>• Rehabilitating the general mine site area through a process of scarification of heavily compacted areas, regrading, applying overburden cover as needed, and revegetation</li> <li>• Monitoring during closure will include:                             <ul style="list-style-type: none"> <li>○ Monitoring to verify success of reclamation and confirm on-site water quality has stabilized and there are no long-term geochemistry concerns</li> <li>○ Monitoring pit water quality prior to pit overflow to determine if mitigation is required and monitoring water discharged from the pits to surface water for a suitable time period after overflow</li> </ul> </li> </ul> <p>Details regarding decommissioning and closure of the mine site following completion of operations will be provided in a Closure Plan in accordance with O. Reg 240/00 and filed with the Ministry of Energy, Northern Development and Mines (MENDM) prior to the start of construction. Identified Indigenous groups will be invited to participate in the preparation of the closure plan through information sharing and direct participation in selection of long-term reclamation projects.</p>	
<p>To monitor the long-term groundwater level and quality in PSMF Cell 2a during closure of the PSMF, GenPGM will implement the following:</p> <ul style="list-style-type: none"> <li>• Installation of groundwater monitoring wells and vibrating wire piezometer in the process solids contained in Cell 2A at the start of the closure phase.</li> <li>• Groundwater level data will be compared to predicted levels to confirm that Cell 2A is performing as designed. Importantly, it will be confirmed that the Type 2 (PAG) process solids contained in Cell 2A continue to remain in a saturated state to prevent the generation of acid drainage.</li> <li>• Groundwater quality data will be collected (from within the PSMF) to verify water quality predictions for Cell 2A and to evaluate the effectiveness of the mitigation measures implemented for the Type 2 process solids.</li> </ul> <p>In the event the groundwater monitoring program identifies an issue with the performance of Cell 2A, the following contingency measures could be implemented to maintain the groundwater table at the required level:</p> <ul style="list-style-type: none"> <li>• Closure spillway invert elevations could be increased to retain additional water in the Cell 2A pond during the spring freshet resulting in increased net infiltration into the process solids</li> <li>• An engineered cover could be placed over a portion of Cell 2A to reduce surface evaporation and increase infiltration into the process solids</li> </ul> <p>Details regarding the monitoring program for PSMF Cell 2A, including the triggers for implementation of contingency measures, will be provided as part of the Water Management Plan.</p>	<p>During closure</p>

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<b>SOIL SALVAGE AND STORAGE</b>	
<p>To manage soil on site during site preparation and construction, and to provide available soils for decommissioning and closure of the site, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Limit the construction footprint to the extent possible to minimize the need for soil/overburden excavation.</li> <li>• Strip topsoil to the extent possible to be stockpiled in the same area as the overburden and subsequently used following construction during mine life for progressive reclamation and closure to restore disturbed areas</li> <li>• Ensure that soil/overburden stockpiles that are created to facilitate development of the site have appropriate slopes, and maintaining the piles to prevent erosion and slide hazard.</li> <li>• Limiting potential erosion of disturbed areas and / or soil stockpiles by implementing appropriate erosion and sediment control measures (i.e., seeding) to stabilize these areas</li> </ul>	
<b>SOCIO-ECONOMIC CONDITIONS</b>	
<p>To mitigate potential socio-economic effects, GenPGM will:</p> <ul style="list-style-type: none"> <li>• Adequate housing to accommodate the workforce during the site preparation and construction phase will be provided through a temporary construction camp, to be operated by a third party</li> <li>• Adequate housing to accommodate the workforce during operation will be provided through an Accommodations Complex, to be operated by a third party</li> <li>• Establish and enforce a code of conduct for workers housed in the Accommodations Complex and work with the third-party developer of the temporary construction camp to establish and enforce a similar code of conduct</li> <li>• Facilitate rotational work arrangements which allow some employees to return to distant housing</li> <li>• Work proactively with municipal authorities to co-ordinate planning, development or upgrades of infrastructure, as necessary</li> <li>• During decommissioning, implementing strategies to help transition the workforce</li> <li>• Work with economic development groups to increase contracting opportunities for local businesses</li> <li>• Establishing measures to encourage and recruit employees from the existing populations in local communities</li> <li>• Providing opportunities for training to facilitate employment by residents of the LSA and RSA and supporting initiatives to train local youth and members of Indigenous groups</li> <li>• Work with economic development groups to increase contracting opportunities for local businesses</li> <li>• Providing Project employees with health services (physical, mental and social health), including Employee Assistance Programs (EAP) and on-site emergency service infrastructure, including fire-fighting equipment. GenPGM will co-ordinate its EPRP with the Town of Marathon emergency services department</li> <li>• Providing support to fund key community services or organizations and provide fitness and recreational programs for workers within the existing facilities.</li> </ul>	<p>Throughout mine life as appropriate</p>

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• GenPGM will engage with the Town of Marathon and provincial Crown lands permit holders to address potential disturbance to or access restrictions to municipal and Crown land areas</li> <li>• Signage will be installed around the SSA to alert the public and land users of the presence of the Project and its facilities</li> <li>• Hunting / fishing / harvesting of wildlife will be strictly prohibited on the site. Workers will not be permitted to hunt / fish / harvest and will not be permitted to bring firearms or angling gear to site</li> <li>• Implement a Harvester Training Fund to support trapline training programs</li> <li>• To the extent possible, clearing and wood utilization will follow the requirements contained in the Forest Management Plan. This may include a commercial market for the harvested wood from the Project site or may be used for firewood for the general public. Un-merchantable wood, as defined by the <i>Crown Forest Sustainability Act</i>, may be left scattered throughout the harvested area to serve as coarse woody debris.</li> <li>• Project activities, locations, and timing will continue to be communicated to Indigenous communities, affected land and resource users, environmental non-government organizations, the provincial government, and local authorities throughout the life of the Project</li> <li>• Desired land and resource end-uses will be considered in the preparation of the Rehabilitation and Closure Plan</li> </ul>	
<p>To mitigate potential traffic effects, GenPGM will implement the following mitigation measures:</p> <ul style="list-style-type: none"> <li>• Bussing of employees and shift changes in consultation with the Town of Marathon</li> <li>• Scheduling concentrate delivery to the rail load-out facility (if this option is used) in consultation with the Town of Marathon</li> <li>• Scheduling shift changes and truck movements to avoid peak traffic hours and school bus pick-up and drop-off times.</li> <li>• Regular communications with the Town of Marathon, MTO, and OPP representatives to monitor and mitigate traffic effects</li> <li>• Implementing a Traffic Management Plan, which will include encouraging car-pooling and providing bus transport to and from the Project site and requiring all Project drivers and employees to observe speed limits and take safety precautions.</li> </ul>	Throughout mine life as appropriate
<b>ARCHAEOLOGY AND CULTURAL HERITAGE</b>	
<p>To mitigate potential effects on physical and cultural heritage resources, GenPGM will:</p> <ul style="list-style-type: none"> <li>• An additional area of Stage 2 archaeological assessment may be undertaken prior to construction, if the final alignment of the discharge pipeline remains in close proximity to the area of high archaeological potential on Hare Lake, however avoidance of this area is the preferred mitigation measure. Any archaeological work would be completed in accordance with the MHSTCI's <i>Standards and Guidelines for Consultant Archaeologists</i>.</li> <li>• Invite local Indigenous communities to participate in archaeological field work programs (i.e. as field monitors) and to review and inform the assessment of any findings resulting from this work</li> </ul>	Throughout mine life as appropriate

**Table 8.1: Updated Table of Commitments**

Commitment	Timing
<ul style="list-style-type: none"> <li>• Train all employees engaged in activities that have the potential to unearth heritage or cultural features</li> <li>• Immediately suspend all work in the vicinity of the discovery in the instance that built heritage and cultural heritage landscape features are identified and contacting the Ministry of Tourism, Culture and Sport and Indigenous peoples</li> <li>• Immediately suspend all work in the vicinity of the discovery in the instance that human remains are identified and notifying the OPP, or local police and also notifying Indigenous representatives, the Ministry of Tourism, Culture and Sport and the Ministry of Consumer and Commercial Relations</li> <li>• Notify stakeholders and local Indigenous peoples as part of its routine response to the identification of built heritage and cultural heritage landscape features</li> </ul> <p>Details regarding measures to protect archaeological resources and to identify the procedures to be followed where archaeological resources are identified or in the unlikely event that human remains are encountered during construction will be defined in the General Construction and Operations Management plan (per EMMP)</p>	
<b>OCCUPATIONAL HEALTH AND SAFETY</b>	
Occupational health and safety to be implemented and followed in accordance with all applicable legislation and regulations (see Section 7.4 of this EIS Addendum [Vol 2])	Throughout mine life as appropriate