

SUMMARY OF POTENTIAL ENVIRONMENTAL AND RESOURCE IMPACTS

FORMER IQALUIT VEHICLE DUMP AND COMMUNITY LANDFILL REMEDIATION PROJECT– updated February 2017

Value Ecosystem Component	Activity	Description of Impact	Proposed Mitigation Measure
Air Quality	Hydrocarbon Contaminated Soil/Sediments Removal	Air quality may be impacted by the removal of hydrocarbon contaminated soil/sediment. Soil volume to be excavated is expected to be minimal and localized and have low potential for dust generation. Sediment will be moist to wet and have a low potential for dust generation.	Execute work by methods to minimize raising dust (e.g., minimize height of waste release from excavator bucket into trailers). Stockpiles will be covered and refuse will be covered when not being excavated. Work may be suspended if conditions of high dust generation can not be controlled.
	Site Grading	The extraction of granular materials and grading activities has the potential to create dust and impact air quality.	Implement dust control measures, if required. Only water will be used for dust control. Work may be suspended if conditions of high dust generation can not be controlled. Access roads will have hard-packed surfaces to reduce dust generation. The speed limit for on-site traffic will be 15 km/hr.
	Emission	Emissions from equipment used on site during remediation.	No unnecessarily idling.
Soil Quality	Site Remediation/Landfill & Vehicle Dump Closure	Contaminated soils, sediments and waste at the site are contributing to the release of contaminant in the environment. The remediation and landfill closure activities will limit the migration of contaminants to the soil. If not completed properly, contaminants may continue to leach out of the landfill following the remediation program and impact soil quality.	Accessible hazardous material containing debris will be removed from the site. The waste and co-mingling impacted soils/sediments will be consolidated in the landfill which will undergo engineered decommissioning that will include extensive swale designs to divert precipitation and melt water away from the landfill slopes to prevent both erosion and water infiltration.
	Fuel Handling	Refuelling of equipment during remediation could lead to accidental release of fuel in the environment.	No storage tanks and hazardous materials are to be stored on site. No refuelling equipment is allowed on site other than at a staging area away from the work site. Spill response kit to be available on-site at all time. Spill contingency plan developed for the site and to be available on-site at all time.
	Transport of Hazardous Material, Fuel and Contaminated Soil/Sediment	The potential exists for accidental release of hazardous materials, contaminated soil/sediments and/or fuels during transport, which could impact soil quality.	Proper handling, storage, and transportation procedures for hazardous materials to be implemented as per TDGA regulations. All contaminated soil/sediment, landfill waste and liquid waste, if encountered, shall be separated and managed on-site at the staging area to prevent contamination of uncontaminated material or migration to non-contaminated areas. All workers to be trained in proper handling procedures for all hazardous materials on-site. Workers to follow the spill contingency plan. All materials and equipment to implement contingency plan to be available on-site.

Value Ecosystem Component	Activity	Description of Impact	Proposed Mitigation Measure
Water Quality	Contaminated Soil/Sediment and Hazardous Materials Removal	Contaminated soils, sediments and waste at the site are contributing to the release of contaminant in the environment. The remediation and landfill closure activities will limit the migration of contaminants to the water. If not completed properly, contaminants may continue to leach out of the landfill following the remediation program and impact water quality.	Accessible hazardous material containing debris will be removed from the site. The waste and co-mingling impacted soils/sediments will be consolidated in the landfill which will undergo engineered decommissioning that will include extensive swale designs to divert precipitation and melt water away from the landfill slopes to prevent both erosion and water infiltration.
	Fuel Handling	Refuelling of equipment during remediation could lead to accidental release of fuel in the environment.	No storage tanks and hazardous materials are to be stored on site. No refuelling equipment is allowed on site other than at a staging area away from the work site. Spill response kit to be available on-site at all time. Spill contingency plan developed for the site and to be available on-site at all time.
	Removal of Debris near the Sylvia Grinnell River and removal of debris/impacted sediment/soil near/within the upstream drainage features	Sediment release and associated sedimentation in ecologically productive aquatic habitat may occur during removal.	Prevent sediments from entering waterbodies by use of berms and/or silt fences.
		Potential inadvertent release of harmful substances such as fuels and lubricating oils when completing removal of debris.	Proper handling, storage, and transportation procedures for hazardous materials to be implemented as per TDGA regulations. All workers to be trained in proper handling procedures for all hazardous materials on-site. All contaminated soil/sediment, landfill waste and liquid waste, if encountered, shall be separated and managed on-site at the staging area to prevent contamination of uncontaminated material or migration to non-contaminated areas. Workers to follow the spill contingency plans. All materials and equipment to implement contingency plans to be available on-site. Implement mitigation measures to prevent deleterious substances from entering the aquatic environment.
	Stockpiling of debris and soil/sediment in the staging area	Potential release of contaminants from surface water runoff leaving the staging area.	Implement water control measures such as maintain excavation areas (if produced) free of water, protect site from standing or running water, prevent surface water runoff from leaving work areas, prevent precipitation from infiltrating or from directly running off stockpiled waste materials where practical and provide, operate, and maintain necessary equipment appropriately sized to keep excavations, staging pads, and other work areas free from water.

Value Ecosystem Component	Activity	Description of Impact	Proposed Mitigation Measure
Terrain	Site Regrading	Terrain and drainage will be improved as a result of grading disturbed areas. Previously disturbed areas will blend into the natural environment.	N/A
	Contaminated Soil Excavation	The excavation of contaminated soil has the potential to degrade the permafrost.	Minimize the time permafrost is exposed. Minimize surface area of exposed permafrost or active zone.
	Importation of Fill and/or Other Material	Site could be re-contaminated by poor quality fill.	The contractor will be responsible for providing documentation pertaining to the environmental quality of the material, including analytical results (where required) and to disclose the location of origin for the material. The contractor will also be responsible for removing any excess imported materials from the site.
Noise	Heavy machinery at the site	Increased noise level during operation of machinery	Site is away from populated area and the general population is not likely to be impacted. On site workers will be required to follow the health and safety procedures as outlined in the project health and safety plan to mitigate risks associated with noise and odours.
Odour	Moving impacted soil/sediment and debris	Temporary release of odour	
Terrestrial Animals	General Remediation Activities and Landfill Decommissioning	The use of heavy equipment during the remediation has the potential to disturb wildlife.	Avoid areas of known wildlife colonies or bird nesting areas. Employ minimum distance requirements for transportation activities around the site.
Aquatic Habitat and Aquatic Life	General Remediation Activities and Landfill Decommissioning	The removal of debris, soil/sediment has the potential to release material into the aquatic environment and disturb aquatic habitat and aquatic life.	During excavation, implement mitigation measures to prevent deleterious substances from entering the aquatic environment. Prevent siltation by use of berms and/or silt fences. Do not operate equipment within the wetted perimeter. Disturbed areas adjacent to water are to be stabilized, if required.
Health and Safety	General Clean Up Activities	The excavation of potentially hazardous materials from the landfills, the collection and disposal of potentially hazardous debris, the removal of hazardous materials from the facilities and the general handling of hazardous materials has the potential to impact the health and safety of workers.	Transportation of any hazardous materials is to be in accordance with the TDGA Regulations. Workers must wear and use appropriate personal protective equipment. Workers are to be trained in the use of personal protective equipment and proper handling procedures for hazardous materials. Proper procedures for working around heavy equipment to be implemented.