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# APPENDIX 2:

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PIN-E CAPE PEEL INTERMEDIATE  
DISTANT EARLY WARNING (DEW)  
LINE SITE REMEDIATION PROJECT

**NUNAVUT IMPACT REVIEW BOARD  
PART 2 FORM – PROJECT SPECIFIC  
INFORMATION REQUIREMENTS**



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## 2. GENERAL PROJECT INFORMATION REQUIREMENTS

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### Project Coordinates and Maps

1. The preferred method for submitting project coordinates information is through the use of a Geographic Information System (GIS) compatible digital file. Although an ESRI ArcView 3.x shape file (in decimal degrees) is the preferred interchange format, the NIRB has the capacity to receive over 100 GIS and CAD related formats, including MapInfo and AutoCAD, provided proper format and projection metadata is also submitted. The NIRB requires coordinates for the project proposal which reflect the entire project area as defined by:

- Area/sites of investigation;
- Boundaries of the foreseen land use permit/right-of-way area(s) to be applied for;
- Location of any proposed infrastructure or activity(s); and,
- Boundaries of the mineral claim block(s) where proposed activities will be undertaken.

**PIN-E Cape Peel is located on the south coast of Victoria Island, Nunavut, on the north shore of the Dease Strait, approximately 3 kilometres from the coast. The nearest community is Cambridge Bay, located approximately 80 kilometres to the east. The proposed site activities will take place within the boundaries detailed below:**

**NW:    Latitude: (69°03'25" N)    Longitude: (107°21'25" W)  
NE:    Latitude: (69°03'25" N)    Longitude: (107°16'16" W)  
SE:    Latitude: (69°02'04" N)    Longitude: (107°17'38" W)  
SW:    Latitude: (69°02'04" N)    Longitude: (107°21'25" W)**

**Additional Site Maps and Drawings are provided in Appendix 5. Further details on site activities are available in the Remedial Action Plan (RAP) which can be found in Appendix 4.**

2. Map of the project site within a regional context indicating the distance to the closest communities.

**The closest community to PIN-E Cape Peel is Cambridge Bay, approximately 80 kilometres to the east. Kugluktuk is the next closest community, it is located approximately 350 kilometres to the southwest. See map below.**



3. Map of any camp site including locations of camp facilities.

**The proposed location of the camp facilities is on a pull-out section of the road (GPS Coordinates 69°02'50.55" N, 107°18'58.65" W). The approximate location is indicated in the figure below (see Appendix 5 for additional Site Maps and Drawings). The exact location of the camp may change once a contractor is selected.**





4. Map of the project site indicating existing and/or proposed infrastructure, proximity to water bodies and proximity to wildlife and wildlife habitat.

**Detailed maps of the project site are provided in Appendix 5 and in the Remedial Action Plan (Appendix 4).**

#### **Project General Information**

5. Discuss the need and purpose of the proposed project.

**The purpose of the PIN-E Cape Peel Remediation Project is to eliminate/reduce the hazards (human health and environmental) associated with the former Intermediate Distant Early Warning (DEW) Line site. The hazards at the site include PCBs, heavy metals, asbestos, petroleum hydrocarbons, and physical hazards associated with the site infrastructure and debris.**

6. Discuss alternatives to the project and alternative methods of carrying out the project, including the no-go alternative. Provide justification for the chosen option(s).

**Alternative methods for carrying out the project are discussed in the PIN-E Remedial Action Plan (Appendix 4). The Remedial Action Plan also provides justification for the methods chosen based on eliminating/reducing the hazard and the associated costs.**

7. Provide a schedule for all project activities.

**A project schedule is provided in Appendix 7. The current plan is to mobilize to the site in the summer of 2011 and start remedial works. Remedial activities will be completed during the summer of 2012 and the equipment and materials will be demobilized from the site.**

8. List the acts, regulations and guidelines that apply to project activities.

**The project is being undertaken in accordance with the following federal and departmental regulations and policies:**

- **Nunavut Land Claim Agreement (Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada, 1993)**
- **Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health (CCME, 1999)**
- **Canadian Water Quality Guidelines for the Protection of Aquatic Life (CCME, 1999)**
- **Canadian Environmental Protection Act (EC, 1999)**
- **Nunavut Waters and Surface Rights Tribunal Act (2002)**
- **Nunavut Environmental Guideline for Waste Asbestos (2002)**
- **Contaminated Sites Management Policy (INAC, 2002)**
- **Northern Affairs Contaminated Sites Management Policy (INAC, 2002)**
- **A Federal Approach to Contaminated Sites (CSMWG, 2002)**
- **Risk Management Guidance Document (INAC, 2006)**
- **Contaminated Sites Cost Estimating Guide (INAC, 2006)**
- **Treasury Board Policy on Management of Real Property (TB, 2006)**
- **Risk Management Tool & Reporting Tool User Guide (INAC, 2007)**
- **Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil (CCME, 2008)**
- **Environment, Health & Safety Management System Manual (INAC, 2008)**
- **Environment, Health & Safety Standard Operating Procedures Manual (INAC, 2008)**
- **Environment, Health & Safety Control Framework, Northern Contaminated Sites Program (INAC, 2008)**
- **Environment, Health & Safety Audit Program Guide (INAC, 2008)**
- **Construction Project Safety Management Guide, 5th Edition (PWGSC, 2008)**
- **PCB Regulations (EC, 2008)**
- **Abandoned Military Site Remediation Protocol (INAC, 2009)**

9. List the approvals, permits and licenses required to conduct the project.

**The approvals, permits and licenses required include:**

- **Water Licence (Nunavut Water Board)**

- **Crown Land Use Permit (Indian and Northern Affairs Canada)**
- **Crown Land Quarry Permits (Indian and Northern Affairs Canada)**
- **Inuit Owned Land Access Permit (Kitikmeot Inuit Association)**

#### **DFO Operational Statement (OS) Conformity**

10. Indicate whether any of the following Department of Fisheries and Oceans (DFO) Operational Statement (OS) activities apply to the project proposal:

- Bridge Maintenance  
**- Not Applicable**
- Clear Span Bridge  
**- Not Applicable**
- Culvert Maintenance  
**- Yes**
- Ice Bridge  
**- Not Applicable**
- Routine Maintenance Dredging  
**- Not Applicable**
- Installation of Moorings  
**- Not Applicable**

Please see DFO's OS for specific definitions of these activities available from DFO's web-site at <http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/index-eng.htm>

11. If any of the DFO's OS apply to the project proposal, does the Proponent agree to meet the conditions and incorporate the measures to protect fish and fish habitat as outlined in the applicable OS? If yes, provide a signed statement of confirmation.

**Indian and Northern Affairs Canada agrees to meet the conditions and incorporate the measures to protect fish and fish habitat as outlined in the applicable Operational Statements.**

  
**Natalie Plato**  
**Director – Contaminated Sites**

Nov 9/10  
**Date**

#### **Transportation**

12. Describe how the project site will be accessed and how supplies will be brought to site. Provide a map showing access route(s).

**Equipment and materials will be mobilized to the site via sealift/barge.  
The sealift/barge will land at the beach area located on the east side of the**



**site. Perishables and other material will be brought to the site on charter aircraft.**

13. If a previous airstrip is being used, provide a description of the type of airstrip (ice-strip/all-weather), including its location. Describe dust management procedures (if applicable) and provide a map showing location of airstrip.

**An abandoned airstrip exists at the site. This airstrip will be used throughout the remediation activities. Minor repairs to the airstrip will be completed on an as-needed basis. The airstrip is approximately 1000 metres long and is oriented in a northeast-southwest direction. Maps showing the airstrip can be found in Appendix 5.**

14. If an airstrip is being constructed, provide the following information:
- Discuss design considerations for permafrost  
**- Not Applicable**
  - Discuss construction techniques  
**- Not Applicable**
  - Describe the construction materials, type and sources, and the acid rock drainage (ARD) and metal leaching (ML) characteristics (if rock material is required for airstrip bed).  
**- Not Applicable**
  - Describe dust management procedures.  
**- Not Applicable**
  - Provide a map showing location of proposed airstrip.  
**- Not Applicable**
15. Describe expected flight altitudes, frequency of flights and anticipated flight routes.

**Flights will fly at a minimum altitude of 1,100 metres and maintain a minimum horizontal distance of 1,500 metres from concentrations of birds. Flights to and from the site will occur one to two times per week. The flight route will be from Cambridge Bay to PIN-E (return).**

### **Camp Site**

16. Describe all existing and proposed camp structures and infrastructure

**Existing infrastructure at the site includes:**

- Powerhouse module from the building train**
- Downed antenna**
- Fuel line**

**All existing structures will be demolished as part of the remedial activities**

**Proposed infrastructure (to support remedial activities) includes:**



- **Temporary camp (including a sewage lagoon and incinerator for waste treatment and disposal)**
- **Temporary garage**

17. Describe the type of camp:

- Mobile
  - **Yes, camp will consist of mobile camp units transported to site**
- Temporary
  - **Yes, camp facility will be removed upon project completion**
- Seasonal
  - **Yes, camp will operate seasonally between July and September for parts of two summers (2011 & 2012)**
- Permanent
  - **No**
- Other
  - **Not applicable**

18. Describe the maximum number of personnel expected on site, including the timing for those personnel involved with the project.

**The maximum number of personnel expected to be on site is 50. Site activities will take place from July to September each year. The number of Personnel on site will be lower at the beginning and end of each season as the camp is set-up/decommissioned/winterized.**

## **Equipment**

19. Provide a list of equipment required for the project and discuss the uses for the equipment.

**The equipment required to complete the project includes:**

- **2 x Loaders**
- **2 x Bulldozers**
- **2 x Excavators**
- **1 x Grader**
- **1 x Compactor**
- **2 x Rock Trucks**
- **2 x Tandem Dump Trucks**
- **4 x Crew-Cab Pick-Up Trucks**
- **4 x ATVs**
- **1 x Incinerator**

20. If possible, provide digital photos of equipment.

**Not available**

## Water

21. Describe the location of water source(s), the water intake methods, and all methods employed to prevent fish entrapment. Provide a map showing the water intake locations.

**Water will be sourced from the Freshwater Lake located at the west end of the site (GPS Coordinates 69° 3'1.69"N, 107°20'59.48"W). Water will be pumped from the lake into a tank on either a truck or trailer. It will then be transported to the camp and pumped into the camp tank. The water intake hose (GPS Coordinates 69° 2'57.24"N, 107°20'32.82"W) will be covered with a screen to ensure that no fish become trapped. The figure below shows the Freshwater Lake and the water intake location. Additional figures are provided in Appendix 5.**



22. Describe the estimated rate of water consumption ( $\text{m}^3/\text{day}$ ).

**Total water consumption is estimated to be 7.0 cubic metres per day:**

- **115 litres/day x 50 people (max) = 5,750 litres/day**
- **1,250 litres/day for miscellaneous activities (i.e. equipment and barrel washing)**

23. Describe how waste water will be managed. If relevant, provide detail regarding location of sumps, including capacity of sumps and monitoring.

**Both black and grey water will be directed into a sewage lagoon system. This system will consist of two independently operated temporary lagoons. Each lagoon will have an individual capacity for 45 days of wastewater storage or one half of the duration of the construction season, whichever is more. Maximum fluid depth will not exceed one metre. The location of the lagoons will be a minimum of 100 metres from the construction camp or other temporary facilities and drainage paths, and downwind of the construction camp (based on the prevailing wind direction). Discharge criteria will be as follows:**

- **Biological Oxygen Demand (BOD) – 80 mg/kg**
- **Total Suspended Solids (TSS) – 100mg/kg**
- **Fecal Coliforms – 1 x 10<sup>4</sup> CFU/100 mL**
- **pH – 6.0 to 9.0**
- **Oil and Grease – no visible sheen**

**See Appendix 5 for additional details on the sewage lagoons.**

24. If applicable, discuss how surface water and underground water will be managed and monitored.

**- Not applicable**

#### **Waste Water (Grey water, Sewage, Other)**

25. Describe the quantities, treatment, storage, transportation, and disposal methods for the following (where relevant):

- Sewage

**The quantity of sewage (black water) that will be generated is estimated to be 1.5 cubic metres per day:**

- **30 litres/day x 50 people (max) = 1,500 litres/day**

**The sewage will be directed into a sewage lagoon system (as described in #23 above).**

- Camp grey water

**The quantity of camp grey water that will be generated is estimated to be 4.0 cubic metres per day:**

- **80 litres/day x 50 people (max) = 4,000 litres/day**

**The camp grey water will be directed into a sewage lagoon system (as described in #23 above).**

- Combustible solid waste

**Combustible solid waste generated from camp operations will be incinerated in an on site incinerator.**

- Non-combustible solid waste, including bulky items/scrap metal

**Non-combustible solid waste collected around the site and generated during site operations will be compacted and packaged for transportation off-site. These materials will be disposed of in the on-site Non-Hazardous Waste Landfill (NHWL) that will be constructed at PIN-D Ross Point.**

- Hazardous waste or oil

**All hazardous wastes and oil will be packaged as per Transportation of Dangerous Goods (TDG) requirements and shipped south to a facility licenced to dispose of the hazardous materials.**

- Contaminated soils/snow

**Contaminated soils will be handled as described in the Remedial Action Plan (Appendix 4). To summarize:**

- Tier I soil (86 cubic metres) – packaged and transported to PIN-D Ross Point where it will be disposed of in the NHWL that will be constructed there.
- Tier II soil (92 cubic metres) – packaged and transported south to a licenced disposal facility.
- Type B (hydrocarbons) soil (1,955 cubic metres) – to be treated in an on site landfarm.

- Empty barrels/ fuel drums

**Empty barrels/fuel drums will be handled as per the Barrel Protocol described in the Abandoned Military Site Remediation Protocol (INAC 2009) which can be found in appendix D of the Remedial Action Plan (Appendix 4).**

- Barrels will be inspected, sampled, tested, have any contents removed and treated, cleaned, crushed, packaged, and then be transported to PIN-D Ross Point where they will be disposed of in the NWHL that will be constructed there.
- 233 barrels have been identified at PIN-E
- Additional barrels resulting from remedial activities will be handled in the same manner.

- Any other waste produced

**- None identified at this time.**



26. If the project proposal includes a landfill or landfarm, indicate the locations on a map, provide the conceptual design parameters, and discuss waste management and contact-water management procedures.

**The Landfarm will be located in the area identified as Landfarm 3 in the Remedial Action Plan (Appendix 4). It is located near the beach landing area next to the road (GPS Coordinates 69° 2'48.30"N, 107°17'8.48"W) and is indicated in the figure below. Additional maps showing the Landfarm can be found in Appendix 5.**



**A summary of the Landfarm construction and operation details are provided below:**

- **The Landfarm will be constructed to the specifications detailed on Figures C06, C08 and C09 in Appendix 5.**
- **Monitoring wells will be installed prior to placing any material in the Landfarm**
- **Material will be placed in the Landfarm to a maximum loose thickness of 400 mm**
- **Nutrients will be added to the Landfarm as required**
- **The moisture content of the Landfarm will be maintained at approximately 5%**
- **Tilling will be completed once every 10 days. During extended warm, dry periods the frequency will be increased to once every 5 days**

- Tilling and irrigation will be suspended if the average daily temperature is below 0°C for a over 5 days
- The perimeter water collection system will be inspected weekly and after any precipitation event to ensure it does not overflow
- Contact water collected will be tested, treated as required, and discharged once Water Licence discharge criteria are met
- When operations are complete the Landfarm will be closed by taking confirmatory samples, removing the perimeter berms, regrading the area to fill in ditches and prevent ponding, and decommissioning of the monitoring wells.

## Fuel

27. Describe the types of fuel, quantities (number of containers, type of containers and capacity of containers), method of storage and containment. Indicate the location on a map where fuel is to be stored, and method of transportation of fuel to project site.

**The table below provides a summary of the fuel types, quantities, container types and storage methods that we anticipate using:**

<b>FUEL TYPE*</b>	<b>QUANTITY (Estimated)*</b>	<b>CONTAINER (Type / # / Capacity)*</b>	<b>METHOD OF STORAGE*</b>
<b>Diesel</b>	<b>205,000 litres</b>	<b>Drums / 1,000 / 205 litres</b>	<b>On pallets, 4 drums each, strapped</b>
<b>Gasoline</b>	<b>10,250 litres</b>	<b>Drums / 50 / 205 litres</b>	<b>On pallets, 4 drums each, strapped</b>
<b>Aviation Fuel</b>	<b>5,125 litres</b>	<b>Drums / 25 / 205 litres</b>	<b>On pallets, 4 drums each, strapped</b>
<b>Propane</b>	<b>500 pounds</b>	<b>Cylinders / 5 / 100 pounds</b>	<b>Cylinders will be transported/stored in a cage where they are strapped to prevent movement</b>

**\* Subject to change once a contractor is hired to complete the work**

**The fuel will be stored near the camp but at least 100 metres from the camp facilities. See the camp location indicated in the map provided for question 3.**

28. Describe any secondary containment measures to be employed, including the type of material or system used. If no secondary containment is to be employed, please provide justification.

**All fuel drums will be stored together. The storage area will be inspected daily. Drums that are in use will be stored in insta-berms (or similar) to contain any spills. Spill kits and empty drums or tanks will be kept in near the storage area so that any spills can be contained and cleaned up.**

29. Describe the method of fuel transfer and the method of refuelling.

**An electric pump will be used to transfer fuel from the drums into the equipment or tank. All fuel transfers will be supervised and spill kits will be readily available to address any spills.**

30. Describe spill control measures in place.

**All fuel transfers will be supervised and spill kits will be readily available to address any spills. The exact location and contents of the spill kits will be determined once a contractor is hired.**

Please refer to Environment Canada's fuel storage tank system regulations (*Storage Tank System for Petroleum and Allied Petroleum Products*) website at <http://www.ec.gc.ca/st-rs/> for details on fuel storage requirements.

#### **Chemicals and Hazardous Materials\***

*\*included but not limited to oils, greases, drill mud, antifreeze, calcium or sodium chloride salt, lead acid batteries and cleaners*

31. Describe the types, quantities (number of containers, the type of container and capacity of containers), method of storage and containment. Indicate the location on a map where material is to be stored, and method of transportation of materials to project site.

**A small amount of oil and grease will be brought to site to complete the maintenance requirements for the equipment on site. These will be transported as per the requirements of the Transportation of Dangerous Goods (TDG) Act & Regulations. The oil and grease will be stored in the fuel storage area until used. Used oil and grease will be collected and shipped off site for disposal at a licenced disposal facility. The exact quantities of these will be determined once a contractor is hired.**

32. Describe any secondary containment measures to be employed, including the type of material or system used.

**The secondary containment that will be employed are insta-berms 9or similar) for the products that are in use.**

33. Describe the method of chemical transfer.

**Not applicable**

34. Describe spill control measures in place.

**Spill kits will be readily available on all equipment and in areas that the oil and grease are being used. The exact location and contents of the spill kits will be determined once a contractor is hired.**

## **Workforce and Human Resources/Socio-Economic Impacts**

35. Discuss opportunities for training and employment of local Inuit beneficiaries.

**The contract for remedial activities will contain an Aboriginal Opportunities Considerations (AOC) clause that requires the contractor to maintain a target level of Inuit employment on the project (and applies a penalty if the contractor fails to meet the target level). On past similar projects the Inuit employment level in the AOC has been in the range of 60-70%. The AOC also sets a target level of Inuit subcontracting. Past similar projects have had minimum Inuit subcontracting levels of 60-80%.**

**The contract will also contain a training fund that will allow the contractor access to up to 2% of the contract value, to a maximum of \$200,000, to provide training programs to local Inuit beneficiaries.**

36. Discuss workforce mobilization and schedule, including the duration of work and rotation length, and the transportation of workers to site.

**The workforce will be mobilized to site from Cambridge Bay via charter aircraft. Work will take place during August to October in the first year and then between June and September of the second year. The exact schedule will depend on the contractor hired and the sealift/barge schedules. Workers will work on a rotational schedule to be determined by the contractor.**

37. Discuss, where relevant, any specific hiring policies for Inuit beneficiaries.

**Not applicable**

## **Public Involvement/ Traditional Knowledge**

38. Indicate which communities, groups, or organizations would be affected by this project proposal.

**This project is closest to Cambridge Bay. Residents of Cambridge Bay will be positively affected by this project and the employment/training opportunities it provides. The project will also remove hazardous materials from the environment; this will benefit human and environmental health in the area.**

39. Describe any consultation with interested Parties which has occurred regarding the development of the project proposal.

**A community consultation was held in Cambridge Bay in January 2010 to discuss the draft Remedial Action Plan (RAP) prior to it being finalized. A meeting was also held with the Kitikmeot Inuit Association in Kugluktuk to inform them of the project plan.**



40. Provide a summary of public involvement measures, a summary of concerns expressed, and strategies employed to address any concerns.

**No concerns were raised during the community meeting in Cambridge Bay.**

41. Describe how traditional knowledge was obtained, and how it has been integrated into the project.

**During the Phase III Environmental Site Assessment a meeting was held with 4 elders from Cambridge Bay to gather knowledge about the site. During this meeting the elders told us the area is sometimes used for polar bear hunting. The elders also expressed that they were happy with the efforts being made to clean up the site.**

42. Discuss future consultation plans.

**Additional community meetings will be held in Cambridge Bay. The first will be in June/July 2011 to tell people about the plan for this summer and potential employment/training and sub-contracting opportunities. There will also be a meeting held prior to the 2012 works (May/June 2012) and one at the conclusion of the work in either late 2012 or early 2013. The purpose of the final meeting will be to let the community know the results of the work.**

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### 3. PROJECT SPECIFIC INFORMATION

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The following table identifies the project types identified in Section 3 of the NIRB, Part 1 Form. Please complete all relevant sections.

It is the proponent's responsibility to review all sections in addition to the required sections to ensure a complete application form.

**Table 1: Project Type and Information Required**

Project Type	Type of Project Proposal	Information Request
1	All-Weather Road/Access Trail	Section A-1 and Section A-2
2	Winter Road/Winter Trail	Section A-1 and Section A-3
3	Mineral Exploration	Section B-1 through Section B-4
4	Advanced Mineral Exploration	Section B-1 through Section B-8
5	Mine Development/Bulk Sampling	Section B-1 through Section B-12
6	Pits and Quarries	Section C
7	Offshore Infrastructure(port, break water, dock)	Section D
8	Seismic Survey	Section E
9	Site Cleanup/Remediation	Section F
10	Oil and Natural Gas Exploration/Activities	Section B-3 and Section G
11	Marine Based Activities	Section H
12	Municipal and Industrial Development	Section I

#### SECTION A: Roads/Trails

##### A-1. Project Information

1. Describe any field investigations and the results of field investigations used in selecting the proposed route (e.g. geotechnical, snow pack)

**Not applicable. Only pre-existing roads/trails on site will be used.**

2. Provide a conceptual plan of the road, including example road cross-sections and water crossings.

**Not applicable. Only pre-existing roads/trails on site will be used. See Appendix 5 Site Maps and Drawings for additional details.**

3. Discuss the type and volume of traffic using the road/trail (i.e. type of vehicles and cargo and number of trips annually).

**The pre-existing roads/trails on site will be used during the field season (July-October).**

4. Discuss public access to the road.

**Public access will not be permitted.**

5. Describe maintenance procedures.

**Maintenance will be performed as required and include the addition of material, compaction, and culvert installation and replacement.**

#### **A-2. All-Weather Road/Access Trail**

6. Discuss road design considerations for permafrost.

**Not applicable. Only pre-existing roads/trails on site will be used.**

7. Describe the construction materials (type and sources for materials), and the acid rock drainage (ARD) and metal leaching characteristics of the construction materials.

**Not applicable. Only pre-existing roads/trails on site will be used.**

8. Discuss construction techniques, including timing for construction activities.

**Not applicable. Only pre-existing roads/trails on site will be used.**

9. Indicate on a map the locations of designated refuelling areas, water crossings, culverts, and quarries/borrow sources.

**See Appendix 5 - Site Maps and Drawings.**

10. Identify the proposed traffic speed and measures employed to ensure public safety.

**Speed limit will be 30 kilometres per hour. No public access permitted.**

11. Describe dust management procedures.

**None planned. If necessary, dust will be suppressed by adding water to the roads.**

### A-3. Winter Road/Trail

12. Describe the surface preparation, including the use of snow berms or compaction, and any flooding. If flooding is to be used, provide the location of the water source on a map.

**Not applicable. No winter road planned.**

13. Describe the operating time period.

**Not applicable. No winter road planned.**

14. Identify the proposed traffic speed and measures employed to ensure public safety.

**Not applicable. No winter road planned.**

15. Discuss whether the selected route traverses any fish-bearing water bodies.

**Not applicable. No winter road planned.**

## SECTION B: Mineral Exploration /Advanced Exploration /Development

### B-5 Stripping/ Trenching/ Pit Excavation

1. Discuss methods employed. (i.e. mechanical, manual, hydraulic, blasting, other)

**Mechanical, excavations will be completed with an excavator.**

2. Describe expected dimensions of excavation(s) including depth(s).

**The dimensions of the borrow areas that will be developed are indicated on the Site Maps & Drawings in Appendix 5. Further information on the borrow areas is provided in the table below:**

Borrow Area	Available Granular Fill Type	Area (m <sup>2</sup> )	Depth (m)	Volume (m <sup>3</sup> )	Comments
1	Type 2,3,6	47,000	0.7	33,000	Undisturbed Area
2	Type 4,3	31,000	1.0	31,000	Undisturbed Area
3	Type 4,3	13,000	1.0	13,000	Undisturbed Area
4	Type 4,3	50,000	1.0	50,000	Undisturbed Area
5	Type 2A	140,000	0.4	56,000	Undisturbed Area
	Type 2, 3	140,000	0.3	42,000	
6	Type 2A,4,3	30,000	1.0	30,000	Undisturbed Area
7	Type 2A,2, 3, 6	57,000	1.0	57,000	Undisturbed Area
8	Type 2,3,6	35,000	1.0	35,000	Disturbed Area
9	Type 2,3	42,000	0.8	34,000	Disturbed Area
10	Type 2,3	40,000	1.0	40,000	Partially Disturbed Area
11	Type 4,3	60,000	1.0	60,000	Undisturbed Area



3. Indicate the locations on a map.

**See Appendix 5 - Site Maps and Drawings.**

4. Discuss the expected volume material to be removed.

**The expected volume of material required for the project is summarized below:**

- **Type 2 Granular Fill = 10,000 cubic metres**
- **Type 3 Granular Fill = 2,500 cubic metres**

**Further details on the material requirements can be found in the Remedial Action Plan (RAP) in Appendix 4.**

5. Discuss methods used to determine acid rock drainage (ARD) and metal leaching potential and results.

**If the borrow material is suspected of having acid rock drainage and metal leaching potential then it will be sampled. This is unlikely as the material used will be from the surface/near surface and no blasting will occur.**

#### **SECTION C: Pits and Quarries**

1. Describe all activities included in this project.

- Pitting

**None**

- Quarrying

**See Section B-5 above**

- Overburden removal

**None**

- Road use and/or construction (please complete Section A)

**See Section A above**

- Explosives transportation and storage

**None**

- Work within navigable waters

**None**

- Blasting

**None**

- Stockpiling

**None**

- Crushing

**None**

- Washing

**None**

- Other

**None**

2. Describe any field investigations and the results of field investigations used in determining new extraction sites.

**A geotechnical assessment was completed in 2009. The Remedial Action Plan (Appendix 4) summarizes the identified borrow areas.**

3. Identify any carving stone deposits.

**None identified**

4. Provide a conceptual design including footprint.

**See Appendix 5 - Site Maps and Drawings**

5. Describe the type and volume of material to be extracted.

**See Section B-5 above**

6. Describe the depth of overburden.

**None**

7. Describe any existing and potential for thermokarst development and any thermokarst prevention measures.

**None**

8. Describe any existing or potential for flooding and any flood control measures.

**None**

9. Describe any existing or potential for erosion and any erosion control measures.

**Borrow areas will be re-graded and sloped to prevent erosion.**

10. Describe any existing or potential for sedimentation and any sedimentation control measures.

**None, if any identified then silt fences will be installed as required.**

11. Describe any existing or potential for slumping and any slump control measures.

**None**

12. Describe the moisture content of the ground.

**Well drained**

13. Describe any evidence of ice lenses.

**None**

14. If blasting, describe methods employed.

**Not applicable**

15. Describe the explosive type(s), hazard class, volumes, uses, location of storage (show on map), and method of storage.

**Not applicable**

16. Discuss methods used to determine acid rock drainage (ARD) and metal leaching (ML) potential and results.

**If the borrow material is suspected of having acid rock drainage and metal leaching potential then it will be sampled. This is unlikely as the material used will be from the surface/near surface and no blasting will occur.**

17. Discuss safety measures for the workforce and the public.

**A Site Specific Health and Safety Plan (SSHSP) will be developed and implemented for the project. Public access is prohibited.**

## **SECTION F: Site Cleanup/Remediation**

1. Describe the location, content, and condition of any existing landfills and dumps (indicate locations on a map).

**There are 14 existing dumps (L, M, N, O, P, Q, R, S, T, V, W, X, Y, Z) at PIN-E. The contents of the dumps are unknown but past experience on similar sites indicates that they will contain mostly non-hazardous debris, some contaminated soil, and a small amount of hazardous materials. Further information on the dumps can be found in the Remedial Action Plan (RAP) in Appendix 4. The site Maps and Drawings in Appendix 5 show the locations of the dumps.**

2. Identify salvageable equipment, infrastructure and/or supplies.

**None**

3. Provide a list of all contaminants to be cleaned up, anticipated volumes and a map delineating contaminated areas. This includes buildings, equipment, scrap metal and debris, and barrels as well as soil, water (surface and groundwater) and sediment.

**The contaminants to be cleaned up include:**

- **Hazardous materials (includes PCBs, Heavy Metals, Asbestos, etc.)**
  - **62 cubic metres**
- **Non-hazardous materials**
  - **1186 cubic metres**
- **Contaminated soils**
  - **Tier I**
    - **450 cubic metres**
  - **Tier II**
    - **488 cubic metres**
  - **Type B Hydrocarbons**
    - **1955 cubic metres**

**Maps delineating the contaminated areas can be found in the Remedial Action Plan (RAP) (Appendix 4) and the Site Maps and Drawings (Appendix 5).**

4. Describe the degree of pollution/contamination, and list the contaminants and toxicity.

**The degree of pollution/contamination is low to moderate.**

5. Describe technologies used for clean-up and/or disposal of contaminated materials. Include a list of all the physical, chemical and biological cleanup/ remediation methods, operational procedures, and the dosage/frequency of reagents and bacterial medium.

**Only proven methods/technologies will be used. See the Remedial Action Plan (Appendix 4) for the clean-up plans.**



6. Identify and describe all materials to be disposed of off site, including the proposed off site facilities, method of transport and containment measures.

**All hazardous materials, non-hazardous materials will be shipped off-site for disposal. Hazardous materials will be transported to southern licenced disposal facilities (exact facilities to be determined). Non-hazardous material will be transported to PIN-D Ross Point to be disposed of in the non-hazardous waste landfill to be constructed there. See the Remedial Action Plan (Appendix 4) for further details.**

7. Discuss the viability of landfarming, given site specific climate and geographic conditions.

**Landfarming has proven to be a viable option for the treatment of hydrocarbons (F1-F3) on other Distant Early Warning (DEW) Line sites. This technique is most effective on lighter end hydrocarbons and typically requires a couple of seasons to reduce contaminant levels to below criteria. Building the landfarm and starting treatment on the 1,955 cubic metres of hydrocarbon contaminated soil will be the first priority for the contractor on this project. Completing this task first will allow for the maximum about of treatment time.**

8. Describe the explosive types, hazard classes, volumes, uses, location of storage (indicate on a map), and method of storage (if applicable).

**None**

9. If blasting, describe the methods employed.

**Not applicable**

10. Describe all methods of erosion control, dust suppression, and contouring and re-vegetation of lands.

**None required**

11. Describe **all** activities included in this project.

- Excavation (please complete Section B-5)

**See Section B-5**

- Road use and/or construction (please complete Section A)

**See Section A**

- Airstrip use and/or construction

**See Part 2 – Transportation Questions 12-15.**

- Camp use and/or construction

**See Part 2 – Camp Site Transportation Questions 16-18.**

- Stockpiling of contaminated material

**Contaminated materials will be consolidated and packaged for transportation. They will be stored at a staging area until they are loaded onto the barge/sealift for removal from site. Confirmatory samples will be taken from the staging area once the materials are removed to confirm that the area is not contaminated.**

- Pit and/or quarry (please complete Section C)

**See Section C**

- Work within navigable waters (please complete Section H)

**Not applicable**

- Barrel crushing

**See Part 2 – Waste Water Questions 25. Empty barrels will be handled as per the Barrel Protocol described in the Abandoned Military Site Remediation Protocol (INAC 2009) which can be found in appendix D of the Remedial Action Plan (Appendix 4).**

- Building Demolition

**Existing infrastructure at the site includes:**

- Powerhouse module from the building train
- Downed antenna
- Fuel line

**All existing structures will be demolished as part of the remedial activities. See Appendix 4 for additional details.**

- Other

**None**

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## 4. DESCRIPTION OF THE EXISTING ENVIRONMENT

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Describe the existing environment, including physical, biological and socioeconomic aspects. Where appropriate, identify local study areas (LSA) and regional study areas (RSA).

Please note that the detail provided in the description of the existing environment should be appropriate for the type of project proposal and its scope.

The following is intended as a guide only.

**The existing environment is described in the “Environmental Assessment Screening Report: PIN-E, Cape Peel Intermediate DEW Line Site” (March 2010) prepared by AECOM. This report can be found in Appendix 6.**

### Physical Environment

*Please note that a description of the physical environment is intended to cover all components of a project, including roads/trails, marine routes, etc. that are in existence at present time.*

- Proximity to protected areas, including:
  - i. designated environmental areas, including parks;
  - ii. heritage sites;
  - iii. sensitive areas, including all sensitive marine habitat areas;
  - iv. recreational areas;
  - v. sport and commercial fishing areas;
  - vi. breeding, spawning and nursery areas;
  - vii. known migration routes of terrestrial and marine species;
  - viii. marine resources;
  - ix. areas of natural beauty, cultural or historical history;
  - x. protected wildlife areas; and
  - xi. other protected areas.
- Eskers and other unique landscapes (e.g. sand hills, marshes, wetlands, floodplains).
- Evidence of ground, slope or rock instability, seismicity.
- Evidence of thermokarsts.
- Evidence of ice lenses.
- Surface and bedrock geology.
- Topography.
- Permafrost (e.g. stability, depth, thickness, continuity, taliks).
- Sediment and soil quality.
- Hydrology/ limnology (e.g. watershed boundaries, lakes, streams, sediment geochemistry, surface water flow, groundwater flow, flood zones).
- Tidal processes and bathymetry in the project area (if applicable).
- Water quality and quantity.
- Air quality.
- Climate conditions and predicted future climate trends.
- Noise levels.
- Other physical Valued Ecosystem Components (VEC) as determined through community consultation and/or literature review.

## **Biological Environment**

- Vegetation (terrestrial as well as freshwater and marine where applicable).
- Wildlife, including habitat and migration patterns.
- Birds, including habitat and migration patterns.
- Species of concern as identified by federal or territorial agencies, including any wildlife species listed under the *Species at Risk Act (SARA)*, its critical habitat or the residences of individuals of the species.
- Aquatic (freshwater and marine) species, including habitat and migration/spawning patterns.
- Other biological Valued Ecosystem Components (VEC) as determined through community consultation and/or literature review.

## **Socioeconomic Environment**

- Proximity to communities.
- Archaeological and culturally significant sites (e.g. pingos, soap stone quarries) in the project (Local Study Area) and adjacent area (Regional Study Area).
- Palaeontological component of surface and bedrock geology.
- Land and resource use in the area, including subsistence harvesting, tourism, trapping and guiding operations.
- Local and regional traffic patterns.
- Human Health, broadly defined as a complete state of wellbeing (including physical, social, psychological, and spiritual aspects).
- Other Valued Socioeconomic Components (VSEC) as determined through community consultation and/or literature review.

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## 5. IDENTIFICATION OF IMPACTS AND PROPOSED MITIGATION MEASURES

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The identification of impacts and proposed mitigation measures are described in the “Environmental Assessment Screening Report: PIN-E, Cape Peel Intermediate DEW Line Site” (March 2010) prepared by AECOM. This report can be found in Appendix 6 (Table 10 starting on page 35 provides a summary).

1. Please complete the attached Table 1 – Identification of Environmental Impacts, taking into consideration the components/activities and project phase(s) identified in Section 4 of this document. Identify impacts in Table 1 as either positive (P), negative and mitigable (M), negative and non-mitigable (N), or unknown (U).

**See Table 1 below.**

2. Discuss the impacts identified in the above table.

**See Table 10 on page 35 of the “Environmental Assessment Screening Report: PIN-E, Cape Peel Intermediate DEW Line Site” (March 2010) prepared by AECOM. This report can be found in Appendix 6.**

3. Discuss potential socioeconomic impacts, including human health.

**See the “Environmental Assessment Screening Report: PIN-E, Cape Peel Intermediate DEW Line Site” (March 2010) prepared by AECOM. This report can be found in Appendix 6.**

4. Discuss potential for transboundary effects related to the project.

**None**

5. Identify any potentially adverse effects of the project proposal on species listed under the *Species at Risk Act* (SARA) and their critical habitats or residences, what measures will be taken to avoid or lessen those effects and how the effects will be monitored.

**See the “Environmental Assessment Screening Report: PIN-E, Cape Peel Intermediate DEW Line Site” (March 2010) prepared by AECOM. This report can be found in Appendix 6.**

6. Discuss proposed measures to mitigate all identified negative impacts.

**See the “Environmental Assessment Screening Report: PIN-E, Cape Peel Intermediate DEW Line Site” (March 2010) prepared by AECOM. This report can be found in Appendix 6.**



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## 6. CUMULATIVE EFFECTS

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Discuss how the effects of this project interact with the effects of relevant past, present and reasonably foreseeable projects in a regional context.

**The cumulative effects of this project are discussed in the “Environmental Assessment Screening Report: PIN-E, Cape Peel Intermediate DEW Line Site” (March 2010) prepared by AECOM. This report can be found in Appendix 6.**

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## 7. SUPPORTING DOCUMENTS

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Where relevant, provide the following supporting documents:

- Abandonment and Decommissioning Plan

**See Remedial Action Plan in Appendix 4.**

- Existing site photos with descriptions

**Not included. Site photos are available in the Phase III Environmental Site Assessment.**

- Emergency Response Plan

**Not available, will be completed prior to mobilizing to site.**

- Comprehensive Spill Prevention/Plan (must consider hazardous waste and fuel handling, storage, disposal, spill prevention measures, staff training and emergency contacts)

**Not available, will be completed prior to mobilizing to site.**

- Waste Management Plan/Program

**Not available, will be completed prior to mobilizing to site.**

- Monitoring and Management Plans (e.g. water quality, air pollution, noise control and wildlife protection etc.)

**Not available, will be completed prior to mobilizing to site.**

- If project activities are located within Caribou Protection Areas or Schedule 1 Species at Risk known locations, please provide a Wildlife Mitigation and Monitoring Plan

**Not applicable**

In addition, for Project Type 9 (Site Cleanup/Remediation), please provide the following additional supporting documents:


- Remediation Plan including cleanup criteria and how the criteria were derived.

**See Appendix 4.**

- Human Health Risk Assessment of the contaminants at the site.

**Not available**

TABLE 1 - IDENTIFICATION OF ENVIRONMENTAL IMPACTS

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Note: Please indicate in the matrix cell whether the interaction causes an impact and whether the impact is

- P = Positive
- N = Negative and non-mitigatable
- M = Negative and mitigatable
- U = Unknown

If no impact is expected please leave the cell blank