

Part 2 Form
Project Proposal Information Requirements
FOX-C (Ekalugad Fjord) Intermediate DEW Line Site Clean-Up

1. Project Description

1. Contact Information	<i>Robert (Bob) Martin Contaminated Sites Project Officer Department of Indian Affairs and Northern Development P.O. 2200 Iqaluit, NU, X0A 0H0 Phone (867) 979-7931 Fax (867) 979-7939 martinro@inac-ainc.gc.ca</i>
2. Lead Authorizing Agencies	<i>Department of Indian Affairs and Northern Development</i>
3. Interested parties consulted in the development of the project description	<i>Portions of the site will be carried out on both Inuit Owned Lands and Crown Lands. See attached Public Consultation documents for a list of interested parties.</i>
4. Federal Acts, regulations and guidelines affecting project activities.	<i>Article 12 - Nunavut Land Claims Agreement (Nunavut Impact Review Board) DFO - Freshwater Intake End of Pipe Fish Screen Guideline Fisheries Act - s.35 Canadian Drinking Water Quality Guidelines Public Health Act Camp Sanitation Regulations Public Health Act Water Supply Regulations Canadian Environmental Protection Act Canadian Environmental Assessment Act Transportation of Dangerous Goods Act</i>
5. List of approvals, permits, and licenses required including the authorization, authority, activity to which the authorization applies, and timing.	<i>Water Licence, Nunavut Water Board Land Use Permit, DIAND Quarry Permit, IOL Permit process Access to Inuit Owned Land Permit Conformance to Baffin Planning Region Land Use Plan</i>
6. Project rationale.	<i>No alternatives to site clean up were identified. The rationale for site clean up was</i>

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<p>7. Project alternatives including:</p> <ul style="list-style-type: none"> ▪ Discussion of alternatives with respect to borrow sites, landfill sites, and disposal/clean up methods; and ▪ Justification for the chosen option 	<p><i>identified through the Federal Contaminated Sites Accelerated Action Plan (FCSAAP). Based on risk assessment, it was found to be potential a risk to human health and the environment and action was required.</i></p> <p><i>Through various public and internal discussions, it was determined that DIAND would take a similar clean up approach to that previous used by DND in the remediation of their DEW Line sites and established in the DEW Line Site Remediation Protocol.</i></p> <p><i>For a discussion on alternative Borrow/Landfill/Landfarm Sites – Refer to Dew Line Clean Up Project, FOX-C (Ekalugad Fjord) DEW Line Site 2004 Geotechnical Investigation report (EBA 2004)</i></p>
<p>8. List of project activities</p>	<p><i>The principle activities of this project include:</i></p> <ul style="list-style-type: none"> • <i>The existing site infrastructure will be demolished and the wastes material will be segregated into hazardous and non-hazardous materials and disposed of appropriately;</i> • <i>Contaminated soil areas identified during the previous field investigations, will be remediated;</i> • <i>All hazardous materials and soil will be disposed of at an off-site licensed disposal facility;</i> • <i>Scattered surface debris and partially buried debris on the site is to be collected and disposed of;</i> • <i>New landfills will be constructed to contain the non-hazardous contaminated soil and demolition waste generated during the clean up;</i> • <i>Existing landfills, on this site, will be remediated, as required;</i> • <i>Barrels disposed of in water courses will be consolidated, crushed and disposed of in on-site landfills; and</i> <p><i>Refer to Remediation Work Plan, FOX-C Ekalugad Fiord Intermediate DEW Line Site (UMA 2005)</i></p>

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9. List of facilities to be demolished	<i>All site facilities are to be demolished and wastes disposed of. See Remediation Work Plan, FOX-C Ekalugad Fiord Intermediate DEW Line Site (UMA 2005)</i>
10. Schedule of activities.	<i>See attached Project Schedule</i>
11. Summary of previous site investigations (all phases) including assumptions.	<ul style="list-style-type: none"> - <i>Environmental assessment initiated in 1985 when a hazardous materials removal program was conducted (removal of PCBs, POLs and identification of buried materials).</i> - <i>Hazardous materials assessment completed in 1994.</i> - <i>Detailed surface soil sampling program was completed in 1993 (investigation did not include assessment of hydrocarbon contamination).</i> - <i>Human Health Screening Level Risk Assessment carried out in 2003.</i> - <i>Surface and Groundwater Sampling Program carried out in 2003 (results indicated that FOX-C was a high priority Intermediate DEW Line Site requiring further investigation and remedial activity)</i> - <i>In 2004 a Phase III Environmental Site Assessment and Geotechnical Investigation and Electromagnetic Survey was conducted.</i> - <i>Community meetings were held in Qikiqtarjuaq and Clyde River in 2004.</i>
12. Site map(s) showing proposed and existing facilities, disposal facilities, quarries/pits, and roads	<i>See Site Plans & Maps in Phase III Environmental Site Assessment and Waste Audit report (Earth Tech 2004).</i>
13. List of contaminants of concern to be cleaned-up.	<i>Petroleum Hydrocarbons; Polychlorinated Biphenyls; and some Metals.</i> <i>See Phase III Environmental Site Assessment and Waste Audit for details (Earth Tech 2004).</i>
14. Clean-up criteria and classification of contamination.	<ul style="list-style-type: none"> - <i>DEW Line Cleanup Criteria (DCC) will be used for inorganic elements and PCBs in soil (see Table 3-1 in the attached Remediation Work Plan, FOX-C Ekalugad Fiord Intermediate DEW Line Site (UMA 2005)</i> - <i>Canada Wide Standards (CWS) for Petroleum Hydrocarbons (PHC) criteria for Residential/Parkland Fine Grained Soil will be used for hydrocarbon impacted soil</i> <i>Refer to Remediation Work Plan, FOX-C Ekalugad Fiord Intermediate DEW Line Site (UMA 2005)</i>
15. Justification of clean-up criteria (i.e. DEW Line	<i>A Risk Assessment was conducted at the site in 2004 and was used to determine</i>

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clean-up criteria, CCME, CEPA, other) (possibly using a risk assessment approach).	<i>whether previously identified criteria are appropriate for this site. For most contaminants, DEW Line and CCME CWS for PHC's were found to be suitable, however, it was determined that some hydrocarbon contaminants may need to be cleaned up to site specific risk based criteria.</i>
16. Description and expected volumes of contaminated materials.	<i>Contaminated soils – 1455 m³</i> <i>Non-Hazardous Debris - 6455 m³</i> <i>Hazardous Materials - 170 m³</i> <i>Refer to Tables in Section 6 Remediation Work Plan, FOX-C Ekalugad Fiord Intermediate DEW Line Site (UMA 2005)</i>
17. Map delineating contaminants of concern, and classification of contaminants. Consider using contours to indicate depth of contamination.	<i>Refer to Table 8.1 and Figures 3.0 to 6.2 in the Phase III Environmental Site Assessment and Waste Audit for details (Earth Tech 2004)</i>
18. List of equipment existing on site and brought to site.	<i>All equipment to be used at the site must be shipped there as part of the clean up contract. Heavy equipment such as loaders, caterpillars, trucks is anticipated plus support vehicles. Exact equipment requirements have not been determined to date.</i>
19. List of fuel types and volumes brought to site.	<i>Fuels will be needed to run equipment and the camp, however, exact requirements have not been determined. Fuel will be shipped to site in 205 L drums and stored a suitable distance from site water bodies. Any fuel remaining at completion of the project will be removed from the site.</i>
20. List of other chemicals and volumes brought to site and MSDS sheets.	<i>Small volumes of lubricants and other chemicals needed to maintain and run site equipment and the camp will be stored at the site during the active portion of the project. These materials will be removed from the site at completion of the project. Upon award of contract, the Contractor will provide types, quantities, and MSDS for all fuel and chemicals on site.</i>
21. Fuel and chemical storage methods.	<i>Handling, storage and use of flammable liquids will be governed by the current National Fire Code of Canada. Flammable liquids such as gasoline, kerosene and naphtha will be kept for ready use in quantities not exceeding 45 litres, provided they are stored in approved safety cans bearing the Underwriter's Laboratory of Canada or Factory Mutual seal of approval.</i>

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	<p><i>Contractor will comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding employee training, use, handling, storage and disposal of hazardous materials, and regarding labeling and provision of Material Safety Data Sheets (MSDS) as required by WHMIS legislation.</i></p> <p><i>Upon award of contract, the Contractor will provide types, quantities, and MSDS for all fuel and chemicals on site.</i></p>
22. Site access and transportation methods for personnel, equipment, and supplies.	<ul style="list-style-type: none"> • Air Transport - Most transportation by air is expected to utilize a charter rotary aircraft (i.e. no airstrip at site). It may be feasible to utilize a float plane that could land on the lake. The float plane alternative should be noted in the land use application etc. • Sealift Transport - It is anticipated that contractors will utilize sealift to transport bulk materials and equipment (vehicles, construction equipment, fuel, etc.) to/from FOX-C. This would potentially result in the increase in sealift traffic by one or two sailings per year (one early and one late summer). Otherwise, no additional vessel traffic is anticipated. • Land Transport - It is anticipated that overland transport will be required between the Beach landing area the Lake Area and the Mid-Station/Upper Station via existing roads for mobilization/ demobilization of materials and equipment.
23. Description of existing and future camp facilities.	<p><i>The camp will support up to a maximum of 35 people at any given time. All camp buildings and facilities will be located so as not to interfere with any construction, clean up or other site activities. The exact location of the camp will be determined upon awarding of camp contract. An alarmed trip wire will surround the camp to provide warning of wildlife intrusions whenever wildlife monitors are not patrolling.</i></p>
24. Description of power generation.	<p><i>Diesel powered generator sets. Details to be provided by Contractor upon award of contract.</i></p>
25. Description of water source and anticipated	<p><i>Potential water sources are the river located adjacent to the proposed base</i></p>

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volumes consumed.	<p><i>camp at the Lower Beach Site</i> <i>A maximum of 35 people are expected in the camp at any given time.</i></p> <p><i>300 litres /day/person x 35 people x 75 days/year = 787,500 litres of non-potable water from the river located adjacent to the Lower Beach Site per year.</i></p> <p><i>The calculation is conservatively based on the highest number of people and days expected on site each year.</i> <i>Commercially bottled water that meets Health Canada Guidelines for Canadian Drinking Water Quality (GCDWQ) will be used as drinking water until it is demonstrated that the local source meets the Health Canada GCDWQ. Water will be sampled at the water supply sources and at the distribution source and submitted for laboratory analysis. Prior to consumption, at least two consecutive sets of analytical test results will demonstrate that the water source meets the Health Canada GCDWQ. Water will be sampled and analyzed weekly as long as the camp is operational.</i></p>
26. Expected volumes, treatment, and disposal of wastewater.	<i>A lagoon will be constructed to store wastewater. The wastewater will be sampled and when lab results indicate the samples meets federal effluent criteria, the wastewater will be discharged on site.</i>
27. Volumes of material anticipated to be extracted from each pit/quarry, characterization of extracted material including acid generating potential, and use of material from each pit/quarry.	<p><i>Approximately 25,000 m³ of fill material is required for site clean up.</i> <i>Refer to Dew Line Clean Up Project, Fox-C (Ekalugad Fjord) Dew Line Site 2004 Geotechnical Investigation report (EBA 2004)</i></p>
28. Describe blasting activities (if any) and explosive type, quantities, use, and storage.	N/A
29. Describe disposal requirements and methods for: <ul style="list-style-type: none"> ▪ Soils; ▪ Site debris; ▪ Barrels; 	<p><i>Refer to the following Sections in the Remediation Work Plan, FOX-C Ekalugad Fiord Intermediate DEW Line Site (UMA 2005):</i> <i>Section 3.2 – Soil;</i> <i>Section 3.5 – Site Debris;</i></p>

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<ul style="list-style-type: none"> ▪ Hazardous waste; ▪ Non-hazardous waste; and ▪ Other. 	<p><i>Section 3.6 – Barrel Disposal; and</i> <i>Section 3.8 – Hazardous Material Disposal.</i> <i>Section 3.3.1 – Non Hazardous Waste Disposal</i></p>
30. Description, location, condition and contents of existing landfills and dumps.	<p><i>Five existing landfills/dumps have been identified at the site. Refer to Section 3.4 in Remediation Work Plan, FOX-C Ekalugad Fiord Intermediate DEW Line Site (UMA 2005) and Table 4.1 in the Phase III Environmental Site Assessment and Waste Audit for details (Earth Tech 2004) for more details.</i></p>
31. Preliminary design (including drawings) of proposed landfills, dumps and landfarms.	<p><i>Refer to Section 4.0 in the Remediation Work Plan, FOX-C Ekalugad Fiord Intermediate DEW Line Site (UMA 2005)</i></p>
32. Description of development, operation, and closure of disposal/treatment facilities.	<p><i>See #31 for development of onsite landfills and landfarm. Two landfills and one landfarm are proposed.. Operation/Monitoring of Groundwater monitoring wells will be installed around the perimeter of the landfill to facilitate long term leachate monitoring. Monitoring will occur at least annually for the first five years and every five years thereafter for a total of 25 years. The monitoring requirements of the landfill will be reassessed at that time.</i> Remediation Work Plan, FOX-C Ekalugad Fiord Intermediate DEW Line Site (UMA 2005)</p>
33. Applicability of Landfarm in the North.	<p><i>It is expected that treatment of petroleum hydrocarbon contaminated soils in a landfarm facility that is to be constructed near the Beach Area will take at least three years. This is considerably longer than would be expected at more southern sites. However, based on the fact that soils are high in shorter chain PHC's, it is expected that this treatment will be successful. DIAND will continue to monitor the treatment of these soils and, if contaminant concentrations do not decrease, other treatment methods will be required.</i></p>
34. Sample collection and analysis methods used to determine contaminant and classification. Method of determining whether site meets clean up criteria.	<p><i>Refer to Section 3.1 of Phase III Environmental Site Assessment and Waste Audit for details (Earth Tech 2004). Sample collection and analysis will be similar to that used by Earth Tech (i.e. industry standard). Confirmatory sample results will be compared to appropriate clean up criteria to determine whether site meets the criteria.</i></p>

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35. Quality Assurance and Quality Control measures for sampling and analysis.	<i>Refer to Section 4.8 of Phase III Environmental Site Assessment and Waste Audit for details (Earth Tech 2004). Confirmatory sampling will be carried out in a similar manner.</i>
36. Identification of salvageable equipment and/or supplies.	<i>Equipment and/or supplies will be salvaged/recycled on an opportunistic basis.</i>
37. Description of workforce.	<i>To be determined by the contactor. Anticipate trades include labourers, camp personnel, foremen.</i>
38. Opportunities for local training and employment.	<i>To be determined by the contactor. Part of the bid evaluation criteria</i>
39. Workforce management including rotational schedules.	<i>To be determined by the contractor.</i>
40. Summary of public consultation measures, concerns expressed, and methods of addressing those concerns.	<i>A series of consultation events were carried out in Iqaluit, Qikiqtarjuak and Clyde River, with members of the public, municipalities, elders and hunters and trappers. See Public Consultation related documents Land Use Application Appendix B.</i>
41. Describe how any traditional knowledge was obtained and integrated into the project design	<i>Detailed community consultation was carried out to assist DIAND in the design of this project. Traditional knowledge was a component of the information compiled from various local groups. Elders and hunters were brought to the site during the investigation process and invited to contribute to DIAND's knowledge base for the site. This information was used to develop the Remediation Work Plan as well as the Natural Environment of the Site report and environmental impact assessment report.</i>
2. Description of the Existing Environment	
Physical	
1. Climate conditions and future trends.	<i>Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)</i>
2. Evidence of ground or rock instability.	<i>Refer to Dew Line Clean Up Project, Fox-C (Ekalugad Fjord) DEW Line Site 2004 Geotechnical Investigation report (EBA 2004)</i>
3. Eskers and other unique landscapes.	<i>Refer to Dew Line Clean Up Project, Fox-C (Ekalugad Fjord) DEW Line Site 2004 Geotechnical Investigation report (EBA 2004)</i>

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4. Sediment and soil quality.	<i>Refer to Dew Line Clean Up Project, Fox-C (Ekalugad Fjord) DEW Line Site 2004 Geotechnical Investigation report (EBA 2004)</i>
5. Air quality.	<i>Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)</i>
6. Hydrology/limnology (for example: watershed boundaries, lakes, streams, sediment geochemistry, surface water flow, groundwater flow, flood zones).	<i>Refer to Section 1. of Natural Environment of The Fox-C Dew Line Site Ekalugad Fjord Baffin Island (Jacques Whitford 2004)</i>
7. Surface and Bedrock Geology.	<i>Refer to Introduction Section of Natural Environment of The Fox-C Dew Line Site Ekalugad Fjord Baffin Island (Jacques Whitford 2004)</i>
8. Permafrost.	<i>Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)</i>
9. Water quality.	
10. Air quality.	
11. Noise levels.	
12. Physical Valued Ecosystem Components (VECs).	
Biological	
13. Vegetation	<i>Refer to Section 2. of Natural Environment of The Fox-C Dew Line Site Ekalugad Fjord Baffin Island (Jacques Whitford 2004)</i>
14. Wildlife including habitat and migration.	<i>Refer to Section 3.2 of Natural Environment of The Fox-C Dew Line Site Ekalugad Fjord Baffin Island (Jacques Whitford 2004) for Mammals and Section 4.1, 4.2 and 4.3 for Species at Risk</i>
15. Birds including habitat and migration.	<i>Refer to Section 5.1. of Natural Environment of The Fox-C Dew Line Site Ekalugad Fjord Baffin Island (Jacques Whitford 2004)</i>
16. Freshwater biota and habitat.	<i>Refer to Section 1. of Natural Environment of The Fox-C Dew Line Site Ekalugad Fjord Baffin Island (Jacques Whitford 2004)</i>
17. Marine biota and habitat.	<i>Refer to Section 2. of Natural Environment of The Fox-C Dew Line Site Ekalugad Fjord Baffin Island (Jacques Whitford 2004)</i>
18. Protected areas.	<i>No protected areas have been identified in the area surrounding the site.</i>
19. Biological Valued Ecosystem Components (VECs).	<i>Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line</i>

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	<i>Site (Jacques Whitford 2005)</i>
Socio-Economic	
20. Archaeological and culturally significant sites.	<i>Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)</i>
21. Local and regional income, employment, education and training.	<i>Provisions have been built into the contracting process to ensure Inuit employment and business opportunities. A portion of up to 2% of the total contract will be set aside for training.</i>
22. Land and resource use.	<i>Locals use the site on an occasional basis particularly for fishing (lake and cove) and for camping (beach area).</i>
23. Subsistence harvesting.	
24. Valued Social and Economic Components (VSECs).	<i>Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)</i>
3. Identification of Environmental Impacts	
1. Provide a summary of the interactions between the project activities and the existing environmental components (please completed the attached Table 1). Identify impacts in Table 1 as either positive (P), negative and mitigable (M), negative and non-mitigable (N), or unknown (U).	<i>Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)</i>
2. Provide a detailed description and discussion of the impacts identified in the above table.	
3. Describe the impact of the environment and climate change on the project and specific designs.	
4. Mitigation of Environmental Impacts	
Please complete the attached Table 2.	<i>Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)</i>
5. Identification of Socio-Economic Impacts and Mitigation	
Provide a discussion on the socio-economic	<i>Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line</i>

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impacts of the project, including but not limited to, the following:

- Subsistence harvesting;
- Local and regional economic income, employment, education and training;
- Archaeological and culturally significant sites; and
- Land and resource use;

and propose mitigation measures for adverse effects, where possible.

Site (Jacques Whitford 2005)

6. Residual Environmental and Socio-Economic Effects

1. Identify residual adverse effects.

2. Determine the significance of the residual adverse effects. When considering significance, factors that should be taken into account include:

- Nature (direct or indirect, cumulative);
- Magnitude;
- Geographical extent;
- Timing;
- Duration;
- Reversibility;
- Ecological extent (percentage of population affected and the importance of the population affected);
- Likelihood of occurrence;

3. Provide a discussion of the overall effect of the project on the regional and local environments.

Refer to Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)

7. 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.

*Refer to **Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)***

8. Supporting Plans

Please provide the following supporting documents.

1. Detailed Monitoring Plan;
2. Site Maintenance Plan;
3. Spill Contingency and Emergency Response Plan;
4. Occupational Health and Safety Plan;
5. Environmental Management Plan;
6. Abandonment and Decommissioning Plan, including:
 - Potential risk to wildlife health from exposure to reclaimed site; and
 - Potential risks to human health based on consumption of wildlife exposed to the site;
7. Existing site photos with descriptions; and
8. Community Consultation Plan.

1. A **Detailed Monitoring Plan** will be initiated upon completion of the Remediation project and will be based on site specific issues identified during that work.
2. The **Site Maintenance Plan** is currently in the pre-planning stages and will be finalized upon completion of site construction.
3. The **Spill Contingency Plan and Environmental Protection Plans for the Barrel Removal and Culvert Installation Works** are attached.
4. The contractor will provide a detailed **Health and Safety plan**.
5. The **Phase III Environmental Site Assessment** is attached including various site photos illustrating specific issues identified. The **Environmental Screening of the Site Remediation of FOX-C DEW Line Site (Jacques Whitford 2005)** will be forwarded for inclusion upon its completion.
6. The **Remediation Work Plan** and the **Human Health and Ecological Risk Assessment** are attached.
7. The **Phase III Environmental Site Assessment** is attached including various site photos illustrating specific issues identified.
8. Results of the **Community Consultation program** in the Land Use Permit Application, Appendix B.