

**PROPOSED LANDFILL MONITORING PLAN**  
**NUNAVUT SETTLEMENT AREA - DEW LINE SITES**  
**DRAFT - REVISION 4**

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PIN-2 CAPE YOUNG  
 PIN-3 LADY FRANKLIN POINT  
 PIN-4 BYRON BAY  
 CAM-M CAMBRIDGE BAY  
 CAM-1 JENNY LIND ISLAND  
 CAM-2 GLADMAN POINT  
 CAM-3 SHEPHERD BAY  
 CAM-4 PELLY BAY  
 CAM-5 MACKAR INLET  
 FOX-M HALL BEACH  
 FOX-2 LONSTAFF BLUFF  
 FOX-3 DEWARE LAKES  
 FOX-4 CAPE HOOPER  
 FOX-5 BROUGHTON ISLAND  
 DYE-M CAPE DYER *Not Included in this Draft*

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## LIST OF ACRONYMS

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CCME	Canadian Council of Ministers of the Environment
DCC	DEW Line Cleanup Criteria
DCL	Defence Construction Canada Ltd.
DEW	Distant Early Warning
DIAND	Department of Indian Affairs and Northern Development
DLCU	DEW Line Clean Up
DND	Department of National Defence
ESG	Environmental Sciences Group @ Royal Military College
EWG	Environmental Working Group
ICP	Inductively Coupled Plasma
LRR	Long Range Radar
NWS	North Warning System
NSA	Nunavut Settlement Area
NTCL	Northern Transportation Company Ltd.
NTI	Nunavut Tunngavik Incorporated
PAH	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
POL	Petroleum Oil Lubricants
SRR	Short Range Radar
TEH	Total Extractable Hydrocarbons
TPH	Total Petroleum Hydrocarbons
UMA	UMA Engineering Ltd.
USAF	United States Air Force

# 1. INTRODUCTION

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The Distant Early Warning (DEW) Line was constructed across the Arctic coastline during the 1950s to provide radar surveillance of northern military approaches. A total of 42 sites were constructed in Canada, 21 of which were shut-down and abandoned in the early 1960s due to advances in radar technology. These sites were transferred to the jurisdiction of the Department of Indian Affairs and Northern Development (DIAND).

The remaining 21 sites continued to be operated until the early 1990s when they were replaced with the automated North Warning System (NWS). Eight DEW Line sites were converted to NWS Long Range Radar site, eight sites have a Short Range Radar located on or near the original reserve, and the five remaining sites are no longer required. The location of the DND DEW Line sites is shown on Figure 1.1.

Between 1996 and 2008, the Department of National Defence (DND) is carrying out the cleanup and restoration of these 21 DEW Line sites. It is intended that the majority of cleanup and restoration work to be completed at each individual site will be performed in a general contract spanning two to three years, supplemented with separate specialty contracts such as for the disposal of hazardous materials, as appropriate. Cleanup requirements for the sites are based on a risk management approach, and were developed by the Environmental Sciences Group, Royal Military College over the period 1989 to 1992, in consultation with various government agencies and Aboriginal Land Claims Organizations. In general, the cleanup requirements address demolition of facilities and structures, removal and disposal/treatment of contaminated soils and debris, and remediation of existing landfills.

This document addresses the landfill monitoring guidelines for the fifteen DEW Line sites located in the eastern and central Arctic within the Nunavut Settlement Area. An Agreement has been established between Nunavut Tunngavik Incorporated and the Department of National Defence, regarding the cleanup of the DEW Line Sites. Within this Agreement, the Environmental Provisions address the restoration and cleanup of these DEW Line sites, as well as the issue of future landfill monitoring. Consistent with the risk management approach adopted for the project, DND has committed to post-construction monitoring of existing and new landfills, remediated or constructed during the cleanup.

Post cleanup management includes three aspects: quality assurance certification that the site is clean; properties action (if required) and landfill monitoring.

The overall schedule for cleanup of the 21 sites under the jurisdiction of DND was developed based on environmental priorities, geographic location, and consultation with aboriginal groups. It was also included in the Treasury Board submission for approval of funding for the DLCU project. DND, through their contracting agency, Defence Construction Canada (DCL), initiated cleanup of the DEW Line sites in 1996.

Further to a Memorandum of Understanding signed between DIAND and DND in 1989, it is the intent of DND to return DEW Line site property, surplus to NWS requirements, to DIAND (for military reservation on Crown land). However, DND intends to retain landfills to be monitored and access thereto, within the future military reservations. Property action is to include a disclosure document, which includes a site-specific Post Cleanup Management Plan. This Plan addresses future requirements related to the landfills, specifically, monitoring and corrective action as required. Therefore the property transfer considers future activity by DND related to monitoring of the landfills.

Section 2 of this document describes in general terms, the types of landfills and monitoring requirements. Section 3 provides an overview of the landfill monitoring requirements at the DEW Line sites in the Nunavut Settlement Area. The remainder of the document has been organized by site, and provides general information relative to the landfill assessment and design, and details of the landfill monitoring program. These annexes include:

- PIN-2 Cape Young
- PIN-3 Lady Franklin Point
- PIN-4 Byron Bay
- CAM-M Cambridge Bay
- CAM-1 Jenny Lind Island
- CAM-2 Gladman Point
- CAM-3 Shepherd Bay
- CAM-4 Pelly Bay
- CAM-5 Mackar Inlet
- FOX-M Hall Beach
- FOX-2 Longstaff Bluff
- FOX-3 Dewar Lakes
- FOX-4 Cape Hooper
- FOX-5 Broughton Island
- *DYE-M Cape Dyer (not included in this draft)*