INITIAL ENVIRONMENTAL EVALUATION
OF THE
NORTH WARNING SYSTEM PROJECT
ELEVEN LONG RANGE RADAR SITES
AND THE
SHORT RANGE RADAR DEVELOPMENT SITE
VOLUME ONE

MONENCO-EYRETECHNICS GROUP

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ANNEX E

CAM-3

SHEPHERD BAY, N.W.T.

ANNEX E

TABLE OF CONTENTS

PART 1

INTRODUCTION

1.1 The Shepherd Bay Auxiliary Radar Station (CAM-3) was built between 1955-1957. It consists of one original 25-module accommodation and service train with a radome and outbuildings.

1.2 CAM-3 will be upgraded to serve as a LRR. The radar, electronics and power systems will be modernized to meet the needs of the NWS.

PART 2

PROJECT DESCRIPTION

2.1 CAM-3 is located on the western shore of the Boothia Peninsula, the northern end of which is the most northerly point on the North American continent. The exact location of radar station is 68°-48'-38" N and 96°-26'-01" W.

2.2 The region is characterized by a very flat and wide low lying plain, 50 m or less in elevation, extending inland to the east from Shepherd Bay and to Rasmussen Basin in the west.

2.3 Mackenzie River barges traverse the western Arctic annually as far east as Shepherd Bay. Aircraft access to CAM-3 is either through Cambridge Bay (CAM-Main) to the west or through Hall Beach (FOX-Main) to the east.

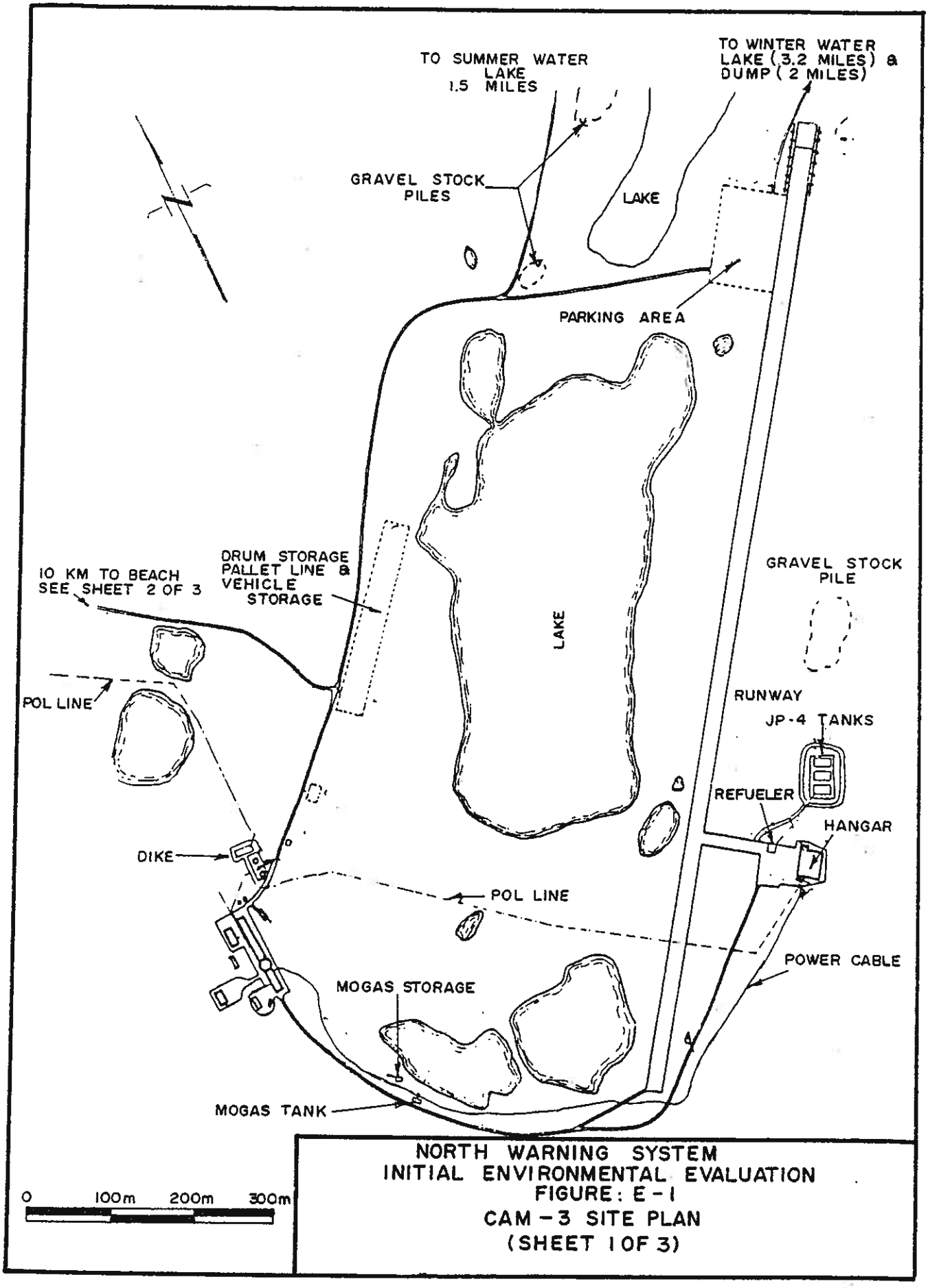
2.4 The nearest Inuit settlements, Spence Bay and Gjoa Haven, are 100 km away to the north and west respectively.

2.5 The numerous lakes which dot the coastal plain of the Boothia Peninsula are ideal habitat for nesting birds and many species of waterfowl and shorebirds nest in or near the station.

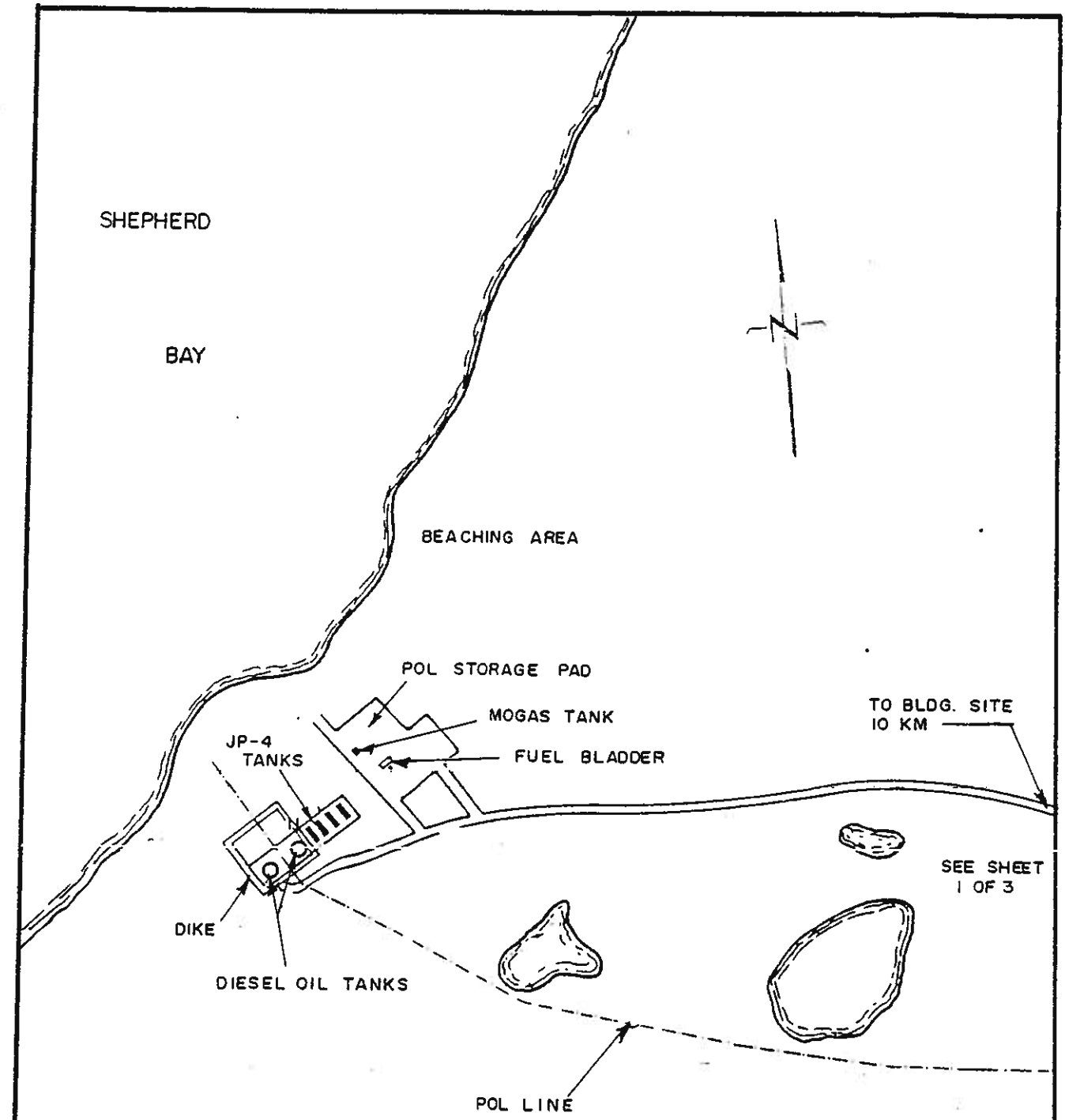
2.6 The specific layout of CAM-3 is presented in Figure E-1. CAM-3 occupies an area of 2214 hectares including the airport and consists of 8 buildings, one of which is temporary accommodation for construction staff during 1986 and 1987 summer seasons.

2.7 Presently, on an annual average, a staff of 16 is required to operate and maintain CAM-3. Projected NWS staff requirements for O&M are 10.

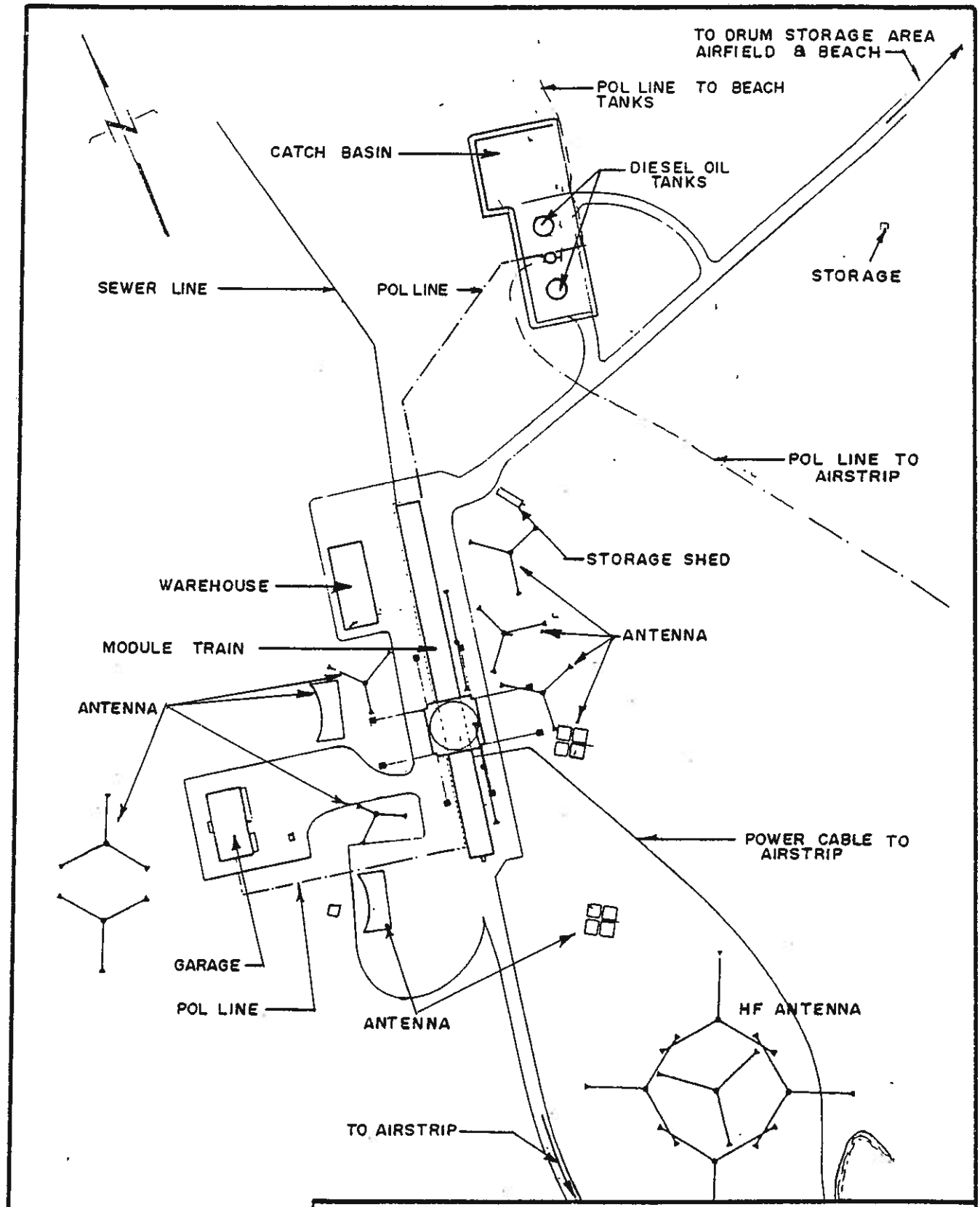
2.8 The beach and landing area are located 10 km from the CAM-3 station. Because the station is so far from the beach, there are two aircraft runways at the site. The main one is located just east of the station but a short gravel strip is also located along the beach near the sea-lift beach area.



NORTH WARNING SYSTEM
INITIAL ENVIRONMENTAL EVALUATION
FIGURE: E-1
CAM-3 SITE PLAN
(SHEET 1 OF 3)



NORTH WARNING SYSTEM
INITIAL ENVIRONMENTAL EVALUATION
FIGURE: E-1
CAM-3 SITE PLAN
(SHEET 2 OF 3)



NORTH WARNING SYSTEM
INITIAL ENVIRONMENTAL EVALUATION
FIGURE: E-1
CAM-3 SITE PLAN
(SHEET 3 OF 3)

PART 3

EXISTING ENVIRONMENT

3.1 Biophysical Resources

3.1.1 Boothia Peninsula separates the Western Arctic from the Eastern Arctic. It is a long, narrow land mass extending north from mainland Canada into the Central Arctic. CAM-3 is located near the south western shore where the peninsula is about 130 km wide. The peninsula is very flat with a wide low lying coastal plain to the west, rising to a plateau about 150 m high to the east.

3.1.2 CAM-3 is on a relatively high (50 metre above sea level) gravel ridge located 10 km inland from Shepherd Bay. The plain is studded with lakes and wetlands but has little vegetation. Eskers are common on the plain in all directions.

3.1.3 Total annual precipitation is 50 cm including 140 cm of snow. The maximum and minimum temperatures recorded at CAM-3 are 23°C and -61°C, respectively.

3.1.4 The area although seemingly bleak provides good habitat for wildlife, particularly birds.

3.1.5 The area is heavily used by birds, primarily nesting waterfowl in the spring and summer. Ptarmigan are locally common and flocks of 10 to 20 have been observed around the station. The region also provides good habitat for arctic fox, arctic hares and wolves. Polar bears are occasionally seen during the open water season. Caribou are common near the station and are frequently seen in the vicinity of the airstrip.

3.1.6 Water and gravel are readily available in the immediate vicinity of the station.

3.2 Socio-economic Setting

3.2.1 There are no Inuit communities in the vicinity of the station. Gjoa Haven is located 100 km across Rasmussen Basin to the west and Spence Bay is located 85 km farther north on Boothia Peninsula.

3.2.2 The Inuit maintain a traditional economy and life-style based on hunting and fishing and seasonally frequent the area of the station. However, except in emergency or unusual circumstances there is no direct communication between personnel on the station and Inuit travelling in the locale of CAM-3.

3.3 Land Use

3.3.1 CAM-3 is located in a region of the Arctic which provides excellent bird nesting habitat. Other wildlife also frequents the region. Inuit hunt throughout the Boothia Peninsula primarily for caribou.

3.3.2 There are no plans to expand CAM-3 for the NWS and consequently it is anticipated that no land use conflicts will arise.

3.3.3 There are no designated lands or outstanding Inuit land claims in the area.

3.4 Heritage Resources

3.4.1 There are no known heritage resources in the immediate vicinity of CAM-3.

3.4.2 It is known that Admiral Hall led an expedition overland in search of Franklin near here in 1869. However, it is not known if he passed close to the site as no artifacts have been found at or near CAM-3.

PART 4

PROJECT IMPACTS AND MITIGATIVE MEASURES

4.1 Potential Impacts

4.1.1 CAM-3 is one of the smaller and least active DEW Line stations with a total annual average O&M crew of 16 persons. The reconstruction of this auxiliary station into a LRR will account for the potential sources of environmental disturbance.

4.1.2 The following discussion of potential impacts is predicated upon the assumption that CAM-3 is presently operated in an environmentally acceptable manner. Thus the evaluation addresses the incremental effects of construction activities required to convert the existing DEW Line station to a NWS LRR and the effects of subsequent O&M by 10 staff over the expected 20-year lifespan.

4.1.3 No issues relative to the Valued Ecosystem Components in Table 3-1 have been identified for these activities.

4.1.4 Any potential sources of environmental impacts at CAM-3 will result from the presence of additional construction equipment, the seasonal presence of more personnel on site and increased levels of daily, summer construction activities. Construction activity will be limited to the

extent that existing modular buildings will be modified and two SGTs will be added. All activities and new facilities are within the area presently occupied by the station.

4.1.5 Any environmental change then would originate from the incremental changes introduced to the site and normal O&M activities as a result of modification to the existing station.

4.1.6 In the future, the site size is expected to remain constant: the numbers of personnel on site are expected to be reduced from 16 to 10 and the day-to-day activities should remain consistent with what has occurred over the past 30 years. Consequently, the O&M and decommissioning and abandonment phases of the CAM-3 site do not represent significant sources of environmental concern.

4.1.7 The following table lists the site alterations which will be required to upgrade CAM-3 to a LRR.

Site: SHEPHERD BAY		CAM-3
EXISTING SITE COMPONENTS	EXPECTED ALTERATIONS	NET CHANGES
1. TERRAIN General Features Prominent Features	. No change	. None

Site: SHEPHERD BAY CAM-3

EXISTING SITE COMPONENTS	EXPECTED ALTERATIONS	NET CHANGES
Roads/Culverts Surface Drainage	. No change	. None
2. AIRPORT/RUNWAY Buildings Landing Strip Cut & Fill Refuelling Facility	. No change	. None
3. CAMP SYSTEMS General Site Buildings	. No change except modification to power and radar modules	. Convert two modules
Construction Buildings	. Temporary accommodation for 10-20 required during construction	. Install temporary accommodations for construction period
Water Supply/Source Water Treatment	. Source adequate	. Increase use rate expected during two summers
Sewage Disposal Sewage Treatment Garbage/Waste Disposal	. Adequate services available	. Increased use over two summers
Heating System Power Systems	. New power plant required	. Install new power plant for additional power
4. STORAGE Fuel Tanks/Berms Drums/Pipelines Other Liquids	. Existing tanks adequate	. None
5. SCRAP Materials/Vehicles	. Some construction debris to dispose	. Dispose of construction debris by landfill or sealift

Site: SHEPHERD BAY CAM-3

EXISTING SITE COMPONENTS	EXPECTED ALTERATIONS	NET CHANGES
6. HARBOUR/BEACH Shoreline Dock/Landing Area Staging Area Boats, Other Vessels	. Landing beach adequate	. None
7. QUARRIES/GRAVEL SOURCE Land Use Stock Pile	. Source adequate . No change	. None
8. NOISE SOURCES Machinery/Buildings Vehicles/Aircraft Activities	. Construction activity	. Minor increase in site noise and activity
9. WILDLIFE Animals/Habitat Birds/Habitat Marine Animals	. No expected habitat alterations . Some minor additional noise and activity	. Minor noise disturbance possible for nearby birds and mammals
10. VEGETATION General Features Plants etc.	. No change	. None
11. ASTHETIC/VISUAL Towers Lights	. No change	. None
12. COMMUNITY Village Resource Use Activities Other	. No close communities	. No change
13. PEOPLE NWS Others	. Regular staff reduced . Construction 10-20 additional persons for two summers	. Net increase in persons during construction period . Reduced staff for O&M from 16 to 10
14. HISTORICAL RESOURCES Archaeological Sites Artifacts	. None known	. No change

Site: SHEPHERD BAY		CAM-3
EXISTING SITE COMPONENTS	EXPECTED ALTERATIONS	NET CHANGES
15. PROTECTED AREAS Parks etc.	. No change	. None
16. ENVIR./SOCIO-ECONOMIC ISSUES Type	. None anticipated	. No change
17. OTHER		

4.1.1 Biophysical Resources

4.1.1.1 Wildlife, particularly the caribou, in the region of CAM-3 are recognized as an important resource to the residents of the Boothia Peninsula. Caribou come near the DEW site on a regular basis and are only disturbed if they wander onto the airstrip when aircraft are due to land. No V.E.C. or serious issue has been identified.

4.1.1.2 It is therefore anticipated, given the level of normal activities and the size of the existing station at CAM-3, that any biophysical impacts can be characterized as being negligible.

4.1.2 Socio-economics

4.1.2.1 There will be no direct socio-economic impacts as a result of the CAM-3 LRR construction. Most construction staff are

skilled tradesmen brought to site by the contractors responsible for the radar installation because of their specialized knowledge, skills, equipment and security clearances.

4.1.2.2 Operation and maintenance of the LRR, with a reduced staff should have no incremental socio-economic impact on local economics or subsistence activities. There many be a small change in employment opportunities for northern residents during the O&M phase, but staffing in any case, will be the responsibility of the O&M contractor.

4.1.3 Heritage Resources

4.1.3.1 There are no known archaeological sites at or near CAM-3. Construction activities have been and will be restricted to the existing site area so there is no potential for disturbance of the known sites.

4.2 Residual Effects

4.2.1 It is not anticipated that there will be any incremental residual impacts from the CAM-3 LRR construction or O&M because except for a reduction in staff, there will be no discernible change in the size, layout, or level of activities at the site.

4.3 Monitoring Programs

4.3.1 As part of current ongoing O&M activities, equipment is maintained at a high level of reliability. No monitoring programs are anticipated at this time but, as required by future circumstances, appropriate programs could be implemented to define unanticipated environmental changes or monitor the success of some mitigative efforts.

4.4 Trade-offs and Alternatives

4.4.1 Site location and standard operating practices will be maintained; consequently, there are no relevant alternatives to the proposed facility modifications at CAM-3.