



NIRB Application for Screening #126492

Crossbow Capital Project

Application Type: New

Project Type: Other

Application Date: Wednesday, September 23, 2026

Period of operation: from 2029-09-01 to 2049-08-31

Project Proponent: Adam Russell on behalf of RPON (Amber Vidal) Real Property Operations North
Department of National Defence / Defence Construction Canada
180 Kent Street, 14Th Floor
Ottawa Ontario K1P 0B6
Canada
Phone Number:: 3435522023, Fax Number::

Personnel on site: 10
Days on site: 5
Total Person days: 50
Operations Phase: from 2029-07-01 to 2032-08-01
Operations Phase: from 2029-09-01 to 2049-08-31
Post-Closure Phase: from to

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Location 1	Other	Crown	n/a	n/a	n/a
Location 2	Other	Crown	n/a	n/a	n/a

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Resolute Bay	n/a	HTO	2025-01-01
Grise Fiord	HTO	HTO	2025-01-01

Authorizations

Indicate the areas in which the project is located:

North Baffin

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Nunavut Planning Commission	NIRB Exemption	Active	2026-08-10	
Parks Canada	Awaiting NIRB decision	Applied, Decision Pending		
Crown Indigenous Relations and Northern Affairs Canada	Exempt	Active	2026-09-16	

Project transportation types

Transportation Type	Proposed Use	Length of Use
Air	Chinook	

Project accomodation types

Temporary Camp

Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Iso Container	2	20' long x 8' wide x 8' high	Defence (1 container at each location)

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Methanol	fuel	1	2760	2760	Liters	Power for Direct Methanol Fuel Cells

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0	n/a	n/a

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Other	Other, Garbage	0	The power generating containers are self contained and have 0 waste	deployment and Maintenance activities on site will ensure all waste is removed from each site upon departure.

Environmental Impacts:

Environmental Impact Assessment Mitigation Plan is still in draft form and will be completed as the project progresses leading up to (and including) engagement with regional partners, who can inform select aspects of the mitigation plan. We anticipate support from Defence Construction Canada (DCC) to provide specialized environmental support throughout 2027 which will feed into CROSSBOW environmental mitigation requirements or strategies as part of site assessments, deployment, and ongoing maintenance and life cycling. Defence Research and Development have already informed items such as: - Surface installations impact on ground shifting or subsidence, with visual inspections indicating 1" ground settling over a 3-year period. - Heat loss and long-term presence altering ground conditions, including IR images showing the heat gradient, and indicating no significant heat conduction to the ground. - Behavior of contaminants in permafrost environments; although no testing has been done as it would require a controlled methanol spill on the ground, however the design of the container assumes leakage is not expected into the environment given the seal of the container's walls and floor (assuming steel container). A design choice was also made not to place a drain hole in the floor to remove any spilled methanol. Methanol safety measures have been implemented, including methanol spillage alarms and MSDS instructions. - Use of solar PV/wind turbines/DMFCs/batteries was proven to provide a polar night power and energy solution in the Arctic. - Methanol is contained in discrete 60L cartridges, so meets the transportation requirements for RCAF heavy lift aircraft, and was chosen over diesel for its function at sub-zero temperatures without a direct heating solution, providing longer operation with less (L) fuel on site, as well as methanol's compatibility with fuel cells to bridge the charging gap when solar/wind resources are not available during polar nights.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

Description of Existing Environment: Physical Environment

National Park, remote

Description of Existing Environment: Biological Environment

National Park, remote

Description of Existing Environment: Socio-economic Environment

n/a, remote area

Miscellaneous Project Information

Identification of Impacts and Proposed Mitigation Measures

Minimal impacts, non-disruptive to the land, no permanent foundation is required.

Cumulative Effects

Minimal cumulative effects

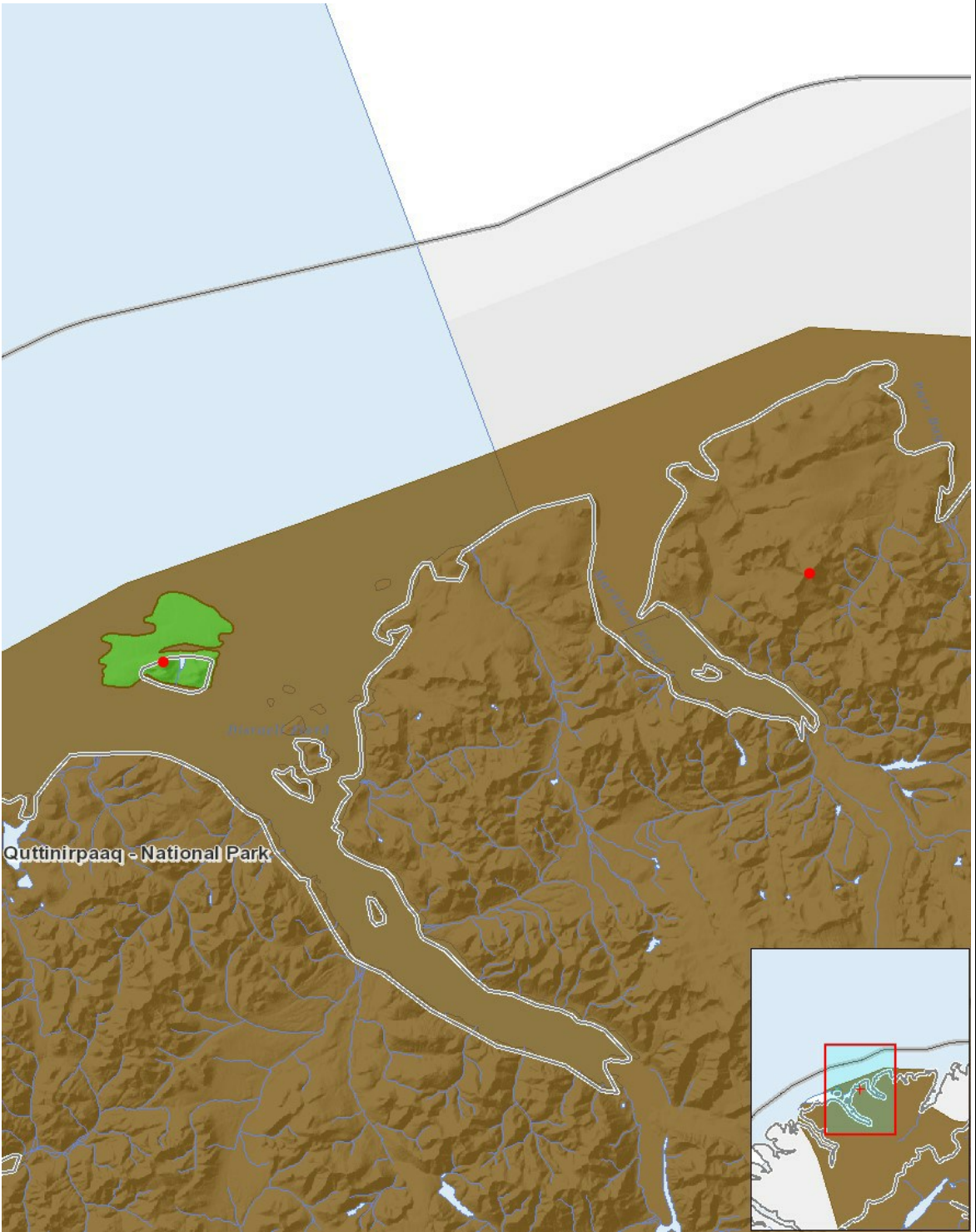
Impacts

Identification of Environmental Impacts

		PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
Construction																										
Other		N	N	-	-	-	-	-	M	-	-	N	N		-	-	-	-	-		-	-	-	-	-	-
Operation																										
Other		N	M	-	-	-	-	-	M	-	-	N	N		-	-	-	-	-		-	-	-	-	-	-
Decommissioning																										
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	-

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

Project Location



List of Project Geometries

1	point	Location 1
2	point	Location 2