



NIRB Uuktuutinga Ihivriughikhamut #125580

Arctic Bay Small Craft Harbour Development

Uuktuutinga Qanurittuq: New

Havaap Qanurittunia: Hannayauyukhanik

Uuktuutinga Ublua: 2/11/2021 9:50:35 AM

Period of operation: from 0001-01-01 to 0001-01-01

Piumayaat Angirutinga: from 0001-01-01 to 0001-01-01

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QANURITTUT

Tukihinnaqtunik havaariyauyumayumik uqauhiuyun

Qablunaatitut: Worley Canada Services Ltd. and Ikpiaryuk Services Ltd., in joint venture, operating as Advisian-Ikpiaryuk JV, have been retained by Public Services and Procurement Canada (PSPC) to perform detailed design, community consultation, regulatory and construction support services for the development of a small craft harbour (SCH) in the Hamlet of Arctic Bay, Nunavut (the Project). This document is an amendment to the Project Description (PD) submitted to the Nunavut Planning Commission (NPC) subsequent to receiving the Conformity Determination, and will be used to support the Nunavut Impact Review Board (NIRB) screening. The Project is located in Arctic Bay, on the northwest coast of Baffin Island (Borden Peninsula) Region (73° 1.529'N, 85° 7.203'W). The SCH will repurpose the existing breakwater and will be located seaward of the Arctic Bay community. See Figure 1-1, attached. The Project will consist of the following: a rock breakwater; a fixed wharf; a boat launch ramp; a laydown area for boat and sealift storage; and, floating docks that would be removed during the winter (see Figure 1-2, attached). The Project will also preserve the existing sealift ramp and adjacent sealift laydown areas. Material to construct the SCH will be sourced from a new rock quarry. The proposed new quarry location is close to an existing road which will be used to haul rock to site. The location of the quarry and proposed haul route are presented in Figure 1-1, attached. Project Purpose and Need

The construction of a SCH in Arctic Bay is being proposed to:

- Support safe access to the land and sea in the context of rapid environmental changes in the Arctic and in support of community fish and marine mammal harvesting.
- Support the developing inshore and offshore commercial fisheries, ensuring that local fishing operations have access to safe harbours and landing facilities.

The objective of the Project is to improve access and safety for existing users and to provide a safe landing facility for future commercial fisheries. It is acknowledged that the community will continue to grow, likely resulting in increased boaters and cruise and adventurer/pleasure craft traffic to Arctic Bay. A feasibility phase of the Project was conducted from 2018 to 2020 which consisted of field programs, design options studies, and consultation. Permitting and detailed design is planned to occur in 2020 through 2021. Construction is expected to start during the open-water season of 2022 and be completed within three years, prior to the iced-season of 2025. Construction will require a crew of approximately 30 workers. Construction is scheduled to start in 2022 and be completed within three years, and only take place in the summer months. The expected number of construction days per year is approximately 120. Construction activities will be limited to working 12 hours per day, on the day shift only, 7 days a week for most of the work. The contractor may wish to complete some, generally non-disruptive, work at night. Such work extensions will be subject to approval from the Hamlet. Project personnel will be comprised of skilled and semi-skilled labour including: heavy equipment operator; truck driver, driller, blaster, crane operator; welder; marine deckhand; tug operator; mechanic; electrician; and general labourers. The Project will comply with the new Treasury Board Directive on Government Contracts Including Real Property Leases, in the Nunavut Settlement Area and aims to maximize participation of Inuit labour, training and Inuit owned businesses on the Project. Due to limited local available accommodations, a construction camp may be required by the contractor to accommodate non-local project personnel. The location of the construction camp will be determined in consultation with and approval from the Hamlet and will be located within municipal boundaries. There will be no operational staffing of this infrastructure.

Community Consultation

DFO-SCH and PSPC are conducting a comprehensive consultation program to design and build a SCH that will serve the needs and priorities of the community including hunters, fishers, outfitters, recreational users, residents, and businesses. Among the key objectives of the consultation program has been to collaborate with the community to identify potential project effects and jointly develop suitable mitigation measures to minimize any potential negative effects. Additionally, the Project has worked closely with local Inuit knowledge holders through land use workshops, design workshops, and interviews since the feasibility phase to gather Inuit Quajimajatuqanjit (IQ) of marine habitat, wildlife, land use, year-round access for harvesting, and areas of cultural value in and around the proposed Project areas. This collaboration with local knowledge holders has supported Project decision-making, construction planning and informed the environmental-screening process. To date, the community has been very engaged in the Project and has provided valuable input into design and planning on numerous occasions. The input has been carefully considered and design modifications have been made based on feedback received during consultations. Consultation during the feasibility phase of the Project included four separate community visits from 2018 to 2020 to conduct meetings with the Hamlet, design workshops with the Ikajutit Hunters and Trappers Association (Ikajutit HTA), and IQ workshops with local elders and active hunters. A community open house was also conducted in February 2020. Additional ad-hoc meetings with community stakeholders, such as the RCMP, health centre, Co-op/Northern stores, hotel and general service providers were conducted during community visits to support the socio-economic effects assessment. Collaborating with the community during the feasibility phase allowed the design team to gain an understanding of the local site conditions, specific needs and priorities in Arctic Bay that was critical to the development of harbour concepts and, ultimately, a preferred harbour layout. Joint meetings on September 22, 2020 and March 4, 2021 were

Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannuqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna
Quarry Site	Quarry/Borrow pit	Commissioners	A portion of the area that will become the quarry is used by carvers to extract stone. The quarry is also adjacent to the road and trails that lead to Victor Bay, which is an important harvesting area. Measures are included in the construction environmental management plan (CEMP) to confirm that rocks are available for carvers, and to confirm that harvesting access is not restricted during construction.	An AIA was conducted in 2019 by Lifeways of Canada in support of the Project in Arctic Bay. No archaeological features were reported within the Quarry Study Area. However, if required an additional survey will be undertaken prior to construction as directed by the Government of Nunavut - Culture and Heritage department.	the quarry is located 1.5 km northwest of the community. There are no terrestrial protected areas in proximity to the quarry. see Figure 1-1 of Project documents for quarry location.
Arctic Bay Harbour	Offshore Infrastructure (port, break water, dock)	Crown	The current harbour has one small breakwater providing a semi-sheltered area for small craft moorage. The rubble mounded breakwater configuration exposes the harbour to waves from the south and south-west resulting in unsafe conditions. See Section 1.3 and Photo 1-1 of the PSIR supplementary report for details.	An Archaeological Impact Assessment (AIA) was conducted in 2019 by Lifeways of Canada in support of the Project in Arctic Bay. No archaeological features were reported within the SCH Study Area (excluded subtidal portions). If required, an additional survey will be undertaken prior to construction as directed by the GN-C&H.	The SCH is within the community of Arctic Bay waterfront. The SCH will incorporate the existing breakwater into design. See Figure 1-1 (SCH location), Figure 1-2 (SCH layout) of Project documents for more information. The closest communities to Arctic Bay are Pond Inlet and Resolute, which are 240 km E and 350 km NW respectively. See Section 1.18 and Figure 1-4 of the PSIR supplementary report for details

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Ikpiaryuk	Hamlet Council Members - Mayor, Councilors, SAO, etc	Hamlet of Arctic Bay	2018-11-09
Ikpiaryuk	Ikajutit HTA Members - 6 participants	Ikajutit HTA	2018-11-09
Ikpiaryuk	Council Members - 5 participants	Arctic Bay Hamlet Council	2019-06-05
Ikpiaryuk	Ikajutit HTA Members - 6 participants	Ikajutit HTA	2019-06-04
Ikpiaryuk	Hamlet Council Members	Hamlet of Arctic Bay	2019-11-05
Ikpiaryuk	Ikajutit HTA Members	Ikajutit HTA	2019-11-06
Ikpiaryuk	Hamlet Council Members	Hamlet of Arctic Bay	2020-02-26
Ikpiaryuk	Ikajutit HTA Members	Ikajutit HTA	2020-02-26
Ikpiaryuk	Local Members	QIA	2020-02-26
Ikpiaryuk	Hamlet Council Members	Hamlet of Arctic Bay	2020-02-28
Ikpiaryuk	Ikajutit HTA Members	Ikajutit HTA	2020-02-28
Ikpiaryuk	Local Members	QIA	2020-02-28
Ikpiaryuk	Hamlet Council Members	Hamlet of Arctic Bay	2020-09-22
Ikpiaryuk	Ikajutit HTA Members	Ikajutit HTA	2020-09-22
Ikpiaryuk	Local QIA CLARC	QIA CLARC	2020-09-22
Ikpiaryuk	Arctic Bay Nauttisuqtit (Guardians)	Arctic Bay Nauttisuqtit (Guardians)	2020-09-22
Ikpiaryuk	Residents along the shoreline and quarry haul route - informal discussion	Hamlet of Arctic Bay Residents	2020-09-23
Ikpiaryuk	Ikajutit HTA Members, Hamlet of Arctic Bay, local QIA members, Arctic Bay Nauttisuqtit (Guardians)	Ikajutit HTA Members, Hamlet of Arctic Bay, local QIA members, Arctic Bay Nauttisuqtit (Guardians)	2021-03-04

Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Transboundary

North Baffin

Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Environment and Climate Change Canada	Disposal at Sea (DAS) is not considered likely, however if required a DAS application will be submitted to Environment and Climate Change Canada (ECCC). A sample analysis plan (SAP) was submitted to and approved by ECCC for sediment analysis in the dredge footprint of the SCH. ECCC has been engaged from an early stage in project planning as the proponent (DFO-SCH) is a federal agency	Not Yet Applied		
Tingmiliqiyiitkut Kaanatami	A Notice of Works (NoW) is expected to be required from Transport Canada due to the potential for interferences to navigation during construction, and to confirm navigational markers required during operations of the SCH. TC has been engaged from an early stage in project planning as the proponent (DFO-SCH) is a federal agency. Maintaining access for harvesters to the marine environment during construction has been a key part of consultation and measures will be in place during construction to confirm there are no access restrictions for hunters.	Not Yet Applied		

Anguhikiyit Kanatami	a permit from NRCan is expected to be required for the transportation and storage of explosives (required for blasting). NRCan compliance requirements will be the responsibility of the contractor and will be applied for after contract award and before the start of construction	Not Yet Applied		
Nunavut Imaligiyyit Katimayit	A Type B license may be required if the haul road upgrades requires culverts to be installed or if stream alteration is required for the Project. As the streams are not major water courses, it is expected that a Type B permit will be acceptable. NWB compliance requirements will be the responsibility of the contractor and will be applied for after contract award and before the start of construction	Not Yet Applied		
Iqalukhiurniqmut Tariuqmilu Kaanata	A Fisheries Act Authorization (FAA) will be required due to the permanent loss of seabed habitat due to the construction of the Small Craft Harbour. DFO-Fish and Fish Habitat Protection Program (FFHPP) has been engaged from an early stage in project planning as the proponent (DFO-SCH) is a federal agency	Applied, Decision Pending		

Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Air	During construction, the Project will use commercially scheduled flights, with the potential for use of chartered flights but may need to use chartered flights if the existing service cannot support the additional throughput. In addition, the Project will confirm that if commercial flights are used, that there is no effect to availability of flight service to locals	

Water	During construction, the Project will use the existing scheduled sealift deliveries	
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Project accomodation types

Temporary Camp

Ihuaqutivaluin Atuqtauyukhan

Hanalrutit atuqtaunahuat (ukuallu ikuutat, pampiutainnik, tingmitinik, akhaluutinik, hunaluuniit)

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
Drill	2 to 3	5 tons	Quarry
Excavator	3 to 4	30-40 tons	placing armor stone, excavating, land-based dredging
Rock Truck	4 to 5	35-40 ton articulating	Rock transportation from quarry to small craft harbour
Front End Loader	2 to 3	966 to 988	Loading and moving rock
Compactor	1	20 tons	Compacting and surfacing roads
Dozer	1	D8	Levelling placed rock and road surfaces
Grader	1	140	Road maintenance
Spud Barge/derrick	1	20m x 50m deck w/150t crane	Dredging, pile installation, moving/lifting materials and equipment
Dump scows	2 to 3	500 m3	Dredging support for disposal at sea
Tug	1	1000 to 1500 horsepower	Support for barge movement
Work boat	1 to 2	varies - 50 to 500 horsepower	Floating equipment moving
Pick up truck	5	crew cab 3/4 ton	Crew transportation
Mini Bus	1	15 passenger	Transportation of crew from camp to worksite
Fuel Service Truck	1	10 tons	fuelling of equipment
Telehandler	1	5 ton	moving materials and equipment
Rough terrain crane	1	80 tons	lifting materials
Rock crusher	2	X	Primary and secondary crusher for quarry rock
Vibratory and/or Impact Hammer	1	X	Driving of Piles

Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Diesel	fuel	1	1500000	1500000	Liters	Mobile equipment, remote generators and heaters. Containers listed as 1 because fuel will be dispensed daily from existing facilities in Arctic Bay.
Gasoline	fuel	1	15000	15000	Liters	Mobile equipment, remote generators and heaters. Containers listed as 1 because fuel will be dispensed daily from existing facilities in Arctic Bay.

Propane	fuel	30	30	900	Liters	Heaters - Number of containers is an estimate - container capacity 20 to 30l
Lubes and Oils	hazardous	10	200	2000	Liters	Maintenance of mobile equipemnt
Lubes and Oils	hazardous	10	5	50	Gallons	Maintenance of mobile equipment
Oxy/acetylene	hazardous	10	140	1400	Cubic ft	Welding, cutting of steel
Paint	hazardous	10	4	40	Liters	Painting wharf hardware & miscellaneous
Explosives	hazardous	1	40	40	Metric Tons	Quarrying. Containers to be standard size.

Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
5	Delivery by Hamlet or contracted water truck	Hamlet reservoir/water system

Iqqakuq

Ikkakunik Munakgiyauyunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Camp	Ikulalaaqtun iqqakuuvaluin	5 tons	Hamlet Landfill	n/a
Camp	Qimarivyaktuq imaq	400 m3	Hamlet or contractor sanitary truck to Hamlet sewage lagoon	n/a
Harbour infrastructure	Qayangnaqtut	2,000L	Returned to south in sealed drums and transported in 20' shipping containers and disposed in accordance with regulatory procedures	n/a
Camp	Ikulalimangittun iqqakuuvaluin	1 ton	Hamlet Landfill	n/a
Quarry/Borrow pit	Atakuin (halumaiqtun nunan, iqqakuuvaluillu uyaqqiqivingmin)	Negligible	Stockpiled at quarry	n/a
Camp	Anaagun (inuin anaaguin)	600 m3	Hamlet or contractor sanitary truck to Hamlet sewage lagoon	n/a

Avatiliriniqmut Ayurhauingit:

Potential impacts have been considered relative to the proposed construction activities (described in Section 2 of the PSIR supplementary report) for the Project Study Areas (Figure 1-1, described in Section 6.6 of the PSIR supplementary report) and specific to each of the VECs and SVECs. all impacts are considered as positive or negative/mitigatable. see Section 7 of the PSIR supplementary report for further information. Mitigation and monitoring measures will be in place to minimize negative impacts (see Section 5 of the CEMP).

Additional Information

SECTION A1: Project Info

Field investigations: Several field studies have been undertaken since 2019 and received an NPC conformity determination (No. 149425), NIRB SDR (No. 19YNO31), and NIR research permit (No 02 01121-R-M). A report was submitted to NRI in English and North Baffin Inuktitut for 2019 to 2020 programs (can be provided upon request). A 2021 drilling program occurred in March 2021. NPC issued a conformity determination to confirm the field program did not require additional review from NIRB. Additional field permits were obtained from NWB (8BD-ABH2122), CIRNAC (N2021S0003) and the GN-DoE (No. LUP-2021-001). The field studies so far have supported assessment of existing conditions and the determination of potential quarry and disposal at sea sites. A drilling program was undertaken in March 2021 to inform geotechnical requirements for detailed design. Project: Supporting components for the construction of the SCH, include a quarry and a haul road. These components are summarized in the Project description and are further described in the PSIR supplementary report.

SECTION A2: Allweather Road

An existing road is planned to be used to support the transportation of rock materials from the quarry to the SCH. Upgrades to the road will occur prior to construction and will be described in the PSIR document. In required, the contractor will be responsible for necessary permits from the NWB. Measures to manage traffic interactions with the community will be described in the CEMP, and the contractor will be required to develop a Traffic Management Plan (TMP) to detail methodologies (e.g. use of dust suppressants, speed limits, training requirements) to be undertaken to support CEMP requirements.

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

a quarry will be required to support construction of the SCH (see preferred quarry location in Figure 1-1). Activities

expected to occur at the quarry include drilling, blasting, stockpiling, crushing and screening. A summary of construction activities is provided in Section 2 of the PSIR supplementary report.

SECTION D1: Facility

See Project information section of this online application and Section 2.1 of the PSIR supplementary report

SECTION D2: Facility Construction

construction activities expected to be required at the SCH includes; infill, dredging, disposal at sea (unlikely) pile driving, and installation of small craft floats. A summary of construction activities is provided in Section 2 of the PSIR supplementary report

SECTION D3: Facility Operation

the SCH once operational will remain the responsibility of DFO-SCH. An Operations Environmental Management Plan (OEMP) will be prepared prior to operations of the SCH. There are not expected to be any differences in vessel use before and after the construction of the SCH. If any potential fisheries are successful, these are not a part of the current Project, and will be submitted to the Nunavut Planning Commission (NPC) for referral to NIRB under a separate application.

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

there is no shipping associated with the project construction as all materials will arrive under existing scheduled sealift deliveries.

SECTION H2: Disposal At Sea

it has not been determined if disposal at sea is required, however the preferred DAS site is shown in Figure 1-1.

SECTION I1: Municipal Development

Qanurittuq Ittunik Avatinga: Avatingalluanga

the physical environment is described in Sections 3 to 7 of the ESEB report (Environmental and Socio-Economic

Baseline Report) and summarized in Section 6.4 of the PSIR supplementary report. Both documents have been uploaded to the NIRB portal.

Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga

the biological environment is described in Sections 8 to 12 of the ESEB report and summarized in Section 6.5 of the PSIR supplementary report

Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga

the socio-economic environment, including archaeological conditions are described in Sections 13 and 14 of the ESEB report and summarized in Section 6.5 of the PSIR supplementary report.

Miscellaneous Project Information

no miscellaneous information to add at this time

Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikkliyuumiutinahuarutit

Identification of potential and impacts and proposed mitigations will be summarized in Section 6 of the PSIR document. A construction environmental management plan (CEMP) is being developed which will provide details of mitigation and monitoring measures required to minimize or eliminate potential effects. Potential effects will be considered relative to the proposed construction activities for each of the Valued Ecosystem Components (VECs) and Valued Socio-Economic Components (VSECs) identified. Mitigation and monitoring measures being developed are being informed by best management practices, community consultation and regulatory conditions.

Tamatkiumayunik Ihuikgutivaktunik

there are not expected to be cumulative effects due to the Project. see Section 7.4 of the PSIR supplementary report for further discussion.

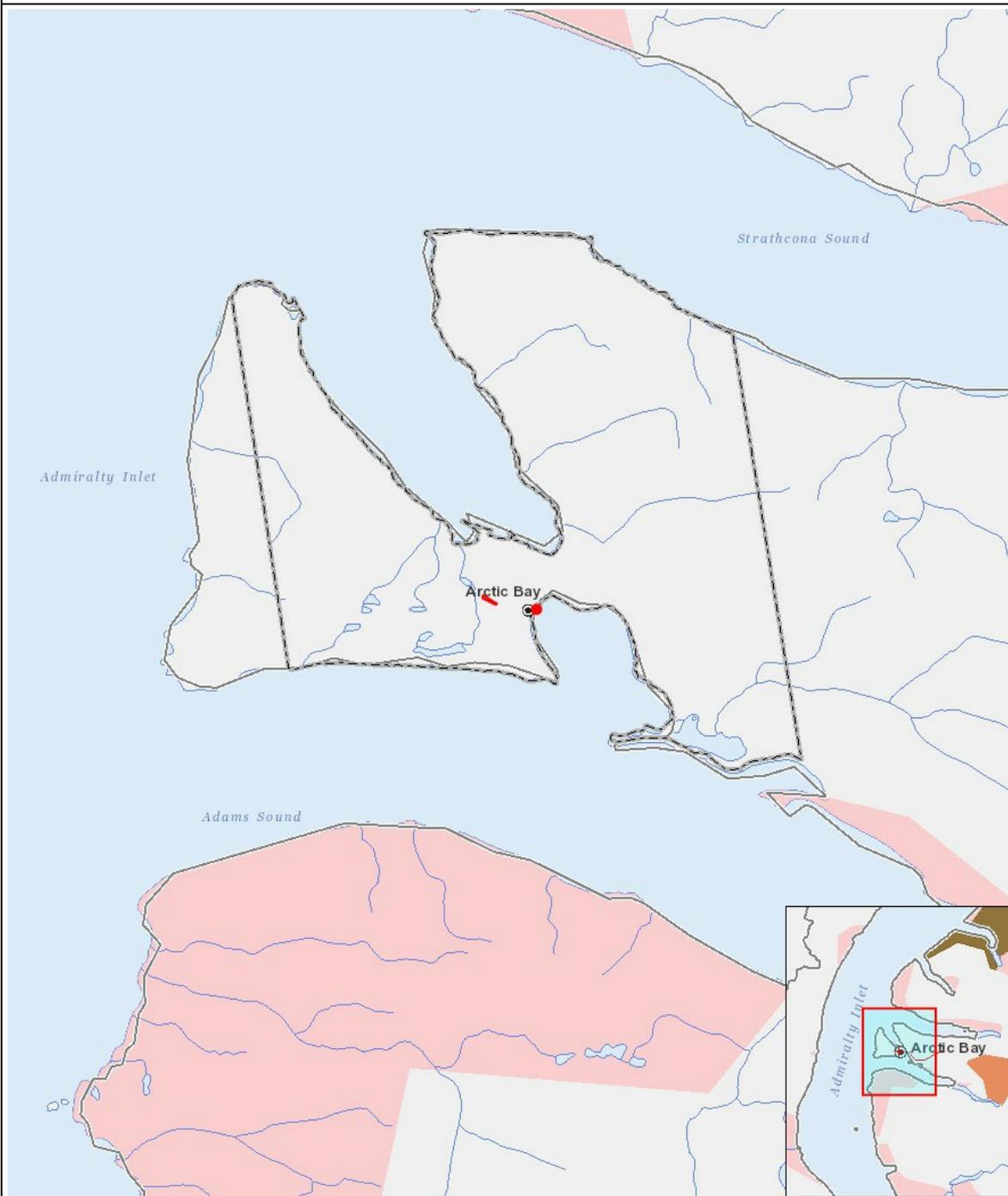
Impacts

Ilitariyauniq Avatiliriniqmut Ayurhauingit

	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
Havakvinga																									
Quarry/Borrow pit	-	M	-	-	-	-	-	-	-	-	-	M	M		M	M	M	-	-		-	P	M	M	M
Offshore Infrastructure (port, break water, dock)	-	-	-	-	-	-	-	-	-	-	-	M	M		M	M	M	M	M		-	P	M	M	M
Aulapkaininnga																									
Offshore Infrastructure (port, break water, dock)	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	P	-		-	P	P	P	P
Piiqtauniq																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Nakuuyuq, N = Nakuungittut unalu mikhilimaittuq, M = Nakuungittut unalu mikhittaaqtuq, U = Naluyayuq)

Havaariyauyukhamut Nayugaa



List of Project Geometries

1	polygon	Quarry Site
2	polyline	Arctic Bay Harbour
3	polyline	Arctic Bay Harbour
4	polyline	Arctic Bay Harbour
5	polyline	Arctic Bay Harbour
6	polyline	Arctic Bay Harbour
7	polyline	Arctic Bay Harbour
8	polyline	Arctic Bay Harbour
9	polyline	Arctic Bay Harbour
10	polyline	Arctic Bay Harbour
11	polyline	Arctic Bay Harbour
12	polyline	Arctic Bay Harbour

13	polyline	Arctic Bay Harbour
14	polyline	Arctic Bay Harbour
15	polyline	Arctic Bay Harbour
16	polyline	Arctic Bay Harbour
17	polyline	Arctic Bay Harbour
18	polyline	Arctic Bay Harbour
19	polyline	Arctic Bay Harbour
20	point	Arctic Bay Small Craft Harbour