ᓄᓇᕗᒻ ᐊᐅᑎᓕᓐᓇᖅᑯᑦ ᑲᑎᒪᖅᑭᑎᑐᑦ ᑐᓴᖅᑐᑦ ᓴᓕᖅᓴᕐᓂᖅ #125473

Fisheries and Oceans Canada - Small Craft Harbour - Four Harbour Feasibility Study Field Program

ᑐᓴᕐᓂᑕᐅᔪᖅ ᖃᓄᐃᓕᒫᖅ:	New
ᐱᓕᓇᐊᓇᖅᐅᔪᒪᔨᑦ ᖃᓄᐃᓕᒫᖅ:	Scientific Research
ᐅᑉᓗᓐᖓ ᑐᓴᕐᓂᑎᓕᐊᔾᐅᑦ:	6/4/2019 7:18:57 PM
Period of operation:	from 0001-01-01 to 0001-01-01
ᑲᔪᓯᓴᐃᐅᑦᐅᓂᐊᕐᓯᑎᕐᓴᐅᔪᑦ:	from 0001-01-01 to 0001-01-01
ᐱᓕᓇᐊᖏᓴᒪᔪᖅ:	Eleanor McEwan Fisheries and Oceans Canada -Small Craft Harbours 501 University Crescent Winnipeg Manitoba R3T 2N6 Canada ᐅᖏᓴᐅᑎᑦ: 204-984-1102, ᓯᓴᔨᓄᑦ:

ᑐᓴᐅᒪᓂᖅᓴᖅ

ᖃᓄᐃᑦᑐᑎᓂᒃ ᐱᓕᕆᔨᖃᑎᒌᓕᕆᔨᒐᓱᒃ

ᖃᓄᐊᓕᒍᑦ: Advisian has been retained by Fisheries and Oceans Canada – Small Craft Harbours Program (DFO-SCH) to conduct an engineering feasibility study for the construction of small craft harbour (SCH) for four communities in Nunavut: Arctic Bay, Grise Fiord, Resolute Bay, and Clyde River. To inform the feasibility study, a field program will be undertaken during the 2019 open water season to conduct environmental, geoscience, geophysics and archaeological baseline studies in each location as detailed in Table 1 1 and Figure 1 of the attached report. All locations are in the Qikiqtaaluk Region. The field program consists of the following: •Marine Field Study Wildlife Field Study•Vegetation Field Study•Geoscience Field Study•Geophysics Field Study •Archaeological Field Study Study Areas will be developed prior to mobilization into the field to encompass the following Project components: •Small Craft Harbour (SCH)•Haul Road and Quarry•Disposal at Sea sites (not confirmed if required) All Study Areas will be designed to include the maximum footprint required for construction plus a 100 m buffer. Study areas were not defined at the time of this permit application, but their predicted extent is described in Table 3 1 and displayed in Attachment 1 of the attached report. Field surveys are required to document existing conditions within the Project Study Areas and to support engineering design. A summary of the purpose and proposed methodology for each of the field studies is provided in Table 3 2 of the attached report.

ᐅᐃᐦᑎᑎᑐᑦ: not required for North Baffin

ᐃᓄᐊᑎᑐᑦ: ᐊᑦᓀᐃᓕᓯᐊᓐ (Advisian) ᑎᒍᔭᐅᓕᓕᖅᓯᒪᑕ ᐃᖅᑲᓕᓕᓴᐅᒋᑦ ᐊᒻᒪ ᐃᒪᓕᓕᓴᐅᒋᑦ ᑲᓇᑕᒥᑦ – ᒥᑭᑦᑐᓄᑦ ᐅᒥᐊᖅᓄᑦ ᐅᖅᒋᐊᓂᓱᓄᑦ ᑐᓕᑦᑕᖏᖅᑭᑲ ᐱᓕᕆᔨᒍᒍᑦ (DFO-SCH) ᐱᓕᕆᖅᒋᔭᐅᓕᓕᑎᑲᑎᑦ ᐊᖏᑭᓕᕆᔨᑦ ᐱᓕᕆᔨᖏᓪᓗᓂᓄᑦ ᓴᐅᔭᖅᓯᔭᐅᓕᓕᑎᑲᑎᑦ ᑐᑭᑦᑐᓄᑦ ᐅᒥᐊᖅᓄᑦ ᐅᖅᒋᐊᓂᓱᓄᑦ ᑐᓕᑦᑕᖏᖅᑭᑲ (SCH) ᒎᓕᒋᖏᓐᓄᑦ ᑎᓴᒪᓄᑦ ᓄᓇᕗᖏᓄᑦ ᓄᓇᕘᒥᑦ: ᐃᓕᐱᐊᖅᓯᓕᖅ, ᐊᐅᓚᐃᑐᖅ, ᖃᐅᔨᐃᑦᑐᖅ, ᐊᒻᒪᓗ ᑲᖏᖅᑐᐃᓚᓕᖅ. ᑐᓴᖅᓚᒪᖅᓯᒪᑦ ᐱᓕᕆᔨᒍᒍᓕᓕᖅᓯᒪᓂᓄᑦ ᖃᐅᔨᓴᐃᓂᖅ, ᓄᓇᒥᑦ ᐱᓕᕆᔨᖅ ᐱᓕᕆᔨᖏᓚᓚᔨᓂᖅᓯᖅᑐᖅ 2019 ᓚᒋᖅᖁᓪᓕᑎᓯᒪᑦ ᐱᓕᕆᔨᖏᓚᓕᓯᒪᑦ ᐊᑐᓂᓗ ᐊᓕᕆᔨᖅ ᐃᓕᓴᕐᓂᖅᓯᒪᓂᓄᑦ ᐃᓕᓴᕐᓂᖅᓯᒪᓂᓄᑦ ᐊᑐᓂᓗ ᐊᓕᕆᔨᖅ ᐱᓕᕆᔨᖏᓚᓚᔨᓂᖅᓯᖅᑐᖅ

ᐱᓪᓇᐊᓇᔭᐅᓂᐊᖅᑐᑦ

ᓇᒥ	ᖃᓄᐃᓪᑐᒥᑦ ᐱᓪᓇᐊᖅᖃᓂᐊᖅᐸ	ᑭᒃᑯᑦ ᓄᓇᖁᑕᓂ	ᑐᔨᐅᒪᔭᒃᓴᑦ ᓄᓇᐅᑦ ᐊᑐᓚᐅᓪᓗᐅᖅᓭᒪᔭᓇᐊᖅᑲᓐᓂᒃ	ᐃᑦᓴᓂᑕᖅᖃᖅᓵᐊᐅᓀᓪᓗᐅᖅᐸ ᐃᓄᖅᓄᑦ ᓇᔨᖅᑕᐅᖅᖃᑦᑕᖅᓂᑯᓐᓂᐊᖅ ᑕᐃᑦᓭᒪᓂᑐᖅᐅᓪᓗᖅ	ᖃᓄᖅᓂᓂᖅᔨᖅ ᓄᓇᓪᑭᐅᔭᐅᔨᖅ ᐊᒻᒪᓗ ᓴᓵᒥᒃᓭᐊᐅᓀᓪᓗᐅᖅᓀᓂᒃ ᓭᓇᓄᑦ
Resolute Bay	Baseline data	Inuit Owned Surface Lands	engagement with communities for harbour design is underway	pending field program	marine environment fronting community
Grise Fiord	Baseline data	Municipal	engagement with communities for harbour design is underway	pending field program	marine environment fronting community
Clyde River	Baseline data	Municipal	engagement with communities for harbour design is underway	pending field program	within
Arctic Bay	Baseline data	Municipal	engagement with communities for harbour design is underway	pending field program	marine environment fronting community

ᓄᓇᓪᑐᐸ ᐃᓪᐅᐅᖃᑦᑕᐅᓂᖏᓐᓄᑦ ᓄᓇᓕᓪᓗ ᐊᐃᒃᑐᖅᓭᒪᐅᓀᓂᖏᓐᓄᓪᓗᓄᑦ ᐃᑲᔪᑦᑕᐅᔪᓐᓇᖅᑐᑦ

ᓄᓇᓪᑭᐅᔭᖅ	ᐊᑎᑦ	ᑲᑐᔾᔨᐊᖅᑎᑎᑭᐅᔭᖅ	ᖁᓕᖅᖃᑦᑕᐅᓪᓗᐅᖅᓯᒪᓂᖅ ᐅᑭᐅᖅᑕᐅᓪᓗᐅᖅᓂᒃ
Clyde River	James Arreak (SAO) Mayor and Council members	SAO - Hamlet	2019-05-24
Clyde River	Gary Aipellee (HTO manager) and HTO board members	Nangmautaq HTO	2019-05-24
ᐊᐅᓚᐃᑐᖅ	Marty Kulukuqtuq(SAO), Mayor and Council members	Hamlet	2019-05-29
ᐊᐅᓚᐃᑐᖅ	Amon Akeeagok (HTO manager) and HTO Board members	Iviq HTO	2019-05-29
ᐃᑦᐱᐊᖏᓪᓕᒃ	Deborah Johnson (SAO), Mayor and Council members	Hamlet	2019-06-05
ᐃᑦᐱᐊᖏᓪᓕᒃ	Jennifer Pauloosie (HTA manager), HTA board members	Ikajutit HTA	2019-06-04
ᖃᐅᐅᓚᐃᑐᖅ ᑭᓴᓗᑦ	Nancy Amarualik (HTA Manager), HTA Board members	Resolute Bay HTA	2019-06-02
ᖃᐅᐅᓚᐃᑐᖅ ᑭᓴᓗᑦ	Kimberly Young (SAO), Mayor, Council members	Hamlet	2019-06-03

	and EDO		

ᓇᐃᔭᖅᓯᒪᓕᕆᔨᒃ ᐱᒋᐊᓕᕆᔨᓂᖅ ᐊᖏᖅᑕᐅᓯᒪᔪᖅ

ᓄᑎᐅᕐᖏᓂᑦ ᐱᓕᓇᕐᓂᐊᕐᓗᐅᓂᐊᖅᑐᑦ ᑎᑎᕋᓗᒋᑦ:

North Baffin

ᓇᐃᔭᖅᓯᒪᓕᕆᔨᒃ ᐊᒋᐊᓕᕆᔨᓂᖅ ᐊᖏᖅᑕᐅᓯᒪᔪᖅ

ᑲᓇᒪᒋᔭᐅᔪᓐᓇ ᐊᐃᑦᑐᓂᖅᓯᒪᓂᖅ ᒪᓕᑲᕋᖅᓯᒪᔪᓂᑦ ᐱᕋᐊᖅᓯᒪᔪᓂᒃ ᖃᒪᓕᒃ ᐱᔪᓐᓇᖅᑐᒥᓂᑦ ᓇᐃᔭᖅᓯᓂᒃᓴᓂᑦ ᖃᔪᓂᖅᓯᒪᔪᓂᑦ	ᖁᓕᐃᑦᑐᑦᓇᓕᐅᓪ ᓇᐃᔭᖅᓯᑕᒋᐊᕐᓇᖅ ᐱᔪᓐᓇᖅᑐᒥᑕᒋᐊᕐᓇᖅ ᐊᖏᖅᑕᐅᔪᕋᓗᓂᑦ	ᐃᓂᓪ ᖁᓕᐃᓕᓴᐅᓪ	ᐅᓪᓗᒥ ᑐᓂᔅᓴᖅ/ ᑐᓴᕐᖏᑐᐅᓇᐅᔭᖅᓯᒪᔪᖅ	ᑭᒡᓕᖁᕋᐊᖅᓱᒃ
ᖃᓇᑎᒥ ᐃᕋᖁᓕᓕᓇᒋᑦ ᑕᓇᐅᓕᓕᓇᒋᓐᓂᑦ	License to Fish for Scientific Purposes (infaunal sediment collection, intertidal amphipods)	Applied, Decision Pending		
ᓄᓇᕗᒥ ᖁᕋᖁᓕᓕᓇᒋᑦ	Research Permit. Separate for each location	Applied, Decision Pending		
ᓄᓇᕗᑦ ᒪᕐᒪᒃᓴᒃ, ᐊᕐᕌᑎᓕᓕᓇᒋᑦ	Wildlife Permit	Applied, Decision Pending		
Government of Nunavut, Department of Culture, Language, Elders, and Youth	Class 2 Nunavut Territory Archaeologist Permit. Arctic Bay (2019-51A)	Active	2019-06-05	2019-12-31
Government of Nunavut, Department of Culture, Language, Elders, and Youth	Class 2 Nunavut Territory Archaeologist Permit. Clyde River (2019-54A)	Active	2019-06-05	2019-12-31
Government of Nunavut, Department of Culture, Language, Elders, and Youth	Class 2 Nunavut Territory Archaeologist Permit. Grise Fiord (2019-52A)	Active	2019-06-05	2019-12-31
Government of Nunavut, Department of Culture, Language, Elders, and Youth	Class 2 Nunavut Territory Archaeologist Permit. Resolute Bay (2019-53A)	Active	2019-06-05	2019-12-31

Project transportation types

Transportation Type	ᓄᓇᒧᑦ ᐊᑐᒪᐅᓂᐊᖅᐸ	Length of Use
Air	Charter flight from Vancouver to each of the communities. Departure from Nunavut from last community will occur on	

	commercial flight	
Water	Field work will require access to the marine environment (boats). Local support has been engaged for vessels and personnels in each community	
Land	Field work will require access to the terrestrial environment. Local support has been engaged for trucks/ATVs and personnels in each community	

Project accomodation types

هوحـ٢٧٩٦

ᐊᑐᓚᐅᓂᐊᖅᑐᖅ

ᐱᖃᑦ ᐊᖅᑎᔨᖅ ᐊᑐᖅᑕᐅᓂᐅᓴᔨᖅ ᐃᓕᖅᓱᐅᑎᓄᓂᑦ ᐃᓱᑕᐃᑦ, ᑎᓪᓗᐊᑭᑏᑦ, ᖃᖅᓴᒃᑕᓱᖅ, ᓄᓇᓱᐅᑦ ᐊᓱᖅᑎᓪᓗ

ᐊᖅᑎᔨᖅ ᐱᖃᑦ ᐊᑐᐊᓚᐅᓂᐊᖅᑐᖅ ᖃᖅᓴᒃᑐᓗᒃᑑᒻᒥᓚ	ᖃᖅᑎᑦᓱᐅᓪᓚᑦ	ᐊᖅᑎᓂᖅᑎᑦ - ᐳᖅᑐᓂᖅᑎᑦ	ᓱᓇᒧᑦ ᐊᑐᓚᐅᓂᐊᖅᐸ
remote operated vehicle	1	2 ft x 2ft x 1.5 ft	underwater video survey
generator	2	1.5 ft x 1.5 x 1.5 ft	power supply for marine subtidal survey and geophysics survey
iPad	3	12 inches x 6 inches	GPS and photographs for all surveys
depth sounder	1	1 ft x 1ft x 8 inches	depth record for conducting subtidal habitat survey
CTD	1	3ft x 1ft x 1ft	conductivity, temperature and salinity during water quality survey
Niksin sampler	1	1.5 ft x 6 inch diameter	collection device to get water from depth during water quality survey
petit ponar	1	1ft x 1ft x 8 inches	collection of sediment from seabed during sediment quality survey
binoculars and spotting scope	2	6 inches x 4 inches x 3 inches	observation tools during wildlife and terrestrial survey
drogue	1	2.5 ft x 2.5 ft	floatation buoy with a GPS to track its position. Purpose to measure currents for possible modelling work
geotechnical hammer	1	8 inches x 4 inches	used to collect small quantities of rock during geotechnical survey
seismograph, hydrophone and cable	6	3ft x 3 ft x 2ft	equipment to conduct the geophysics survey

ᑎᑎᕆᐅᓂᓚᓄᑕᒍ ᐅᖅᓂᓴᕆᐃᑦ ᐊᑦᑕᓚᖅᑐᖅᑕᓭᓪᓗ ᐊᑐᖅᑕᐅᓂᐊᕐᓂᖅᑎᑦ

ᓂᓚᒍᑦ ᐅᖅᓂᓴᕆᑎᑕᐊᖅ ᐊᑐᐊᓚᐅᓂᐊᖅᐸ	ᖃᖅᓂᐃᑐᑐᓚᓇᐅᓐᓂᖅ ᐅᖅᓂᓴᕆᑎᑕᐊᖅ	ᖃᖅᑎᓂᐅᓐᓂᖅᑐᑦ ᐅᖅᓂᓴᕆᓴᖅᐅᑎᑦ	ᐃᓕᖅᑎᑦ ᐃᒪᖅᖢᑎᑕᐅᓕᕐᓂᖅᓴᖅ	ᖅᑎᑦᓗᒍ	ᐃᓕᖅᐃᑦ ᐊᒥᓂᓂᖅᑎᑦ	ᓂᓚᒍᑦ ᐊᑐᐊᓚᐅᓂᐊᖅᐸ
Gasoline	fuel	2	20	40	Liters	fuel for generators, ATVs, trucks
formaldehyde	hazardous	1	5	5	Liters	preservative for infaunal

						sediment samples. to be dilluted to be formalin

ᐃᒪᖅ ᐊᑐᖅᑕᐅᓂᒪᖅᑐᖅ

ᐅᓪᓗ ᑕᒪᖅ ᐊᑐᖅᑕᐅᓄᐊᖅᑐᖅ	ᖃᓄᖅ ᐃᒥᖅᑕᖃᖅᑕᕐᓄᐊᖅᐸᑦ	ᓇᑭᑦ ᐃᒥᖅᑕᖃᖅᑕᕐᓄᐊᖅᐸᑦ
0		

ᐊᑲᑕᔪᑦ

ᐊᑲᑕᔪᓕᓂᐊᕐᓂᖅ

ᐱᓕᓇᐊᓇᔭᐅᔨᒪᔨᔪᒍᑦ ᐱᓕᓇᐊᓇᔭᐅᓂᐊᖅᑐᖅ	ᖃᓄᐅᐃᑦᑐᖅ ᐊᑲᑕᔪᖅ	ᖃᓄᐅᑎᑭ ᐊᑲᑕᔪᑦ ᓴᖅᑭᐊᓂᐊᖅᑐᓇᔭᐅᐳᑦ	ᖃᓄᐅᖅ ᐊᑲᑕᖅᑕᐅᓂᐊᖅᓯ	ᓴᓗᒻᒪᖅᓴᐅᑎᑲᓴᓄᖅᓂᐅᓂᐊᖅᑐᑦ
Baseline data	ᐊᑲᑕᔪᑦ ᐃᓱᐊᓪᓚᑕᐅᔨᖏᖅᑎᑦᑐᑦ	1 garbage bag	waste will be packed out and disposed at land fill facility in Iqaluit before departing from Nunavut	see details above
Baseline data	ᖃᓱᖅᑕᓪᓕᓂᖅ	NA	Group is small (6 people) and will be staying in accommodation that is within the community	not relevant

ᐊᐸᑎᒥᐅᑕᓚᑦᑐᑦ ᐊᑲᑐᖅᑕᑕᐅᓯᒪᔨᑦ

There are no effects anticipated as the program is a small field study to determine baseline conditions for each of the communities should the proposed small craft harbours proceed to detailed design and permitting.

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

ᐃᓐᓇ ᐊᕐᑎᐅᕆ ᖃᓄᐃᑦᑐᑦᓯᓇᐅᔪᖓ: ᓄᓇᕆ ᖃᓄᐃᑦᑐᔪᖓ

the purpose of the field study is to collect baseline data which will be combined with traditional knowledge studies being conducted in October 2019. A baseline report will be produced to outline conditions for each community.

ᐃᓐᓇ ᐊᕐᑎᐅᕆ ᖃᓄᐃᑦᑐᑦᓯᓇᐅᔪᖓ: ᐅᒪᔨᖅᑕᖃᖅᖢᖓ

the purpose of the field study is to collect baseline data which will be combined with traditional knowledge studies being conducted in October 2019. A baseline report will be produced to outline conditions for each community.

ᐃᓐᓇ ᐊᕐᑎᐅᕆ ᖃᓄᐃᑦᑐᑦᓯᓇᐅᔪᖓ: ᐃᓄᓕᓴᓂᓪᒎᖅᓱᑦ-ᐱᕐᓕᐊᔨᓕᓴᓂᓪᒎᖅᓱᑦ

the purpose of the field study is to collect baseline data which will be combined with traditional knowledge studies being conducted in October 2019. A baseline report will be produced to outline conditions for each community.

Miscellaneous Project Information

not relevant

ᓄᓕᓄᐃᖅᑕᐅᔪᖅᑭᑦ ᐊᑲᖅᑕᐅᓂᒪᔨᑦ ᖃᓄᐃᑦᑐᔪᖅᑭᑦ ᕿᓚᐅᒥᑦᔨᓂᖅᑕᐅᔪᐊᖓᔪᖅᑭᓪ

None expected. During the geophysics study, the vessel will cease operations when narwal are observed in close proximity (less than 200 m).

Cumulative Effects

None anticipated

Impacts

ᓄᓗᓄᐃᖅᑕᐅᓂᖅᑎᑦ ᐊᐢᑎᑎᒥᐅᑕᓱᑦᑐᑦ ᐊᑲᑐᖅᑕᐅᓯᒪᔪᑦ

	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
ϒᓄᓂᖅ																									
-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
ᐅᔨᕋᑲᑦᓂᖅ																									
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ᐃᑐᑦᑎᓇᓂᖅ																									
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(P = ᐊᑲᐅᔾᔨᕈᑎᐊᕐᓂᖅᑐᑦ, N = ᐊᑲᐅᖅᑭᑦᔪᑕᐅᐊᕐᓂᖅᑐᑦ ᕿᓚᐅᒥᑦᔪᓯᓄᖅᑐᖅᑕᐅᐊᕐᓂᖅᑐᑦ ᓄᓇᒃ, M = ᐊᑲᐅᖅᑭᑦᔪᑕᐅᐊᕐᓂᖅᑐᑦ ᕿᓚᐅᒥᑦᔪᓯᓄᖅᑐᖅᑕᐅᐊᕐᓂᖅᑐᑦ ᓄᓇᒃ, U = ᖃᑲᐅᔾᒪᕐᓂᖅᑎᑦ)

ᓇᒋᒪᖏᕆᖅ ᐱᓕᓇᐊᓇᖅᐳᐅᔪᖅ

List of Project Geometries

1	point	Arctic Bay
2	point	Clyde River
3	point	Grise Fiord
4	point	Resolute Bay