NIRB Application for Screening #125544

Application for the Water Licence Amendment of the Municipality of Kimmirut #3BM-KIM1929

Application Type:	New
Project Type:	Water
Application Date:	7/3/2020 3:28:01 PM
Period of operation:	from 0001-01-01 to 0001-01-01
Proposed Authorization:	from 0001-01-01 to 0001-01-01
Project Proponent:	NIRB info Nunavut Impact Review Board Box 1360 (20 Mitik) Cambridge Bay Nunavut X0B 0C0 Canada Phone Number:: (867) 983-4600, Fax Number:: (867) 983-2594

DETAILS

Non-technical project proposal description

English: Executive Summary of the Municipality of Kimmirut Water Licence #3BM-KIM 1929 for amendment in order to accommodate the construction of the New Wastewater Treatment Facility (WWTF). Kimmirut is located on the southern end of Baffin Island at 62°50′48″N and 069°52′07″W. Kimmirut is a small community with a current population of 511 in 2020. Like most communities in the north, Kimmirut is only accessible year-round by plane. Boat access to the community is available for a limited number of months during the year. This small community is currently 100% serviced by a trucked system for both water delivery and sewage collection. For the past 30 years, they have discharged the untreated wastewater into a trench near the community's solid waste facility. This trench drains over a steep (average slope 4:1) embankment into the ocean through Lake Harbour. The current sewage disposal system provides only preliminary treatment, with some further primary treatment occurring during the summer months when vegetation is present and active. This facility is non-compliant. It is estimated that Kimmirut produces roughly 18,500 cubic meters of wastewater annually. The Government of Nunavut (GN) is proceeding with the design and construction of a new Waste Water Treatment Facility at "Site 9" (62°50'15.4N and 69°52'35.2W) in Kimmirut, Nunavut. The new WWTF will be designed to meet the community's waste water requirements for 20 years. The proposed site for the new sewage lagoon has been supported by the Hamlet Council of Kimmirut and approved by Transport Canada. The GN is currently in the design phase of this new WWTF project. A feasibility study conducted in 2015 determined that the optimal design of the new WWTF in Kimmirut is to build a sewage lagoon using an existing pond at Site 9 in Kimmirut. Two design options have been considered for this site. The first design option provides a secondary treatment process through the use of an impermeable berm to allow for a one year retention period. The second design option includes an enhanced preliminary treatment process using a permeable berm that allows for continuous discharge from the lagoon. In both cases, the lagoon will discharge along a path that flows overland into the marine environment of Lake Harbour. The effluent quality will be further enhanced by the overland flow and the design of permeable berms along the overland flow path. The new lagoon will be designed to meet all regulatory standards and requirements, including the 2019 water licence effluent criteria. These design considerations will result in improved effluent criteria that will ensure the health and safety of those living in Kimmirut along with the environment. The future consultant will design the facility considering the best option. This Design Brief will be approved by the NWB prior to starting construction. The project is expected to be completed in 2021. The design phase will commence in March 2020 with construction expected to start in July 2021. Commissioning of the new sewage lagoon is expected to occur in November 2021 after successful training and handoff of operations to the Hamlet. The existing Water Licence #3BM-KIM1929 was issued on May 27, 2019 and will expire on May 26, 2029. The proposed amended water licence will accommodate the construction of the new WWTF which is anticipated to be commissioned in 2021. The as-built drawings and O&M manual will be made available to operate the new facility.

French: Not applicable

Inuktitut: ᓯᕗᓪᓕᖅᑎᓃᖅᒑᖅᑐᖅ ᓇᐃᓪᓕᑎᑦᓯᒪᔪᖅ Hᐋᒻᒪᓚᒃᑯᖏᓐᓄᑦ ᑭᒻᒥᕈᑦ ᐃᒥᕐᒧᑦ ᐊᔪᖏᔾᔪᑎ #3BM-KIM 1929 ᐋᖅᑭᒋᐊᕈᑎᒧᑦ ᐃᓂᖃᖅᑎᑦᓯᓂᕐᒧᑦ ᓴᓇᔭᐅᓂᖓᓄᑦ ᓄᑖᖅ ᑭᓈᓗᖃᕐᕕᒻᒥᑦ ᓴᓗᒻᒪᖅᓴᐃᕕᒻᒥᑦ (WWTF). ᑭᒻᒥᕈᑦ ᓂᒋᖅᐸᓯᐅᑉ ᐃᓯᐊᓃᑦᑐᖅ ᕿᑭᖅᑖᓗᒃ 62°50′48″ᐅᐊᓐᓇᖓᓂᑦ ᐊᒻᒪᓗ 069°52′07″ᐱᓇᓐᓇᕐᒥᑦ. ᑭᒻᒥᕈᑦ ᓄᓇᓕᑭᑦᑐᖅ ᒫᓐᓇ ᐊᒥᓲᓂᖏᑦ 511 2020-ᒥ. ᐊᒥᓱᑎᑐᑦ ᓄᓇᓖᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ, ᑭᒻᒥᕈᑦ ᐅᐸᑦᑕᐅᒍᓐᓇᖅᑐᖅ ᐊᕐᕌᒍᑉ-ᐃᓗᐊᓂ ᖃᖓᑕᔫᒃᑯᑦ ᑭᓯᐊᓂ. ᐅᒥᐊᒃᑯᑦ ᐅᐸᒐᑦᓴᐅᒥᔪᖅ ᓄᓇᓖᑦ ᑭᓪᓕᖅᑲᖅᓯᑎᒃ ᑕᖅᑭᕋᓴᕐᓄᑦ ᐊᕐᕌᒍᒻᒥᑦ. ᑖᓐᓇ ᓄᓇᓕᕋᓛᖅ ᒫᓐᓇᐅᔪᖅ 100->ᓴᓐᑎᒥ ᐱᔨᑦᓯᕋᖅᑕᐅᖃᑦᑕᖅᑐᖅ ᓄᓇᓯᐅᑎᒃᑯᑦ ᑕᒻᒪᒃᐲᓐᓂᒃ ᐃᒥᖅᑕᖅᑕᐅᓂᕐᒧᑦ ᒥᓪᓗᐊᖅᑕᐅᓂᕐᒧᓪᓗ. ᐊᕐᕌᒍᓂᑦ 30-ᓂ, ᐊᓂᐊᑦᓯᖃᑦᑕᖅᓯᒪᔪᑦ ᓴᓗᒪᑦᓴᖅᓯᒪᖏᑦᑐᒥᑦ ᑭᓈᓗᒻᒥᑦ ᑰᕝᕕᒃᑯᑦ ᖃᓂᒋᔭᖓᓂᑦ ᓄᓇᓖᑦ ᑭᓈᓗᖃᑦᐱᖓᑕ. ᑖᓐᓇ ᑰᖃᑦᑕᖅᑐᖅ ᐳᖅᑐᔪᒃᑯᑦ (ᐊᒻᒧᑦ 4:1) ᐃᒪᕕᒻᒧᑦ ᑭᒻᒥᕈᑎᒍᑦ. ᒫᓐᓇᐅᔪᖅ ᑭᓈᓗᐃᔭᐃᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᖅ ᐊᑐᐃᓐᓇᐅᑎᑦᓯᔪᖅ ᓴᓗᒪᖅᓴᖅᓯᒪᓗᐊᖏᑦᑐᓂᑦ, ᓴᓗᒪᖅᓴᐃᑲᓐᓂᖅᑲᑦᑕᖅᑐᑦ ᐅᐱᕐᖔᒃᑯᑦ ᑕᖅᑭᖏᓐᓂᑦ ᐱᕈᖅᑐᖅᑲᖅᑎᓪᓗᒍ ᐱᕈᖅᐸᓪᓕᐊᑎᓪᓗᒥᓪᓗ. ᑖᓐᓇ ᐱᓕᕆᕖᒃ ᒪᓕᙱᑦᑐᖅ. ᓇᓚᐅᑦᓵᖅᑕᐅᓯᒪᔪᖅ ᑭᒻᒥᕈᑦ ᓴᖅᑭᑎᑦᓯᖃᑦᑕᖅᑐᖅ 18,500 ᑭᑉᐹᓇᑦᑐᓂᑦ ᑭᓈᓗᒥ ᐊᕐᕌᒍᑕᒫᑦ. ᒐᕙᒪᒃᑯᑦ ᓄᓇᕗᒻᒥ (GN) ᑲᔪᓯᕙᓪᓕᐊᔪᑦ ᓴᓇᒻᒪᖓᓂᑦ ᓴᓇᔭᐅᓂᐊᕐᓂᖓᓂᓪᓗ ᓄᑖᖅ ᑭᓈᓗᒥ ᓴᓗᒻᒪᖅᓴᐃᕕᒻᒥ "ᐃᓂᒋᔭᐅᔪᖅ 9" (62°50'15.4"ᐅᐊᓐᓇᖓᓂᑦ ᐊᒻᒪᓗ 69°52'35.2ᐱᓇᓐᓇᕐᒥᑦ) ᑭᒻᒥᕈᑦ, ᓄᓇᕗᑦ. ᓄᑖᖅ ᑭᓈᓗᖃᕐᕕᒻᒥ ᓴᓗᒻᒪᖅᓴᐃᕕᒃ ᓴᓇᒻᒪᒋᓂᐊᖅᑕᖓ ᐱᔭᓇᐊᖅᑲᕐᓂᖓᓄ ᓄᓇᓕᓐᓂ ᑭᓈᓗᓐᓄᑦ ᐊᑐᓇᐊᓕᓐᓄᑦ ᐊᕐᕌᒍᓐᓄᑦ ᐊᕙᑎᓄᑦ (20). ᑐᑦᓯᕋᐅᑎᐅᔪᖅ ᐃᓂᒋᔭᐅᔪᖅ ᓄᑖᒧᑦ ᑭᓈᓗᖃᕐᕕᒻᒧᑦ ᐃᑲᔪᖅᑐᖅᑕᐅᓯᒪᔪᖅ Hᐋᒻᒪᓚᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᑭᒻᒥᕈᒻᒥ ᐊᖏᖅᑕᐅᓯᒪᑦᓯᓂᓗ ᑲᓇᑕᒥ ᐃᖏᕐᕋᔪᓕᕆᔨᒃᑯᓐᓄᑦ. ᒐᕙᒪᒃᑯᑦ ᓄᓇᕗᒻᒥ ᒫᓐᓇᐅᔪᖅ ᓴᓇᒻᒪᒋᓂᐊᖅᑕᖓᓂᑦ ᐱᓕᕆᐊᖃᖅᑐᑦ ᑖᑦᓯᒧᖓ ᓄᑖᒧᑦ ᑭᓈᓗᖃᕐᕕᐅᑉ ᓴᓗᒻᒪᖅᓴᐃᕕᑦᓴᖓᑕᓂ. ᐊᔪᖏᑦᑎᐊᕋᔭᕐᓂᖓᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᔾᔪᑎ ᑲᒪᒋᔭᐅᓯᒪᔪᖅ 2015-ᒥ ᓇᓗᓇᐃᖅᓯᓂᕐᒧᑦ ᐱᐅᓯᒋᐊᖅᓯᒪᔪᖅ ᓴᓇᒻᒪᖓ ᓄᑖᒧᑦ ᑭᓈᓗᒥ ᓴᓗᒻᒪᖅᓴᐃᕕᒃ ᑭᒻᒥᕈᒻᒥ ᓴᓇᓂᕐᒧᑦ ᑭᓈᓗᖃᕐᕕᒻᒥᑦ ᐊᑐᕐᓗᑎᒃ ᐱᑕᖃᓲᖅᑐᒥᑦ ᑕᓯᕐᒥᑦ ᐃᓂᒋᔭᐅᔪᖅ 9 ᑭᒻᒥᕈᒻᒥ. ᒪᕐᕉᒃ ᓴᓇᒻᒪᖓᓄᑦ ᓇᓖᕋᕐᕕᐅᔪᓐᓇᖅᑑᒃ ᐃᓯᒪᒋᔭᐅᓯᒪᔫᒃ ᐃᓂᒋᔭᖓᓄᑦ. ᓯᕗᓪᓕᖅ

ᓴᓇᒻᒪᖓᓄᑦ ᐊᑐᐃᓐᓇᐅᑎᑦᓯᔪᖅ ᓴᓗᒻᒪᖅᓴᐃᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᕙᓪᓕᐊᓂᖏᓐᓄᑦ ᐊᑐᕐᓗᑎᒃ ᑯᕕᖅᑕᔾᔭᐃᑯᑎᒥᑦ ᐱᕕᖃᖅᑎᑦᓯᓂᕐᒥᑦ ᐊᕐᕌᒍᓕᒫᑦᒧ ᐱᓯᒪᑦᓯᖏᓐᓇᕐᓂᕐᒧᑦ. ᐊᐃᑉᐸᖓ ᓴᓇᒻᒪᖓᓄᑦ ᐃᓚᒋᔭᖃᖅᑐᖅ ᐱᐅᓯᕚᓪᓕᑎᑦᓯᓂᕐᒥᑦ ᓴᓗᒻᒪᖅᓴᐃᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᕙᓪᓕᐊᓂᖏᓐᓄᑦ ᐊᑐᕐᓗᑎᒃ ᑯᕕᖅᑕᕐᕕᓐᓂᑦ ᐱᕕᖃᖅᑎᑦᓯᓂᕐᒥᑦ ᐊᓂᐊᖅᓯᖏᓐᓇᖅᑐᒥᑦ ᑭᓈᓗᖃᕐᕕᒻᒥᑦ. ᑕᒪᒃᑮᓐᓂᑦ ᖃᓄᐃᓐᓂᐅᔫᓐᓂᑦ, ᑭᓈᓗᖃᕐᕕᒃ ᐊᓂᐊᑦᓯᓂᐊᖅᑐᖅ ᐊᖅᑯᑎᖓᒍᑦ ᓄᓇᐅᑉ ᖄᖓᒍᑦ ᑕᕆᐅᒻᒧᑦ ᑭᒻᒥᕈᒻᒥᑦ. ᑯᕕᔪᑦ ᖃᓄᐃᓐᓂᖏᓐᓄᑦ ᐱᐅᓯᕚᓪᓕᑎᑦᓯᓂᕐᒧᑦ ᓄᓇᐅᑉ ᖄᖓᒍᑦ ᓴᓇᒻᒪᖓᓂᓪᓗ ᑯᕕᖅᑕᕐᕕᓐᓂᑦ ᓄᓇᐅᑉ ᖄᖓᒍᑦ ᐊᖅᑯᑎᖓᒍᑦ. ᓄᑖᖅ ᑭᓈᓗᖃᕐᕕᒃ ᓴᓇᓯᒪᓂᐊᖅᑐᖅ ᐱᔭᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᐃᓘᓐᓇᖏᓐᓄᑦ ᒪᓕᒐᖅᑎᒎᕐᓗᑎᒃ ᐊᑐᕆᐊᓕᓐᓄᓪᓗ, ᐃᓚᒋᓗᒍ 2019-ᒥ ᐃᒥᕐᒧᑦ ᐊᔪᙱᔾᔪᑎ ᑰᓐᓂᖓᓄᑦ ᒪᓕᑦᑕᐅᔭᕆᐊᓕᓐᓄᑦ. ᑖᓐᓇ ᓴᓇᒻᒪᖓ ᐃᓱᒪᒋᔭᐅᔪᖅ ᐱᐅᓯᕚᓪᓕᑎᑦᓯᓂᐊᖅᑐᖅ ᑰᓐᓂᖓᓄᑦ ᒪᓕᑦᑕᐅᔭᕆᐊᓕᓐᓄᑦ ᓇᓗᓇᐃᖅᓯᓂᕐᒧᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᓪᓗ ᑭᒻᒥᕈᒻᒥᐅᑕᓄᑦ ᐊᕙᑎᒥᓪᓗ. ᓯᕗᓂᑦᓴᕐᒥᑦ ᖃᐅᔨᒃᑲᐃᔨ ᓴᓇᒻᒪᖓᓂᑦ ᑭᓈᓗᖃᕐᕕᐅᑉ ᐃᓱᒪᒋᔭᖃᕐᓂᐊᖅᑐᖅ ᐱᐅᓂᖅᐹᒧᑦ ᓇᓛᕌᕐᓂᕐᒧᑦ. ᑖᓐᓇ ᓴᓇᒻᒪᖓ ᐊᖏᖅᑕᐅᓂᐊᖅᑐᖅ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᓴᓇᔭᐅᓂᖓ ᐱᒋᐊᓚᐅᖏᓐᓂᖓᓂᑦ. ᑖᓐᓇ ᐱᓕᕆᐊᖑᔪᒃᓴᖅ ᓂᕆᐅᒋᔭᐅᔪᖅ ᐱᔭᕇᖅᑕᐅᓂᐊᕐᓂᖓᓂᒃ 2021-ᒥ. ᓴᓇᒻᒪᖓᑕ ᖃᓄᐃᓕᐅᖅᐸᓪᓕᐊᓂᖓ ᐱᒋᐊᕐᓂᐊᖅᑐᖅ ᒫᑦᓯ 2020 ᓴᓇᔭᐅᓂᖓ ᓂᕆᐅᒋᔭᐅᑦᓱᓂ ᐱᒋᐊᕈᔭᕐᓂᖓᓄᑦ ᔪᓚᐃ 2021. ᑲᔪᓯᑎᑦᓯᓂᕐᒥᑦ ᓄᑖᒥ ᑭᓈᓗᖃᕐᕕᒻᒥᑦ ᓂᕆᐅᒋᔭᐅᔪᖅ ᐱᒋᐊᓘᕐᓂᐊᓄᑦ ᓅᕙᐃᒻᕙ 2021 ᑲᔪᓯᓂᖃᑦᓯᐊᖅᑐᒥᑦ ᐱᓕᒻᒪᑦᓴᕐᓂᕐᒥᑦ ᑐᓂᔭᐅᓗᓂᓗ ᐊᐅᓚᑦᓯᔾᔪᑎᓂᑦ Hᐋᒻᒪᓚᒃᑯᓐᓄᑦ. ᐱᑕᖃᕇᖅᑐᖅ ᐃᒥᕐᒧᑦ ᐊᔪᙱᔾᔪᑎ #3BM-KIM1929 ᑐᓂᔭᐅᓯᒪᔪᖅ ᒪᐃ 27 ,2019–ᒥᑦ ᐃᓱᓕᕝᕕᑦᓴᖃᕐᓂᐊᖅᓱᓂᓗ ᒪᐃ 26, 2029. ᑐᑦᓯᕋᐅᑎᐅᔪᖅ ᐋᖅᑭᒋᐊᕆᓂᕐᒧᑦ ᐃᒥᕐᒧᑦ ᐊᔪᙱᔾᔪᑎ ᐃᓂᖃᖅᑎᑦᓯᓂᕐᒥᑦ ᓴᓇᔭᐅᓂᖓᓂᑦ ᓄᑖᖅ ᑭᓈᓗᖃᕐᕕᒻᒥᑦ ᓴᓗᒻᒪᖅᓴᐃᕕᒻᒥᑦ ᓂᕆᐅᒋᔭᐊᖅ ᐱᔭᕇᕐᓂᐊᖅᓂᖓᓄᑦ 2021-ᒥ. ᑎᑎᖅᑐᒐᖅᓯᒪᓂᖏᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᔾᔪᑏᑦ ᐋᖅᑭᐅᒪᔾᔪᑏᓪᓗ ᐊᑐᐃᓐᓇᐅᓂᐊᖅᑐᑦ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᓄᑖᒧᑦ ᑭᓈᓗᖃᕐᕕᒻᒧᑦ.

Inuinnaqtun: Not applicable

Personnel

Personnel on site: 1
Days on site: 3650
Total Person days: 3650
Operations Phase: from 2021-06-28 to 2021-11-29
Operations Phase: from 2020-02-27 to 2029-05-23
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
New project geometry	Other	Municipal	N/A	N/A	Kimmirut

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Information is not available			

Authorizations

Indicate the areas in which the project is located:

South Baffin

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Nunavut Water Board	Type B License	Active		

Project transportation types

Transportation Type	Proposed Use	Length of Use
Land	Heavy Equipment	

Project accomodation types

Community

Material Use

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Heavy Equipment	1	Heavy duty	Land leveling

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Diesel	fuel	10	200	2000	Liters	To run the heavy equipment

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
50	Pumping	Lake

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Information is not available				

Environmental Impacts:

Not applicable

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

Description of Existing Environment: Biological Environment

Description of Existing Environment: Socio-economic Environment

Miscellaneous Project Information

Identification of Impacts and Proposed Mitigation Measures

Cumulative Effects

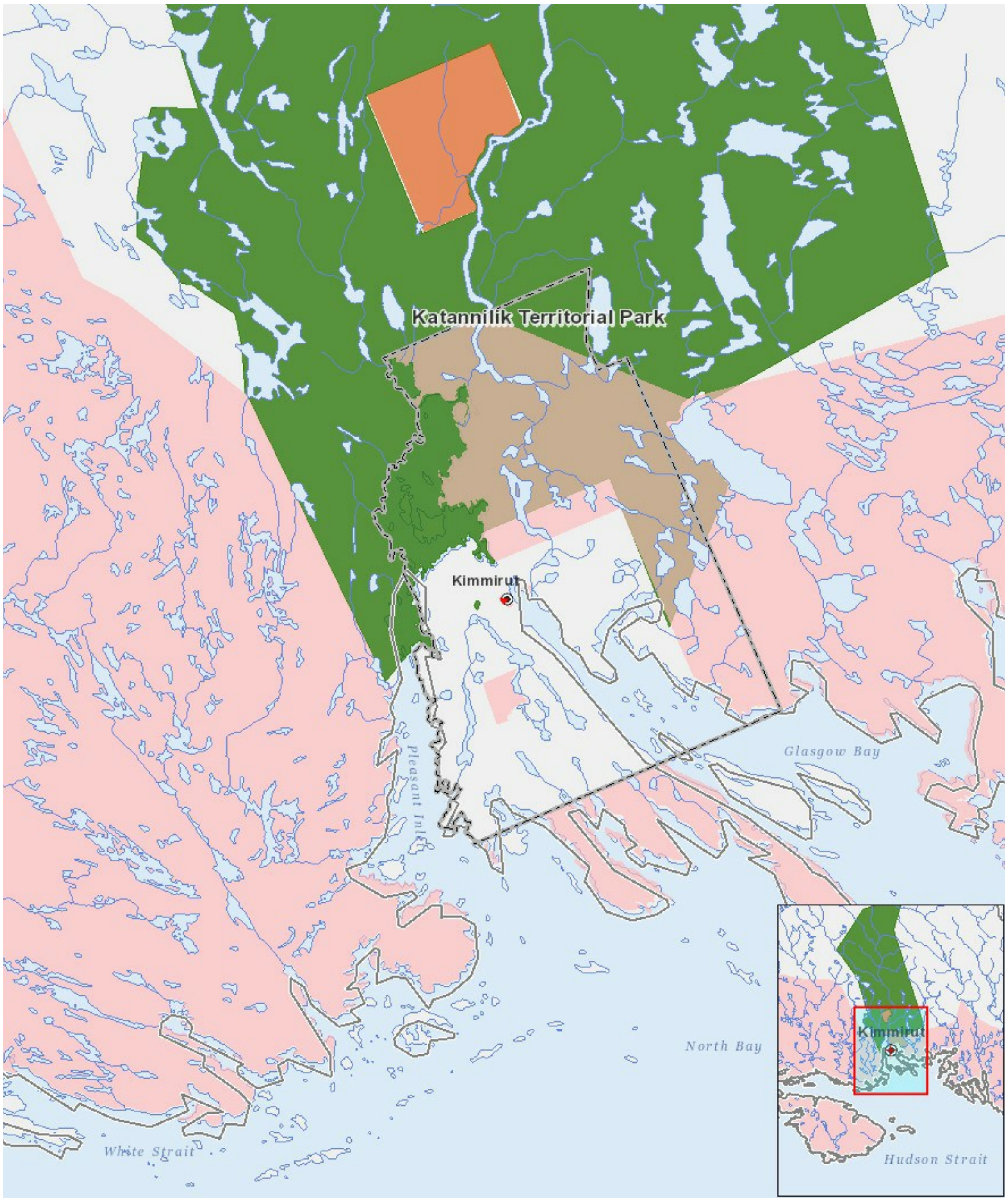
Impacts

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																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Operation																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Decommissioning																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

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

Project Location


Katannilik Territorial Park
Kimmirut
Pleasant Inlet
Glasgow Bay
North Bay
White Strait
Kimmirut
Hudson Strait

List of Project Geometries

1	polygon	New project geometry