Demande de la CNER faisant l’objet d’un examen préalable #125874

CD-Wastewater Treatment Plant

Type de demande : New

Type de projet: Eau

Date de la demande : 1/25/2024 1:05:18 PM

Period of operation: from 2028-01-01 to 2045-12-31

Promoteur du projet:
Community Support Division
Government of Nunavut
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DÉTAILS

Description non technique de la proposition de projet

Anglais: The Government of Nunavut Department of Community and Government Services, on behalf of the Municipality of Kinngait (Cape Dorset), is applying to amend water licence 3BM-CAP1925 in the Municipality of Kinngait to proceed with the construction of a mechanical wastewater treatment plant (WWTP)As part of the feasibility study, several sites for the WWTP were considered and evaluated. The recommendation was for the WWTP to be located west of the existing metal and wood recycling site, adjacent to the existing outfall from the emergency lagoon.The new WWTP will be designed to provide reliable treatment of all truck-collected sewage from the community for a 20-year horizon (2025 to 2045) replacing the existing wastewater lagoon system (3-tier lagoon, emergency lagoon, and P-Lake). The estimated daily flow of wastewater is 184 m^3 by 2025 based on population projections and per capita wastewater generation calculations.The expected effluent quality will exceed current water licence criteria. Based on the WWTP technology, the effluent quality is expected to have the following characteristics: BOD5: 25 mg/L; TSS: 25 mg; un-ionized ammonia: 1.25 mg/L; faecal coliform: 200 CFU/100 mL; pH: 6.0 – 9.0; and oil and grease: no visible sheen. The effluent would be discharged by a heat-traced pipe from the WWTP to the existing emergency lagoon outfall at Foxe Channel (CAP-5).Calculations estimate 25.6 tonnes of dry solid sludge would be produced by the WWTP in 2025 and 88.4 tonnes of dry solid sludge by 2045. A sludge management plan has been established, which plans for the sludge to be brought to a holding pad at the existing landfill where the sludge will be dewatered in geomembrane bags.All other previously submitted information for this water licence remains the same.

Français: Le ministère des Services communautaires et gouvernementaux du gouvernement du Nunavut, au nom de la municipalité de Kinngait (Cape Dorset), demande la modification du permis d'utilisation des eaux 3BM-CAP1925 dans la municipalité de Kinngait afin de procéder à la construction d'une station de traitement mécanique des eaux usées.Dans le cadre de l'étude de faisabilité, plusieurs sites ont été envisagés et évalués pour la station de traitement des eaux usées. Il a été recommandé d'implanter la station à l'ouest du site actuel de recyclage des métaux et du bois, à côté de l'exutoire existant du bassin d'épuration d'urgence.La nouvelle station de traitement des eaux usées sera conçue pour assurer une épuration fiable de toutes les eaux usées collectées par les camions de la communauté sur une période de 20 ans (2025 à 2045), en remplacement du système de lagunage existant (lagunage à trois niveaux, lagunage d'urgence et lac P). Le débit journalier d'eaux usées est estimé à 184 m^3 en 2025 sur la base des projections démographiques et des calculs de production d'eaux usées par habitant.La qualité attendue des effluents dépassera les critères actuels du permis d'utilisation des eaux. Sur la base de la technologie de la station de traitement des eaux usées, la qualité des effluents devrait présenter les caractéristiques suivantes : DBO5 : 25 mg/L; TSS : 25 mg ; ammoniac non ionisé : 1,25 mg/L ; coliformes fécaux : 200 UFC/100 ml ; pH : 6,0 - 9,0 ; et huile et graisse : pas de reflet visible. Les effluents seraient évacués par une canalisation calorifugée depuis la station de traitement des eaux usées jusqu'à l'exutoire de l'étang d'épuration d'urgence existant dans le chenal Foxe (CAP-5).Les calculs estiment que la station de traitement produira 25,6 tonnes de boues solides sèches en 2025 et 88,4 tonnes de boues solides sèches en 2045. Un plan de gestion des boues a été établi, qui prévoit que les boues soient amenées sur une plateforme de rétention dans la décharge existante, où elles seront déshydratées dans des sacs en géomembrane.Toutes les autres informations précédemment soumises pour ce permis d'utilisation des eaux demeurent inchangées.

Inuktitut: ᓄᓇᕗᒻᒥ ᒐᕙᒪᒃᑯᑦ ᓄᓇᓕᖕᓂ ᒐᕙᒪᒃᑯᓐᓂᓗ ᐱᔨᑦᑎᕋᖅᑎᒃᑯᑦ, ᑭᒡᒐᖅᑐᖅᓱᒍ Hᐋᒻᒪᓚᖓ ᑭᙵᕐᓂ (ᑭᙵᐃᑦ), ᑐᒃᓯᕋᖅᑐᑦ ᐋᖅᑭᒋᐊᕐᓗᒍ ᐃᒪᕐᒧᑦ ᓚᐃᓴᓐᓯ 3BM-CAP1925 Hᐋᒻᒪᓚᒃᑯᓐᓂ ᑭᙵᕐᓂ ᑲᔪᓯᓗᓂ ᓴᓇᔭᐅᓂᖓ ᑭᓈᓗᖃᕐᕕᖕᒧᑦ ᓴᓗᒻᒪᖅᓴᐃᕕᒃ (WWTP)ᐃᓚᒋᓪᓗᓂᐅᒃ ᐊᔪᙱᑦᑎᐊᕋᔭᕐᓂᖓᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᔾᔪᑎ, ᖃᔅᓯᐊᕐᔪᐃᑦ ᐃᓂᐅᔪᑦ WWTP-ᒧᑦ ᐃᓱᒪᒋᔭᐅᓚᐅᖅᑐᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᓪᓗᑎᒃ. ᐊᑐᓕᖁᔭᐅᔪᖅ ᑭᓈᓗᖃᕐᕕᖕᒧᑦ ᓴᓗᒻᒪᖅᓴᐃᕕᒃ ᐃᓂᖃᖁᓪᓗᒍ ᐱᖓᓐᓇᖔᖓᓂ ᓴᕕᕋᔭᒃ ᐊᒻᒪ ᕿᔪᒃ ᐊᑐᒃᑲᓂᕈᓐᓇᖅᑐᑦ, ᖃᓂᒋᔭᖓᓂ ᐱᑕᖃᖅᐸᒌᖅᑐᖅ ᑯᕕᔪᖅ ᑐᐊᕕᕐᓇᖅᑐᓄᑦ ᑭᓈᓗᖃᕐᕕᖕᒧᑦ.ᓄᑖᖅ ᑭᓈᓗᖃᕐᕕᖕᒧᑦ ᓴᓗᒻᒪᖅᓴᐃᕕᒃ ᐋᖅᑭᒃᑕᐅᓂᐊᖅᐳᖅ ᓈᒻᒪᒡᓗᑎᒃ ᓴᓗᒻᒪᖅᓴᐅᑎᑦ ᓄᓇᓯᐅᑎᓕᒫᓄᑦ-ᑯᕕᖅᑕᖅᑕᐅᓲᓄᑦ ᓄᓇᓕᖕᓂ ᐅᑭᐅᓄᑦ ᐊᕙᑎᓄᑦ ᓴᓂᒧᑦ (2025-ᒥ 2045-ᒧᑦ) ᐊᓯᔾᔨᖅᑕᐅᓗᓂ ᑭᓈᓗᖃᕐᕕᒃ (ᐱᖓᓱᑦ–ᖃᓕᓈᑦ ᑭᓈᓗᖃᕐᕕᖕᒥ, ᑐᐊᕕᕐᓇᖅᑐᒃᑯᕕᒃ, ᐊᒻᒪ P-Lake). ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᖅ ᖃᐅᑕᒫᑦ ᑯᕕᖃᑦᑕᖅᑐᖅ ᐃᒥᕐᓄᑦ ᐊᑐᓃᖅᓯᒪᔪᓄᑦ 184 m^3 2025-ᒧᑦ ᑐᙵᓂᖃᖅᑐᖅ ᐃᓄᒋᐊᓐᓂᖕᒋᓐᓄᑦ ᐊᒻᒪ ᐃᓄᒋᐊᓐᓂᖕᒋᓐᓄᑦ ᐃᒥᕐᓄᑦ ᐊᑐᓃᖅᓯᒪᔪᓄᑦ ᐆᒻᒪᖅᑯᑎᓕᐅᓂᕐᒧᑦ ᓈᓴᖅᑕᐅᓯᒪᔪᑦ.ᓂᕆᐅᒋᔭᐅᔪᖅ ᑯᕕᔪᖅ ᐱᐅᓂᖓ ᖄᖏᐅᑎᓂᐊᕋᓱᒋᔭᐅᓪᓗᓂ ᒪᓐᓇᐅᔪᖅ ᐃᒪᕐᒧᑦ ᐱᔪᓐᓇᐅᑎᖓᓄᑦ. ᑐᙵᕕᒋᔭᐅᓪᓗᓂ WWTP-ᒧᑦ ᐱᓕᕆᔾᔪᑏᑦ, ᑯᕕᔪᑦ ᖃᓄᐃᓐᓂᖏᑦ ᓂᕆᐅᒋᔭᐅᔪᑦ ᒪᑯᓂᖓ

ᖃᓄᐃᖅᑐᓂᖃᖅᓂᐊᖅᓂᖏᓄᓄᑦ: BOD5: 25 mg/L TSS: 25 mg; un-ionized ammonia: 1.25 mg/L; faecal coliform: 200 CFU/100 mL; pH: 6.0 – 9.0; ᐅᖃᓕᖃᑎᑭᑐᓗ: ᑕᑯᐸᐅᐊᓕᖃᖏᑦᑐᑦᑕᖃᖅ. ᑯᐃᓕᖃᖅ ᑯᐃᑎᑕᐅᓴᖃᖅᑐᖅ ᐅᓴᖃᖅᑐᒍᑦ ᓕᓐᓂᓕᖏᒍᑦ WWTP-ᒥᑦ ᐊᓵᓴᐅᐊᓕᖃᖅᑐᒍᑦ ᑐᐊᐃᕐᓴᖃᖅᑐᒍᑦ ᑯᐃᖃᑦᑕᕐᐃᖏᒍᑦ ᓴᓂᕋᕆᐅᑉ ᑕᓗᐅᖏᓂᑦ (CAP-5).ᓵᓴᐅᓕᓴᕆᐅᐊᑦ ᓴᓪᓕᐅᖃᑦᑕᐃᑕᐅᐊᑦ 25.6 ᑕᓐᓄ ᐸᓂᖃᖅᑐᑦ ᑭᓂᖃᖅᑐᑦ ᓴᓴᐅᓴᐅᖃᖅᑐᑦ WWTP-ᒧᑦ 2025-ᒥᑦ ᐊᑦᒪᓗ 88.4 ᑕᓐᓄ-ᓂᑲ ᐸᓂᖃᖅᑐᓂᑲ ᑭᓂᖃᖅᑐᓂᑲ 2045-ᒥᑦ. ᒪᖃᕋᓂᑦ ᐊᐅᓪᓚᑎᓂᖃᖅᑐᑦ ᐸᖃᓴᐅᑦ ᐊᒋᖃᑭᐃᑕᐅᓂᕆᓚᖃᖅᑐᖅ, ᐸᖃᓴᐃᓕᓴᕆᑦ ᒪᕋᖃᒧᑦ ᐊᑲᑕᖃᖅᓛᒧᐊᖅᑕᐅᓯᖃᓪᓚᓂ ᐊᑲᑕᖃᖅᓛᐊᓪᓚᒧᑦ ᒪᕋᖅ ᐃᒍᑎᖅᑕᐅᓂᐊᖅᑐᖅ ᓄᓴᐅᑉᐸᑦ ᖃᖅᓱᓂᓪᓚᓂ.ᐊᓕᓪᒪᓐᓂᑦ ᑐᓂᓕᓴᐅᖅᑐᑦ ᑐᑭᓕᓕᐅᑎᓂᑦ ᑕᐃᓴᐃᓐᐊᑎᓂᑦ ᑕᖅᓴᓕᓴᕆᓕᑦ ᐊᓕᐳᓴᖏᓐᓂᖅᑐᖅ.

Inuinnaqtun: Nunavut Kavamangani Nunalingni Kavamatkunnilu Pivikhaqautikkut Havagvia, pidjutigiplugu Haamlanga Kinngait, (Cape Dorset), uuktuliqtuq ihuaqhariami imakkut laisinga 3BM-CAP1925 uvani Haamlangani Kinngait hivumuujaami uumunga nappaqtirnirmun ingilrutiqaqtukkut halumaittunik-imarnik halummaqtirutikkut havagvingmik (WWTP)Ilauningani pittaataarutikhaanun qaujiharnirmi, qaffit iniiit uumunga halumaittunik-imarnik halummaqtirutikkut havagvikhamun ihumagijaujun naunaijaqtaujullu. Pitqujauhimajuq una WWTP talvungaqluni uataanun talvaniittumin havigalingni qiuknilu atuqtauffaaqtaaqtunin ininganin, haniraliingniani tahamaniittumi kuviraqvianin talvani amirarnakhikpat halumaittunun-imarqarvingmi.Nutaaq WWTP piliuqtauniaqtuq tunijaami ihuaqtunik halummaqtirutinik tamainni akhaluutinin-anaqtautinin anakuinnik nunallaamin uvunga 20nik-ukiuqaqtumik pidjutimi (2025min 2045mun) himauhiqlugu tahamaniittuq halumaittuq-imait halumaittunun-imaqarvingmun pidjutaanun (3nik-qaliriilik imaqarvik, amigarnaqhikpat imaqarvik, unalu P-Lake tahiq). Itqurniaqhimajuq ubluq tamaat kuviniit halumaittunik-imarnik una 184 m^3 talvuuna 2025 tunnganiani inugiangnirni naunaijarnirni uvanilu tamainni inungni halumaittuni-imarni piliurutainnik kihitiinni.Niriuktaujun anakiunnik qanurinniit avatqunniaqtait tadja atuqtuq imakkut laisingani maliktakhat. Tunnganiqarningani uumani WWTPkut ingilrutainni, anakiunnik qanurinniit niriuktaujuq piqarluni hapkuninga qanuridjutinik: BOD5: 25 mg/L; TSS: 25 mg; un-ionized ammonia: 1.25 mg/L; faecal coliform (ananin qupilruit): 200 CFU/100 mL; pH: 6.0 – 9.0; uqhuqjuat uqhuillu: takunnaittuq qiplaringnirnik. Halumaittun imait kuviraqtauttaaqtun uvuunga uunnakhimajumin tuqhuamin uumanga WWTP talvunga tahamaniittumun amirarnakhikpat halumaittunun-imarqarvingmi kuvirarvianun uvani Foxe Channel-mi (CAP-5).Naunaijarutit itqurniaqhimajun 25.6 tonnes uvani paniumajuni naptujuni marlungmi piliuqtaaqtuq WWTPmin 2025mi imaalu 88.4 tonnes uvani paniumajumi naptujuni marlungni 2045kut. Uvani marlungni munaridjutikhakkut uplaungaidjutikhaq piliuqtauhimaliqtuq, upalungaiqhimajuq malrungnik agjaqtauniaqtuq najuqvikhaani talvaniittumi iqqakuurvingmi talavani marliut imaijaqtauniaqtuq ukunani inngaqtaaqtunik (geomambrane) puukattani.Tamaita aallat hivuagun tunuqhimajun ilittuirpkaidjutit uumunga imakkut laisigamun huli aajjikkiiktut.

Personnel

Personnel on site: 2

Days on site: 365

Total Person days: 730

Operations Phase: from 2025-05-01 to 2027-12-31

Operations Phase: from 2028-01-01 to 2045-12-31

Post-Closure Phase: from to

Activités

Emplacement	Type d'activité	Statut des terres	Historique du site	Site à valeur archéologique ou paléontologique	Proximité des collectivités les plus proches et de toute zone protégée
New Mechanical Wastewater Treatment Plant	Municipal and Industrial Development	Municipal	Current municipal waste site.	None.	Apart of the municipality.

Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Cape Dorset	Louis Primeau	Hamlet of Kinngait	2024-09-10

Autorisations

Indiquez les zones dans lesquelles le projet est situé:

Autorisations

Organisme de régulation	Description des autorisations	État actuel	Date de l'émission/de la demande	Date d'échéance
Office des eaux du Nunavut	3BM-CAP1925 Water Licence	Active	2019-05-22	2025-05-21
Autre	Municipality of Cape Dorset Motion Number 153-2017 Approval of mechanical wastewater treatment plant	Active	2017-10-30	
Autre	Municipality of Cape Dorset Motion Number 154-2017 Approval of approve across the emergency lagoon for the wastewater treatment plant	Active	2017-10-30	

Project transportation types

Transportation Type	Utilisation proposée	Length of Use
Air	Construction phase personnel to fly in/out by air.	
Land	Operations phase personnel (2 people) will be from the local community.	

Project accomodation types

Collectivité

Autre,

Utilisation de matériel

Équipement à utiliser (y compris les perceuses, les pompes, les aéronefs, les véhicules, etc.)

Type d'équipement	Quantité	Taille – Dimensions	Utilisation proposée
Sewage Truck	3	xyz	For delivering sewage to the wastewater treatment plant
Pickup Truck	1	xyz	For bringing dewatering bags of sludge to the landfill
Land Rescaping Heavy Construction Machiner	10	xyz	All heavy earth moving construction machinery for constructing permanent structures (excavator, bulldozer, and dump truck for hauling)
Excavator, bulldozer, and dump truck	3	xyz	All heavy earth moving construction machinery for landscaping and constructing permanent structures
Crane and forklift	2	xyz	For modular building assembly
Aggregate	1	xyz	For the onsite earthworks. The source of the granular material will be the existing quarry as understood by the local Council
N/A	0	xyz	No specialized equipment required for operating and maintaining the wastewater treatment plant.

Décrivez l'utilisation du carburant et des marchandises dangereuses

Décrivez l'utilisation de carburant :	Type de carburant	Nombre de conteneurs	Capacité du conteneur	Quantité totale	Unités	Utilisation proposée
Diesel	fuel	1	10000	10000	Liters	DPD diesel fuel supply will be used for refueling purposes of dozers', excavators, compactors, trucks, concrete mixers and portable power supply generators
Alum polymer	hazardous	1	647	647	Kg	Used during the operations phase as part of the coagulation and drying process for

						wastewater treatment. Specific type of alum coagulant to be confirmed after jar testing during commissioning. Approximately 647 kg of polymer will be used annually. It will be resupplied annually shipped by sealift.

Consommation d'eau

Quantité quotidienne (m3)	Méthodes de récupération de l'eau proposées	Emplacement de récupération de l'eau proposé
299	The wastewater treatment plant will receive wastewater trucked from sewage holding tanks in the community.	A septage receiving station is apart of the wastewater treatment plant design for receiving all trucked sewage deliveries.

Déchets

Gestion des déchets

Activités du projet	Type des déchets	Quantité prévue	Méthode d'élimination	Procédures de traitement supplémentaires
Municipal and Industrial Development	Dangereux	0.5-40' seacan in volume	Hazardous waste such as extra paint, oil, etc. to be barged offsite of the municipality	Hazardous waste will delivered to accredited hazardous waste disposal facility in the South
Waste disposal	Déchet dangereux	0	No hazardous waste will be created during the operations phase of the wastewater treatment plant	None required
Municipal and Industrial Development	Déchets non combustibles	7-40' seacans in volume	Non-hazardous construction waste to be brought to the municipality landfill. Breakdown of volume: 3-40' seacans - miscellaneous packaging waste from equipment and materials, 2-40' seacans - daily waste generated during construction activities, and 2-40' seacans - cardboard/crate waste	None
Waste disposal	Eaux usées (matières de vidange)	25.6 tonnes per year of operation	Sludge to be disposed at existing 3-tiered lagoon	Dewatering sludge in geomembrane bags
Waste disposal	Eaux usées (matières de vidange)	0	The wastewater treatment plant will have capacity to process all sewage produced by the municipality, so all sewage will be treated. The sewage truck will connect by cam-lock to the septage receiving station influent screen prior to discharging sewage to prevent spills. Sewage spills within the process areas of the wastewater treatment plant will be directed to in-	All spilled sewage will be treated as normal.

			floor channel drains via hose and squeegee, which collect to various sumps that all pump back to the influent screen at the start of the process. Absorbent spill material containers will also be stored near the generator room and fuel tank.	

Répercussions environnementales :

Use of insulating materials around the foundation to prevent heat transfer from the building into the permafrost. No plans or commitments have been made regarding dust control for the construction or operations phases. There are no expected changes to dust production expected as part of constructing or operating the wastewater treatment plant.

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 de l'environnement existant : Environnement physique

Description de l'environnement existant : Environnement biologique

Description de l'environnement existant : Environnement socio-économique

Miscellaneous Project Information

Identification des répercussions et mesures d'atténuation proposées

Répercussions cumulatives

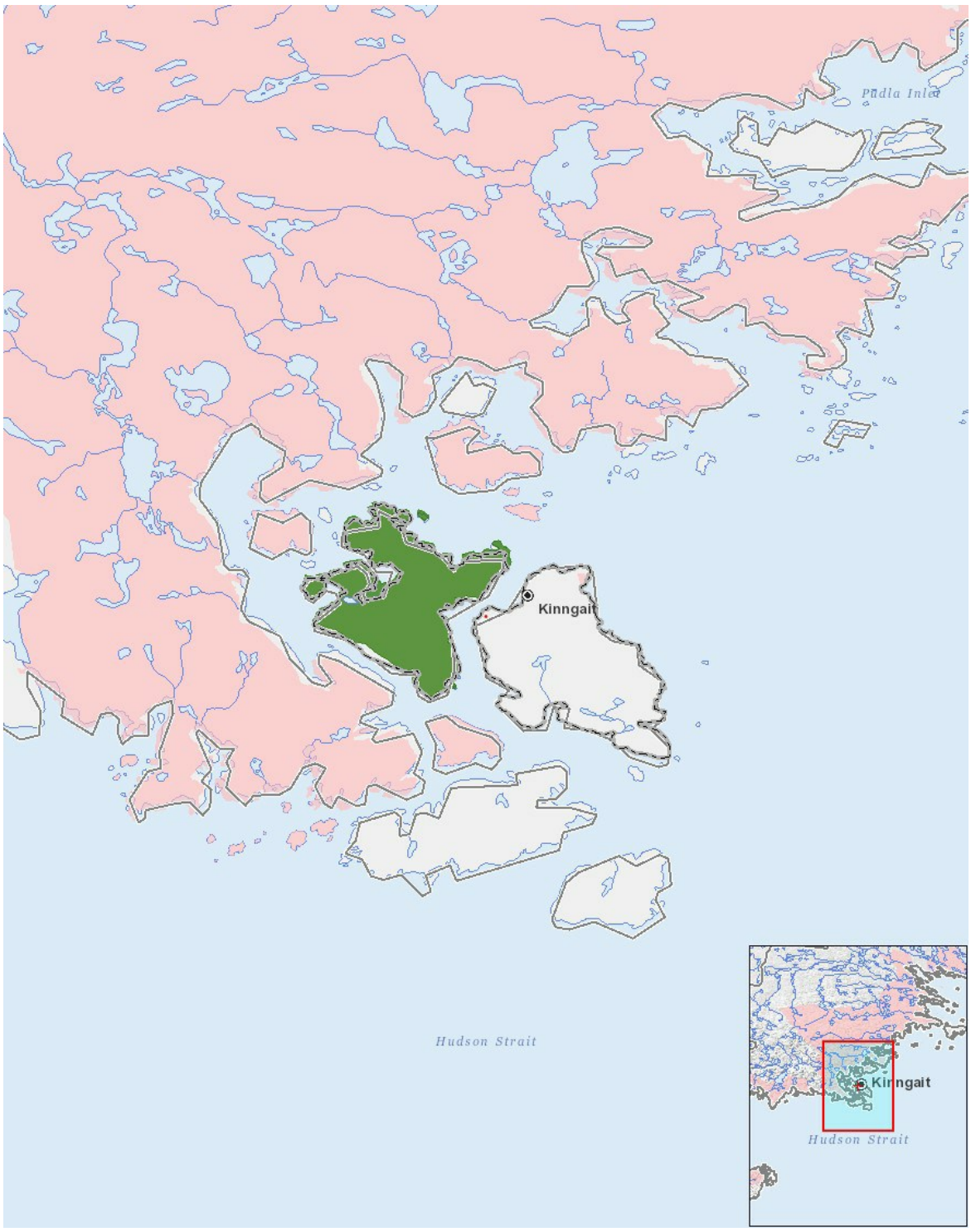
Impacts

Identification des répercussions environnementales

	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																									
Municipal and Industrial Development		P	P	M	-	P	P	P	P	P	P	P	P		P	P	P	P	P		P	P	U	P	P
Exploitation																									
Municipal and Industrial Development		P	P	M	-	P	P	P	P	P	P	P	P		P	P	P	P	P		P	P	U	P	P
Désaffectation																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Positive, N = Négative et non gérable, M = Négative et gérable, U = Inconnue)

Site du projet



Liste des géométries de projet

1	polygon	New Mechanical Wastewater Treatment Plant