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**ᐅᓕᓂᓄᓇ:** 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<sup>3</sup> 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: BOD<sub>5</sub>: 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.

►Δ&ΠΔΨ: Le ministre 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<sup>3</sup> 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 : DBO<sub>5</sub> : 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.

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Inuinnaqtun: Nunavut Kavamatangani Nunalingni Kavamatkunnili Pivikhaqautikkut Havagvia, pidjutigiplugu Haamlanga Kinngait, (Cape Dorset), uuktuliqtuq ihuaqhariami imakkut laisinga 3BM-CAP1925 uvani Haamlangani Kinngait hivumuujaaami uumunga nappaqtirnirmun ingilrutiaqtukkut halumaittunik-imarnik halummaqtirutikkut havagvingmik (WWTP)Ilauningani pittaataarutikhaanun qaujiharnirmi, qaffit iniit uumunga halumaittunik-imarnik halummaqtirutikkut havagvikhamun ihumagijaujun naunaijaqtaujuullu. Pitqujahimajuq una WWTP talvungaqluni uataanun talvaniittumin havigalingni qiuknilu atuqtauffaaqtaaqtinin ininganin, haniraliingniani tahamaniittumi kuviraqvianin talvani amirarnakhikpat halumaittunun-imarqarvingmi.Nutaaq WWTP piluqtauniaqtuq tunijaami ihuaqtunik halummaqtirutinik tamainni akhaluutinin-anaqtautinin anakuinnik nunallaamin uvunga 20nik-ukiuqaqtumik pidjutimi (2025min 2045mun) himauhiqlugu tahamaniittuq halumaittuq-imaik halumaittunun-imaqarvingmun pidjutaanun (3nik-qaliriilik imaqarvik, amigarnaqhikpat imaqarvik, unalu P-Lake tahiq). Itqurniaqhimaajuq ubluq tamaat kuviniit halumaittunik-imarnik una 184 m<sup>3</sup> talvuuna 2025 tunnganiani inugiangnirni naunaijarnirni uvanilu tamainni inungni halumaittuni-imarni piliurutainnik kihitiinni.Niriuktaujun anakiunnik qanurinniit avatqunniaqtait tadsa 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; uqhuquuat uqhuillu: takunnaittuq qiqlaringnirnik. Halumaittun imait kuviraqtauttaaqtin uvuunga uunnakhimajumin tuqhuamin uumanga WWTP talvunga tahamaniittumun amirarnakhikpat halumaittunun-imarqarvingmi kuvirarvianun uvani Foxe Channel-mi (CAP-5).Naunaijarutit itqurniaqhimaajun 25.6 tonnes uvani paniumajuni naptujuni marlungmi piluqtaaqtuq WWTPmin 2025mi imaalu 88.4 tonnes uvani paniumajumi naptujuni marlungni 2045kut. Uvani marlungni munaridjutikhakkut uplaungaidjutikhaq piluqtauhimaliqtuq, upalungaiqhimaajuq malrungnik agjaqtauniaqtuq najuqvikhaani talvaniittumi iqqakuurvingmi talavani marliut imaijaqtauniaqtuq ukunani inngaqtaaqtunik (geomembrane) puukattani.Tamaita aallat hivuagun tunuqhimaajun illituirpkaidjutit uumunga imakkut laisingamun huli aajjikkiiktut.

## Post-Closure Phase: from to



$\subset \Delta^{\text{a}} j^c \wedge J^{\text{a}} q \triangleright \dot{n} \triangleleft^{\text{a}} r^{\text{ab}} C \triangleright p L r^c$

## Project transportation types

Transportation Type	Construction Phase	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

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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



$$\Delta^b C d_{\sigma} \Delta^c \sigma^c$$

ᐱᓕᓂᐸᓂᔭᐅᖃᒪᖃᑦ ᐱᓕᓂᐸᓂᔭᐅᓂᐸᓂᔭᓂ	ᖃᓄᐸᓂᔭ ᐸᓂᐸᓂᔭᓂ	ᖃᓄᓂᓯᓯ ᐸᓂᐸᓂᔭᓂ ᓴᖃᓯᐸᓂᐸᓂᔭᐅᓂᔭᓂ	ᖃᓄᓂᓂ ᐸᓂᐸᓂᔭᐅᓂᐸᓂᔭᓂ	ᓴᓂᓯᓯᓂᔭᐅᓂᓴᖃᓂᓂᐅᓂᐸᓂᔭᓂ
Municipal and Industrial Development	ᐸᓂᐸᓂᔭᓂᓂ	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	ᐸᓂᐸᓂᔭᓂᓂᓂᓂ	0	No hazardous waste will be created during the operations phase of the wastewater treatment plant	None required
Municipal and Industrial Development	ᐸᓂᐸᓂᔭᓂ ᐸᓂᐸᓂᔭᐅᓂᓂᓂᓂᓂᓂ	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	ᓂᓂᓂᓂᓂᓂᓂ	25.6 tonnes per year of operation	Sludge to be disposed at existing 3-tiered lagoon	Dewatering sludge in geomembrane bags
Waste disposal	ᓂᓂᓂᓂᓂᓂᓂ	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	All spilled sewage will be treated as normal.

			<p>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-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.</p>	
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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

**L<sup>a</sup>e <A>><sup><</sup> ‘bma<sup>c</sup>D<sup>c</sup>-cna>σ<sup>s</sup>: ma><sup><</sup> ‘bma<sup>c</sup>D<sup>c</sup>σ<sup>s</sup>**

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### Miscellaneous Project Information

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## Cumulative Effects

## Impacts

$\mathbb{A}^1 \times \mathbb{A}^1 \xrightarrow{\sim} \mathbb{A}^1 \times \mathbb{A}^1$

	PHYSICAL																BIOLOGICAL																SOCIO-ECONOMIC																																																							
	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				Vegetation				Wildlife, including habitat and migration patterns				Birds, including habitat and migration patterns				Aquatic species, incl. habitat and migration/spawning				Wildlife protected areas				Archaeological and cultural historic sites				Employment				Community wellness				Community infrastructure				Human health			
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Municipal and Industrial Development			P	P	M	-	P	P	P	P	P	P	P	P	P		P	P	P	P	P	P		P	P	P	P	P		P	P	U	P	P																																																						
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Municipal and Industrial Development			P	P	M	-	P	P	P	P	P	P	P	P	P		P	P	P	P	P	P		P	P	P	P	P		P	P	U	P	P																																																						
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( $P = \langle b \rangle_{\mathcal{A} \cap \mathcal{C}^{\mathcal{A}}}$ ,  $N = \langle b \rangle_{\mathcal{A} \cap \mathcal{C}^{\mathcal{A}}}$ ,  $M = \langle b \rangle_{\mathcal{A} \cap \mathcal{C}^{\mathcal{A}}}$ ,  $U = \langle b \rangle_{\mathcal{A} \cap \mathcal{C}^{\mathcal{A}}}$ )

The map displays the Hudson Strait region. A large green landmass, Kinngait, is centrally located. To its right, a smaller white landmass is labeled 'Kinngait'. The surrounding water is blue, with 'Hudson Strait' labeled at the bottom. In the top right, 'Pudla Inlet' is labeled. An inset map in the bottom right corner shows a larger area, including the Hudson Strait and surrounding landmasses, with a red dot marking Kinngait.

1	polygon	New Mechanical Wastewater Treatment Plant
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