

Jennifer Sabourin
Environmental Assessment Officer
Environmental and Climate Change Canada
PO Box 2310
Environmental Protection Operation Directorate
5019 52nd Street, 4th Floor
Yellowknife, NT X1A 2P7
Tel: 867-445-3366
Email: Jennifer.Sabourin@ec.gc.ca

Amir Pourmahbadian
Senior Impact Assessment Officer
Nunavut Impact Review Board
PO Box 1360, 29 Mitik
Cambridge Bay, NU X0B 0C0
Tel: 867-983-4612
Email: apourmahbadian@nirb.ca

NPC File No: 150863
NIRB File No: 25YN061

Theo Potgieter
Manager Facility Planning, Capital Projects
Division
Government of Nunavut
Transportation and Infrastructure Nunavut
PO Box 1000, Station 620
Iqaluit, NU X0A 0H0
Tel: 867-975-5432
Email: TPotgieter@gov.nu.ca

Dave MacDonald
Project Lead
Government of Nunavut
Transportation and Infrastructure Nunavut
PO Box 1000, Station 620
Iqaluit, Nunavut, X0A 0H0
Email: DMacDonald3@gov.nu.ca

Victoria Burdett-Coutts, MSc, RPBio
Senior Regulatory Advisor
Government of Nunavut
Transportation and Infrastructure Nunavut
PO Box 1000 Station 200
Iqaluit, NU X0A 0H0
Tel: 778-839-2372
Email: Vburdett-coutts@gov.nu.ca

06 November 2025

Re: Environment and Climate Change Canada Information Request Response to the Kivalliq-Baffin Connector Fibre Project Horizontal Directional Drilling Engineering Support Program Nunavut Impact Review Board Public Comment Period (25YN061)

Dear Jennifer and Amir,

1 Project Overview

Dynamic Ocean Consulting Ltd. (Dynamic Ocean) has been retained by the Government of Nunavut – Department of Transportation and Infrastructure Nunavut (GN-TIN) as the regulatory specialist to support the permitting for the Kivalliq-Baffin Connector (KBC) Fibre Optic Cable Project (the KBC Fibre Project). The KBC Fibre Project has four landings as below (depicted in Appendix A (Figure A-1)):

- Three landings on Baffin Island's southern coast (Iqaluit, Kimmirut, Kinngait | Qikiqtani Region).
- One Landing on Southampton Island (Coral Harbour [Salliq] | Kivalliq Region).

The KBC Fibre Project will connect to a Branching Unit (BU) in Nunavik waters, northwest of Salluit (Nunavik), which was completed as a component of Phase 2 of the Kativik Regional Government (KRG) Eastern Arctic Underwater Fibre Optic Network (EAUFON) Project (EAUFON Project).

Prior to finalization of the detailed design phase of the KBC Fibre Project, a Horizontal Directional Drilling (HDD) Engineering Support Program (the KBC HDD Engineering Support Program) is required at each of the marine landings. The KBC HDD Engineering Support Program will be carried out by Worley Canada Services Ltd (Worley Consulting).

The KBC Fibre Project is considered transboundary as it has components in both the Nunavut Settlement Area (NSA) and the Nunavik Marine Region (NMR). However, the requirement for HDD is exclusive to the NSA and will occur in all communities with a marine landing; Coral Harbour (Salliq), Iqaluit, Kimmirut and Kinngait.

The intention of the KBC HDD Engineering Support Program is to assess seabed and subsurface (soil, rock, groundwater and permafrost) conditions to support the detailed design phase of the KBC Fibre Project. The KBC HDD Engineering Support Program will be composed of four program categories as summarized below:

- Geotechnical Program.
- Geophysical Program.
- Topographical Program.
- Biological Program.

For a detailed description of the surveys involved in each program, see Section 3.1 (Table 3-1) in the Nunavut Impact Review Board (NIRB) Application Letter (Dynamic Ocean, 2025b).

2 Information Request Response

2.1 Background

The KBC HDD Engineering Support Program NIRB application was submitted on 08 August 2025 (Dynamic Ocean, 2025b). The application was accepted as complete on 07 October 2025 (NIRB, 2025a), and the screening assessment pursuant to Section 87 of the *Nunavut Planning and Project Assessment Act* (NuPPAA) was initiated. The Public Comment Period occurred over 21 days from 07 October 2025 to 28 October 2025. Subsequently, several Authorities Having Jurisdiction (AHJs, see below) submitted Information Request (IR) which were referred to the GN-TIN on 30 October 2025 (NIRB, 2025b).

- Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), 28 October 2025 (CIRNAC, 2025).
- Environment and Climate Change Canada (ECCC), 29 October 2025 (ECCC, 2025b).
- Transport Canada (TC), 28 October 2025 (TC, 2025).

2.2 Letter Intention

This letter supports the GN-TIN's response to ECCC. The ECCC IR is provided in Appendix B.

The KBC HDD Engineering Support Program acknowledges that ECCC is the AHJ for pertinent legislation as below:

- *Fisheries Act* Section 36, along with the *Canadian Environmental Protection Act* (1999), of the whereby deposition of deleterious substances is prohibited from any type of water frequented by fish, or in any place where deleterious substances could enter such waters.
- *Migratory Birds Convention Act* (MBCA, 1994) and associated Migratory Birds Regulations (2022) (in conjunction with the Canadian Wildlife Service [CWS]) for the protection and conservation of migratory birds in Canada.

The KBC HDD Engineering Support Program's Environmental Management Plan (EMP, (Dynamic Ocean, 2025a)) details the monitoring and mitigation measures that will minimize negative effects due to accidental deposition of deleterious substances in the marine environment. Additional monitoring and mitigation measures are detailed for the protection of marine and migratory birds.

2.3 Response

We appreciate ECCC taking the time to support the NIRB during the Public Comment Period and have provided our responses to the IR in Table 2-1.

Overall, there were several adjustments made to the EMP (Dynamic Ocean, 2025a) as below:

- Inclusion of the ECCC (through the CWS) as a reporting authority for negative effects to marine and migratory birds (and SAR).
- Clarifications over the expectations of the contractor's personnel to confirm their knowledge of spill responsibilities.

The recommendations were acknowledged and appreciated, however, it was felt that ECCC did not fully recognize the scale of the KBC HDD Engineering Support Program, relative the much larger scope

associated with Horizontal Directional Drilling (HDD) or the marine cable lay component of the KBC Fibre Project.

Measures that have been documented for inclusion in the Construction Environmental Management Plan (CEMP) for the KBC Fibre Project will include:

- Contractor responsibilities to confirm the construction personnel are aware of their responsibilities around wildlife and spill response management.
- Measures to protect wildlife (inclusive of marine and migratory birds, marine mammals, fish) during HDD and marine cable lay activities.

Dynamic Ocean will reach out directly to ECCC in advance of the NIRB Public Comment Period for these components to confirm that the concerns of ECCC are appropriately addressed.

Table 2-1: Environment and Climate Change Canada Information Requests

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
Air Emission Standards or Terrestrial Equipment			
Reference - The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a). - Section 5.3.7. - Appendix A.			
1	The ECCC appreciates the mitigation measures presented in Table 5-7 of Section 5.3.7. In Appendix A, Figures A-1 through A-4 show the drilling study areas for the four terrestrial sites. For Kinngait and Kimmirut in particular, the sites are in close proximity to community structures, and it is preferred to have equipment equipped with engines emitting reduced air emissions.	The ECCC requests that externally supplied equipment be equipped with engines meeting at least Tier 3 (preferably Tier 4) emission standards (ECCC, 2017) where feasible and practical.	Acknowledged. Compliance with the Tier 4 Emissions Standards will be followed where practical (ECCC, 2017). However, this will be a contractor-led decision, and there are often logistical opportunities to maximize on equipment that is already in the communities or the territory. While the majority of construction is occurring in the open-water season, there is the potential for activities to occur in shoulder seasons. It would not be practical to have equipment that has seasonal limitations. Further to this, subsequent to the completion of a project, there is often opportunities for the Hamlet to purchase the contractor’s equipment. It is our opinion that the measures proposed in the air quality requirements as outlined in Section 5.3.8 (Table 5-8 (Air Quality)) of the EMP (Dynamic Ocean, 2025a), are appropriate to meet the intention of concerns surrounding air emissions. Equipment used for the KBC HDD Engineering Support Program will be in good working order and that repairs are completed in a timely manner to minimize emissions and diesel consumption.

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
Drilling Mud Additive			
Reference - The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a). - Table 2-2: Description of Activities. - Table 5-3: Sediment and Water Quality. - Table 5-10: Waste Management.			
2	The project activities include drilling boreholes on land and in the marine environment. The drilling fluids and cuttings will be left on site, and their impact has been considered as Table 5-3 states: “Drill muds, additives, and other products shall be non-toxic and environmentally friendly.” Further details on the drilling mud additives are provided in Table 5-10: “All drill fluids used will be bio-degradable gum xanthum and have minimal impact on the environment.” The ECCC notes that there may be a mistake in the additive name. Xanthan gum is a commonly used drilling mud additive which has been demonstrated to be non-toxic but no toxicity information was found on xanthum gum.	The ECCC recommends the Proponent clarify whether the planned additive for drilling mud is xanthan gum.	<u>Xanthan Gum and Toxicity</u> The statement made by ECCC is not completely understood, as there is a fairly substantial amount of information within publicly available information to demonstrate that Xanthan gum is considered to have a low toxicity level. Xanthan gum is a biopolymer (naturally derived polysaccharide) produced by fermentation of simple sugars (usually glucose, sucrose or lactose) using the bacterium <i>Xanthomonas campestris</i> (FDA, 1977). In addition to being used as a biodegradable viscosifier and fluid-loss additive in water-based drilling muds, it is also used in food (thickener) and cosmetics (thickener). Further to this, Xanthan gum, albeit at times for different purposes is classified as below: United States Environmental Protection Agency (EPA): Approved and classified as non-hazardous by the Food and Drug Administration (FDA).

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
			○ Appears on the EPA’s <i>Toxic Substances Control Act</i> (TSCA) Inventory, meaning it is an existing chemical substance allowed for industrial use. ○ Biodegradable, non-toxic polymers like xanthan gum are regulated under the <i>Canadian Environmental Protection Act</i> (CEPA). Xanthan gum is listed as non-toxic and not harmful to the environment under CEPA’s Domestic Substances List (DSL). Where it has not been listed in Schedule 1 of CEPA which would indicate it is not considered toxic. • OSPAR / Offshore Chemical Notification Scheme (OCNS) (UK and EU offshore regions): ○ Xanthan gum ((CAS 11138-66-2) is registered and rated as “E” or “PLONOR” (Pose Little or No Risk), meaning it can be discharged offshore with minimal restriction (OSPAR, 2025). <u>Drilling Fluids</u> The drilling mud used for the KBC HDD Engineering Support Program is likely to be one of two as below: • NewZan D (powdered). • Matex DD1200 (liquid). NewZan D (also referred to as DRILLZAN D) powdered drill mud is considered environmentally friendly because its main active ingredient is a xanthan gum biopolymer, which is biodegradable and non-toxic¹.

¹ NewZanD SDS (noted its Australian, but the standards are similar for SDS requirements: <https://aplng.com.au/wp-content/uploads/2024/07/NEWZAN-D-SDS.pdf>

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
			Matex DD1200 drill mud system, which includes products like DD 2000 and torqueless lubricant, is marketed as environmentally friendly (American West Drilling Supply, 2025).
Monitoring Turbidity in Water			
Reference - The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a). - Table 2-2: Description of Activities. - Section 4.3: Sediment and Water Quality Degradation. - Table 5-12: Reclamation Requirement. - Section 5.4.3: Turbidity. - National Oceanic and Atmospheric Administration (NOAA) Fisheries (NOAA, 2025). - Section 7 Effects Analysis: Turbidity in the Greater Atlantic Region².			
3	Several project in-water activities interact with the seabed, however the Proponent concludes: “Turbidity is not anticipated to exceed the Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines (WQG) (CCME, 2002), and turbidity beyond a compliance monitoring zone (generally 30 m from source) is not expected to occur.” Though some of the activities seem unlikely to cause much turbidity, the discharge of drill cuttings to the marine environment, as	- Discuss how drill cuttings will be discharged to the marine environment and if necessary, propose measures to mitigate suspended sediment plumes from this activity. - Further describe the planned turbidity monitoring including the methods and instruments used for monitoring and the sampling frequency and timing.	Marine-based drilling is planned to occur during an iced ocean state and as such, turbidity monitoring is not practical. As summarized in the EMP (Section 4.3), Worley Consulting has performed multiple drilling programs in southern Canada, which did not result in visible turbidity plumes. Further to this, it is highly unlikely that if a turbidity plume did occur, it would exceed CCME WQG guidelines (CCME, 2002) or result in an occurrence that would be considered a deleterious substance (pers. comm. Victoria Burdett-Coutts, MSc, RPBio). Given the remote locations of the KBC HDD Engineering Support Program it is highly improbable there is a risk for contaminated sediment. The EMP (Sections 4.3, 5.3 (Table 5-3 SWQ1), 5.4.3) has been updated to iterate that turbidity monitoring during an iced-ocean program is

² Section 7 Effects Analysis: Turbidity in the Greater Atlantic Region (<https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-effects-analysis-turbidity-greater-atlantic-region>)

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
	described in Table 5-12, could potentially cause suspended sediment plumes. The turbidity monitoring described in Section 5.4.3 is not sufficiently detailed to evaluate if it will be adequate to respond to increases and prevent impacts to aquatic life. “The compliance monitoring will be performed if a turbidity plume is detected beyond a 30 m Compliance Monitoring Zone (CMZ) as per the thresholds summarized in Table 5-13.” It is not clear if the method of detection of turbidity plumes beyond the CMZ is visual observation or measured by turbidity meter. Visual observation may not be sufficiently precise to respect the thresholds in Table 5-13 (NOAA Fisheries, 2025). Assessment of potential effects related to turbidity require an understanding of the background turbidity, against which monitoring data during works is compared to assess whether guidelines are exceeded.		not practical. The intention of the measures outlined had been to suit open-water sediment collection programs. The ECCC is reminded to consider the small-scale nature of the Program and the practicalities of Arctic logistics. An open-water drilling program is not achievable, and negative impacts to the environment due to turbidity are highly improbable. The KBC Fibre Project is considered critical infrastructure for the delivery high speed internet to remote communities. The scale of expectations needs to be modified to rely on professional judgement and ‘triage’ of actual risk. When practical, and on larger projects where open-water construction is required (such as the construction phase for the HDD), a turbidity monitoring program will be in place, which will likely also provide a capacity building training opportunity for a local person. The reference cited (NOAA, 2025) was reviewed but does not have relevance to the KBC HDD Engineering Support Program due to the nature of activities being those that are more interactive with the seabed (e.g. dredging, pile driving) or have species that are not going to be encountered either due to the spatial ranges or the season of the KBC HDD Engineering Support Program.
Species at Risk			
Reference The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a).			
4	Species at Risk (SAR) are assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or added to Schedule 1 of the <i>Species at Risk Act</i> (SARA) on a regular basis. It is important for proponents to ensure they are	As species are assessed and listed on a regular basis, The ECCC recommends the Proponent:	Acknowledged. The KBC Fibre Project team has reviewed the SAR registry during the permitting planning stages, which are summarized in Appendix B

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
	aware of what species are present in the project area and take appropriate actions to ensure compliance with the SARA. The killing, harming or harassing of listed species as well as the damage and destruction of their residences is prohibited under SARA. In the territories, the prohibitions apply automatically to: - Threatened, Endangered and Extirpated species listed on Schedule 1 of SARA on lands under the authority of the federal Minister of Environment. - Migratory Birds (as defined under the MBCA) everywhere they are found. These prohibitions can apply elsewhere if there is an order put in place. The destruction of critical habitat of species listed under Schedule 1 of SARA is prohibited on all lands identified within the critical habitat protection order for the species.	- Consult the Species at Risk registry³ to obtain the most current information for their operations. - Consult the Government of Nunavut to identify appropriate mitigation and/or monitoring measures to avoid and lessen project effects to species under their management responsibility.	(Table B-2) of the EMP (Dynamic Ocean, 2025a). The sources used to inform potential SAR species are listed below: - SAR Registry (Government of Canada, 2024). - International Union for Conservation of Nature (IUCN) Red List of Threatened Species (IUCN, 2025). Designated status of species has been cross-checked against relevant Study Areas, and the following were updated or added to Appendix B (Table B-2) of the EMP (Dynamic Ocean, 2025a): - Peregrine falcon (<i>Falco peregrinus</i>). - Barren-ground caribou (<i>Rangifer tarandus</i>). - Wolverine (<i>Gulo gulo</i>). Through the NIRB Public Comment Period, the GN-Department of Environment (DoE) has been provided with the opportunity to comment on the KBC HDD Engineering Support Program, where no IRs were received. Further to this, as the GN is the proponent, there is the opportunity for internal communications. Section 5.3.6 (Table 5-6) of the EMP (Dynamic Ocean, 2025a) appropriately provides measures to protect SAR species.
Species at Risk – SAR Missing			
Reference The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a).			

³ Species at Risk Public Registry (<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>)

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response				
5	Section 79 of SARA requires the assessor and decision body to ensure that where a project is likely to affect a listed species or its critical habitat, all adverse effects of the project are identified and considered in the assessment of the project. Appropriate measures must be taken to avoid or lessen those effects and include monitoring. Measures should be consistent with applicable recovery documents. Section 79 applies to all listed species on Schedule 1 of SARA including those listed as Special Concern, Threatened, Endangered and Extirpated. As a matter of best practice, COSEWIC-assessed species should be assessed similarly to those listed under SARA. The Proponent has not identified all SAR that are likely to be present in the Project area, and the Proponent has not identified all adverse effects of the Project on SAR. Table I in Appendix I (attached) contains a list of the species that are likely to be encountered in the Project area that have been assessed as at risk by COSEWIC or listed on Schedule 1 of SARA. The Project may have adverse effects on listed species including direct habitat loss, impacts due to noise, dust or other sensory disturbances,	The ECCC recommends the Proponent: - Identify adverse effects of the Project on the SAR likely to be affected and their critical habitat. - Ensure that measures are taken to avoid or lessen those adverse effects and monitor them to inform adaptive management. If the Proponent encounters SAR, the primary mitigation measure should be avoidance. The ECCC recommends: - Mitigation and monitoring measures be consistent with applicable SAR Recovery Strategies and Action Plans or Management Plans. - At a minimum, monitoring should include recording timing and location of observed SAR, their behavior when encountered, and actions taken by the Proponent to avoid disturbance to the species, its habitat, and/or its residence. - The Proponent submit monitoring reports to the appropriate regulators and organizations with management responsibility for that species.	<u>Identification of SAR Species</u> Addressed in IR No. 4 above. <u>Adverse Effects of the KBC HDD Engineering Support Program</u> Addressed in IR No. 4 above. Dynamic Ocean and GN-TIN are of the opinion there are sufficient measures in place for the protection of SAR species, and ECCC is referred to the Comment No. 3 to be cognizant of the importance of the broader project, the small scale nature of the program activities, and that all activities are occurring in a community which albeit a small community, has an anthropogenic impact on the surrounding environment. <u>Documentation of SAR</u> As summarized in Section 5.3.6 (Table 5-6, SAR1), the following will be undertaken should a SAR species be observed. <table><tr><th>ID</th><th>Mitigation Measure</th></tr><tr><td>SAR1</td><td>If SAR are reported or observed, the Environmental Monitor (EM) will record, document, and monitor their presence (including time, date, location, activity, and proximity to vessel) and determine potential impacts to SAR, as well as any modification to program activities that may be required to protect SAR.</td></tr></table>	ID	Mitigation Measure	SAR1	If SAR are reported or observed, the Environmental Monitor (EM) will record, document, and monitor their presence (including time, date, location, activity, and proximity to vessel) and determine potential impacts to SAR, as well as any modification to program activities that may be required to protect SAR.
ID	Mitigation Measure						
SAR1	If SAR are reported or observed, the Environmental Monitor (EM) will record, document, and monitor their presence (including time, date, location, activity, and proximity to vessel) and determine potential impacts to SAR, as well as any modification to program activities that may be required to protect SAR.						

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
	wildlife injury or mortality and wildlife attraction.		<u>Reporting on SAR</u> Acknowledged, Section 5.8.3 of the EMP has been updated, to detail the reporting requirements should there be negative effects to a SAR species. The AHJs added are inclusive of ECCC-CWS, Fisheries and Oceans Canada (DFO) and GN-DoE.
Migratory Birds – Project Activities within Migratory Bird Habitat during Nesting Season			
Reference The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a).			
6	This project involves habitat alteration and disturbance during the general nesting period. The project is located in nesting zones N8, N9, and N10. In this area, migratory birds may be found nesting from mid-May to mid-August. During this period, activities that may disturb or alter nesting habitat may increase the risk of destruction of the nests and eggs of migratory birds. It is important to note that breeding periods may vary from year to year due to climatic conditions and some species may nest outside the dates provided if conditions are favourable. If there are occupied migratory bird nests where work is planned, activities that could disturb or destroy nests should be avoided, adapted, rescheduled, or relocated. The best way to avoid disturbing or destroying active nests is to avoid	The ECCC recommends the Proponent avoid habitat alteration and disturbance during the general nesting season, which extends from mid-May to mid-August for the project location. If these activities cannot be avoided, the Proponent should consider options such as adapting, rescheduling, or relocating activities. If a nest containing a migratory bird or egg is discovered/disturbed, the Proponent should: - Halt all disruptive activities in the nesting area until nesting is complete and the young have fledged. - Establish a protective buffer zone around the nests. The buffer zone must be determined by a setback distance appropriate for the species, the intensity of the disturbance and the surrounding habitat until the young have naturally and permanently left the vicinity of the nest. Proponents are encouraged	Acknowledged. A figure depicting Marine and Migratory Birds Nesting Zones is provided in Appendix A (Figure A-2), where each of the four communities are located as below: - Coral Harbour (Salliq): N9 (adjacent to N8): Mid May to Mid Aug. - Kinngait, Kimmirut, Iqaluit: N10: Late May to Mid August. Given the scale and locations of the KBC HDD Engineering Support Program, the request is not considered necessary, as the majority of activities are non invasive (e.g. ROV survey). Nesting habitat is not considered probable in the nesting areas noted and based on the nesting seasons, there is not likely to be activities (e.g. drilling (November, March to April)) that would have the potential to cause disturbance to marine and migratory birds. The ECCC is referred to the Comment No. 3 to be cognizant of the importance of the broader project, the small-scale nature of the

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
	conducting harmful activities during the breeding season. Determining the presence of nesting migratory birds may help reduce risks, but active nest searches are not recommended as the ability to detect nests is very low while the risk of disturbing and/or damaging active nests is high. As detailed in ECCC’s Guidelines to Avoid Harm to Migratory Birds (ECCC, 2024), nest surveys to determine occupancy may only be appropriate when all of the following conditions are met: • Conducted by skilled and experienced observers. • Using appropriate methods. • Only a few nesting spots or a small community of migratory birds are expected. • The activities will take place in simple habitats. Proponents are reminded that migratory bird species may nest on the ground, in ground cavities, in grasses, shrubs, cliffs, trees, tree cavities, and other sites, and that nest sites are	to follow the guidance on ECCC’s Guidelines to Avoid Harm to Migratory Birds⁴ (ECCC, 2023). For further questions or technical information, please contact ECCC (cwsnorth-scfnord@ec.gc.ca).	program activities, and that all activities are occurring in a community which albeit a small community, has an anthropogenic impact on the surrounding environment. The protection of marine and migratory birds is of high importance and acknowledged by GN-TIN and Dynamic Ocean and will be carried forward during the development of the CEMP for the KBC Fibre Project. Appropriate measures to this point will be in place during the construction for the HDD and marine cable lay components of the KBC Fibre Project. Dynamic Ocean will reach out directly to ECCC in advance of the NIRB Public Comment Period for these components to confirm that the concerns of ECCC are appropriately addressed.

⁴ ECCC’s Guidelines to Avoid Harm to Migratory Birds (<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html>)

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
	often cryptic or camouflaged, making them difficult to locate.		
Migratory Birds Contamination of Water Bodies			
Reference The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a).			
7	Fuel and/or other hazardous materials may be stored, handled or transported near a water body that may be used by birds. The ECCC advises the Proponent that section 5.1 of the <i>MBCA</i> prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area. The ECCC recommends the Proponent ensure their employees and contractors are made aware of plans and commitments related to storing, handling and transporting of petroleum products and other hazardous substances and take all necessary precautions to prevent spills.	ECCC recommends the Proponent ensure their employees and contractors are made aware of plans and commitments related to storing, handling and transporting of petroleum products and other hazardous substances and take all necessary precautions to prevent spills.	Acknowledged. The contractor will be required to confirm that construction personnel are aware of roles and responsibilities in all aspects of management of storing, handling, transportation and use of petroleum products. To make this clearer, Section 5.3.10 (Table 5.3.10, FCS10) has been added as below: - The contractor will confirm that all construction personnel that will be responsible in all aspects of management of storing, handling, transportation and use of petroleum products are appropriately trained to understand these responsibilities. - The contractor will maintain a training manifest to document safe procedures to minimize accidental spills are understood.
Migratory Birds Oil Spills			
Reference The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a).			
8	There is a potential for large release of pollutants into marine environments where birds may congregate.	The ECCC recommends the Proponent incorporate into existing emergency response plans:	The ECCC is referred to Comment Nos. 3 and 6 for consideration of the scale and nature of activities.

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
	Migratory birds are particularly vulnerable to pollution incidents (e.g. oil spills, etc.) in their feeding areas. Proponents should determine what steps would be taken to mitigate the impacts of pollution incidents on migratory birds and their important habitats. Having this information outlined and available not only benefits wildlife but also gives clear direction to staff and contractors on what to do during a pollution incident if wildlife is nearby.	- Steps to protect wildlife (including migratory birds) in the event of a pollution incident and keep wildlife out of contaminated areas. - Equipment and resources available for incident response. - Measures to take if wildlife does come in contact with the spill.	- The KBC HDD Engineering Support Program, the potential for a 'large release of pollutants' is not likely. - The drill rig will have spill containment located under drill rig to contain any potential fuel spill. The drill rig will also have a spill response kit. - The locations for the KBC HDD Engineering Support Program are not expected to be areas of congregation for feeding areas and are not 'important habitats'. The intention of this comment is appreciated and will be carried forward during the development of the CEMP for the KBC Fibre Project, however, is considered out of scale and context for the KBC HDD Engineering Support Program. Measures already identified in the EMP are considered sufficient for the management of accidental spills (Section 5.3.12 (Table 5-12, SERP1 and repeated below)): - Emergency response kits and spill kits will be onsite and will be appropriate to the type and amount of hazardous materials associated with the KBC HDD Engineering Support Program. Spill kits will contain materials appropriate for the potential products to be spilled, taking into consideration the surrounding environment and seasonal conditions (e.g. iced ocean). The emergency response kits will include appropriate Personal Protection Equipment (PPE) such as gloves and goggles. Spill response protocols are further described in Section 5.3.12.1 of the EMP (Dynamic Ocean, 2025a).

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
Migratory Birds Drones / Aircraft			
Reference The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a).			
9	The Proponent indicates there may be a potential for low-level drone flights during the spring, summer or fall in areas of high bird concentrations (key habitat sites, Important Bird Areas, Wildlife Key Areas or colonies).	In order to reduce drone/aircraft disturbance to migratory birds and subject to pilot discretion regarding safety, ECCC recommends: - Avoiding known concentrations of birds such as Important Bird Areas, Key Habitat Sites, and Sea Duck Key Habitat Sites (e.g., as below) by a lateral distance of at least 1.5 kilometres. - Qaqsauqtuuq Migratory Bird Sanctuary. - Common Eider colony, Snow Goose colony. - Ikkattuaq Migratory Bird Sanctuary. - Lesser Snow Goose colony. - Fraser Island. - Common Eider colony. - Markham Bay. - Common Eider colony, Iceland Gull nesting. - Hantzcsch Island. - Black-legged Kittiwake colony, Thick-billed Murre colony. - Digges Sound. - Thick-billed Murre colony. - Cape Pembroke. - Thick-billed Murre colonies.	The ECCC is referred to Comment Nos. 3 and 6 for consideration of the scale, nature and spatial proximity of activities. - A figure depicting the MBSs, IBAs and other important habitat for marine and migratory birds is provided in Appendix A (Figure A-2), which shows for the 'Footprint and Study Areas' for the KBC HDD Engineering Support Program which are not in close proximity to the areas mentioned by ECCC. - Aerial surveys will be scheduled outside of sensitive wildlife periods, particularly the migratory bird nesting season (late May to late July) (see Appendix A (Figure A-2)). - There is very minimal overwater flight planned. A new section (Sections 5.4.6) has been added in the EMP to outline measures to protect migratory birds during drone operation, including: - Wildlife scans will be conducted along the planned flight area each day prior to the survey, to detect any visible wildlife presence. - Pilots will maintain a separation buffer from any observed wildlife and avoid direct overflights during drone operation. - If wildlife concentrations are observed nearby, or if wildlife exhibit agitation or avoidance behaviour, flight operations will be

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
		○ Boas River. ▪ Lesser Snow Goose colonies. ○ Frobisher Bay, Killiniq Island • Avoiding the seaward side of seabird colonies and areas used by flocks of coastal migrating waterfowl by 3 kilometres. • Avoiding excessive hovering or circling over areas of high bird concentrations. • If avoidance is not possible, maintaining a minimum flight altitude of 1,100 metres (3,500 feet) over these areas. • Informing operators/pilots of these recommendations and of areas of high bird concentrations.	delayed, temporarily relocated, suspended until the area is confirmed clear. The intention of this comment is appreciated and will be carried forward during the development of the CEMP for the KBC Fibre Project, however, is considered out of scale and context for the KBC HDD Engineering Support Program.
ECCC Contact Information			
Reference • The KBC HDD Engineering Support Program EMP (Dynamic Ocean, 2025a).			
10	The Proponent has provided an environmental management plan but has not identified ECCC as a contact for instances involving migratory birds. The ECCC has management responsibilities for migratory birds under the MBCA. The ECCC should be contacted in instances involving: • Interactions and incidents involving the potential disturbance of individuals or nests and any mortality events of these species.	The ECCC recommends the Proponent notify ECCC's Canadian Wildlife Service (cwsnorth-scfnord@ec.gc.ca) for instances involving: • Interactions and incidents involving the potential disturbance of individuals or nests and any mortality events of these species. • Wildlife monitoring reports and annual reports that pertain to these species.	Acknowledged. The ECCC's CWS contact has been added to Section 5.8.3 (Incident Reporting) of the EMP to reflect the requirement for incident reporting to ECCC regarding wildlife.

ID No.	ECCC Information Request	ECCC Recommendations	GN-TIN Response
	- Wildlife monitoring reports and annual reports that pertain to these species. - Updates to wildlife management and monitoring plans, or their equivalents, in relation to these species.	Updates to wildlife management and monitoring plans, or their equivalents, in relation to these species.	

3 Summary and Closing

We appreciate ECCC taking the time to participate in the NIRB's Public Comment Period and are available for further discussions if needed. If you require any clarification on our responses, or have further questions, please do not hesitate to contact Victoria Burdett-Coutts (Vburdett-coutts@gov.nu.ca; 778-839-2372).



Theo Potgieter
A/Manager, Facility Planner

Theo Potgieter
Government of Nunavut
Manager Facility Planning
Capital Projects Division



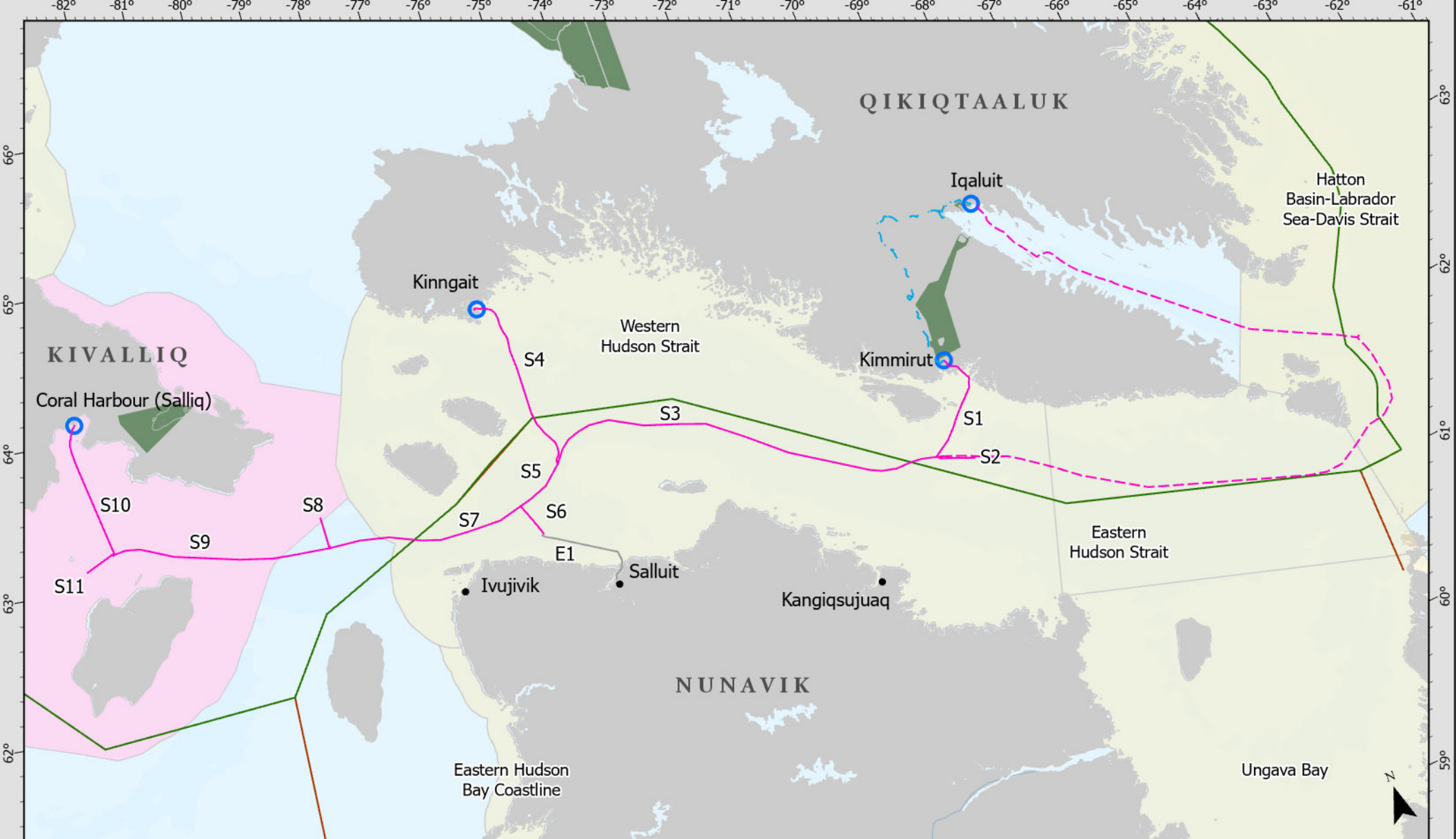
Victoria Burdett-Coutts, MSc, RPBio
Government of Nunavut
Senior Regulatory Advisor

4 References

- American West Drilling Supply. (2025). Matex Line of Environmental Drilling Fluids. Available at: <https://americawestdrillingsupply.com/matex-line-of-environmental-drilling-fluids/>. Accessed: November 2025.
- Canadian Environmental Protection Act. SC 1999, c. 33. Last amended: 14 February 2025. Available at: <https://laws-lois.justice.gc.ca/eng/acts/c-15.31/>. Accessed: August 2025.
- CCME. (2002). Canadian Sediment Quality Guidelines for the Protection of Aquatic Life. Updated. In: Canadian environmental quality guidelines, 1999. Available at: <https://ccme.ca/en/resources/sediment>. Accessed: May 2025.
- CIRNAC. (2025). Re: Notice of Screening for Government of Nunavut's "The Kivalliq-Baffin Connector Horizontal Directional Drilling Engineering Support Program" Project Proposal. Comments to NIRB. 28 October 2025.
- Dynamic Ocean. (2025a). Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program: Environmental Management Plan. Prepared for the Government of Nunavut. Doc No: PLN-GN-01.2-KBC HDD Engineering Support Program EMP-0001-25. 08 August 2025. Rev1.
- Dynamic Ocean. (2025b). Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program - Nunavut Impact Review Board Application Letter. Prepared for Government of Nunavut. Doc No: LET-GN-01.1-NIRB KBC HDD Engineering Support Program-0002-25.Rev0.
- ECCC. (2017). Guidance document on off-road compression-ignition engine emission regulation: chapter 3. Available at: <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/publications/guidance-document-engine-emission-regulations/chapter-3.html#toc15>. Accessed: June 2025.
- ECCC. (2023). Guidelines to avoid harm to migratory birds. Available at: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html>. Accessed: November 2025.
- ECCC. (2024). Avoiding harm to migratory birds. Available at: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html>. Accessed: October 2024.
- ECCC. (2025a). Nesting Periods. Available at: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>. Accessed: October 2025.
- ECCC. (2025b). RE: 25YN061 – Government of Nunavut – The Kivalliq-Baffin Connector Horizontal Directional Drilling Feasibility Study" Project Proposal. Comments to NIRB. 29 October 2025.
- FDA. (1977). Xanthan Gum. 21 CFR 172.695. Available at: <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-172/subpart-G/section-172.695>. Accessed: November 2025.
- Fisheries Act. R.S.C. 1985, c F-14. Last amended: August 28, 2019. Available at: <https://laws-lois.justice.gc.ca/eng/acts/f-14/>. Accessed: March 2025.
- Government of Canada. (2024). Species at Risk Public Registry. Available at: <https://species-registry.canada.ca/index->

- [en.html#/species?sortBy=commonNameSort&sortDirection=asc&pageSize=10](#). Accessed: March 2025.
- IUCN. (2025). International Union of the Conservation of Nature Red List of Threatened Species. Available at: <https://www.iucnredlist.org/>. Accessed: April 2025.
- Migratory Birds Convention Act*. SC 1994, c. 22. Last amended: December 12, 2017. Available at: <https://laws-lois.justice.gc.ca/eng/acts/m-7.01/>. Accessed: November 2024.
- Migratory Birds Regulations*. SOR/2022-105. Last amended: July 31, 2022. Enabling Act: *Environmental Violations Administrative Monetary Penalties Act; Migratory Birds Convention Act, 1994; Canada National Parks Act*. Available at: <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2022-105/>. Accessed: November 2024.
- NIRB. (2025a). Re: NIRB 126222 / 25YN061: New Project Accepted for Government of Nunavut's "The Kivalliq-Baffin Connector Horizontal Directional Drilling Engineering Support Program". Email correspondence from NIRB to GN-TIN on 07 October 2025.
- NIRB. (2025b). Re: NIRB 126222/25YN061: Comments Received for GN's "The Kivalliq-Baffin Connector Horizontal Directional Drilling Engineering Support Program" Project Proposal. Email correspondence from NIRB to GN-TIN on 30 October 2025.
- NOAA. (2025). Section 7 Effects Analysis: Turbidity in the Greater Atlantic Region. Available at: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-effects-analysis-turbidity-greater-atlantic-region>. Accessed: 24 October 2025 (By ECCC).
- Nunavut Planning and Project Assessment Act*. SC 2013, c. 14, s. 2. Last amended: May 27, 2022. Available at: <https://laws-lois.justice.gc.ca/eng/acts/N-28.75/>. Accessed: August 2025.
- OSPAR. (2025). OSPAR List of Substances Used and Discharged Offshore which Are Considered to Pose Little or No Risk to the Environment (PLONOR) – Update 2025. Available at: <https://www.ospar.org/documents?v=32939>. Accessed: October 2025.
- TC. (2025). Re: Kivalliq-Baffin Connector Horizontal Directional Drilling (HDD) Feasibility Study (NIRB# 25YN061). Comments to NIRB. 28 October 2025.
- Toxic Substances Control Act*. Public Law 94-469. 94th Congress. 11 October 1976. Available at: <https://www.govinfo.gov/content/pkg/STATUTE-90/pdf/STATUTE-90-Pg2003.pdf>. Accessed: October 2025.

Appendix A: Supporting Figures



Legend

Project Components

- Cable Route
- Iqaluit (Option 1, Terrestrial)
- - - Iqaluit (Option 2, Marine)
- Cable Landing Station

EUAFON Project

- Existing Cable Route

- Protected and Conserved Areas
- Ecologically and Biologically Significant Areas
- Southampton Island Area of Interest
- Nunavut Settlement Area
- Nunavik Marine Region

Drawn: BB

Edited: AW

Approved: VBC

Kivalliq-Baffin Connector Project

Kivalliq-Baffin Connector Project Cable Route & Designated Habitats

Figure A-1

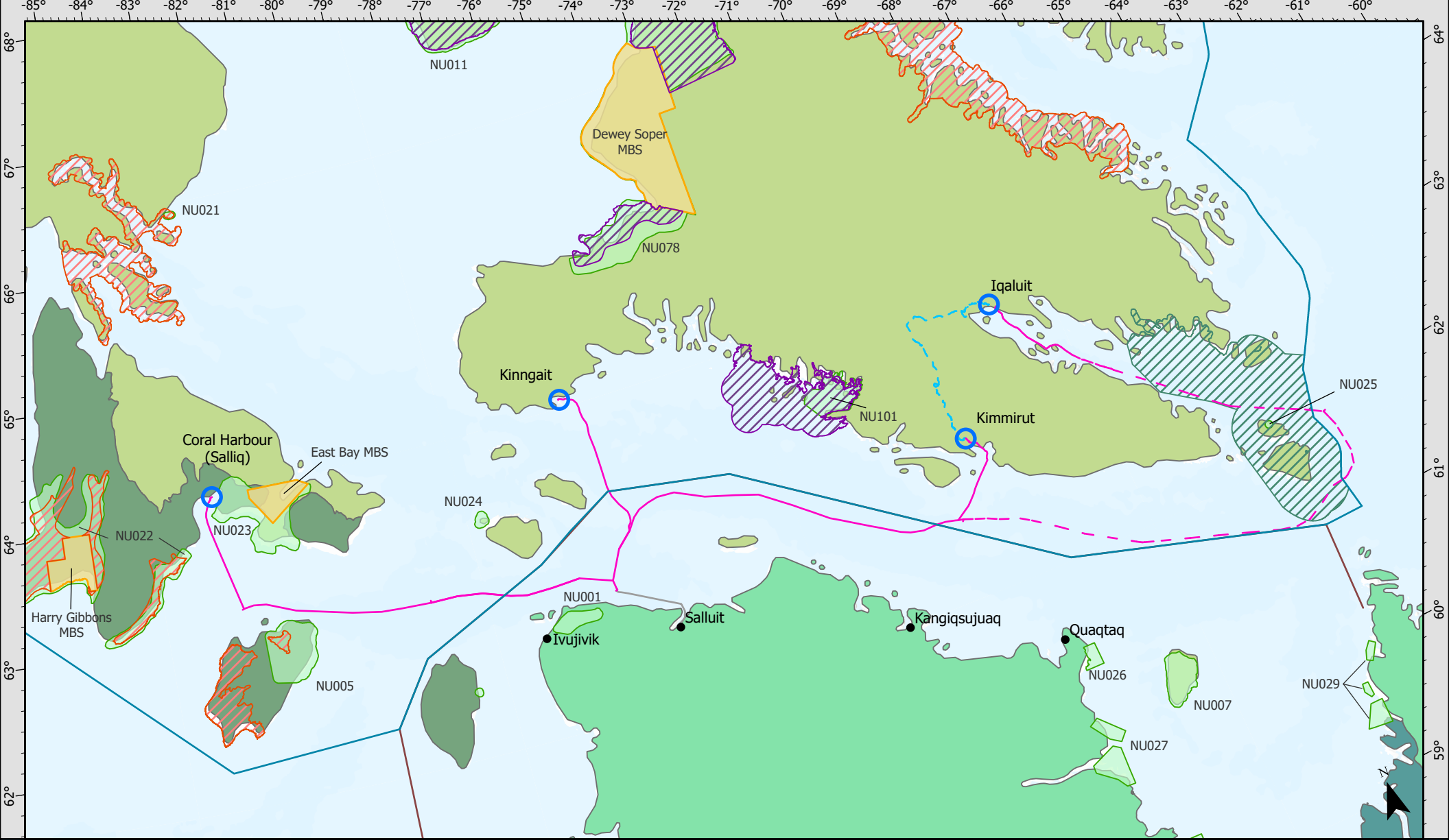


Spatial Reference
GCS: GCS North American 1983
Datum: North American 1983
Projection: Albers
Map Units: Metre

0 20 40 80
km

Scale: 1:4,000,000





Legend

Project Components

- Cable Route
- Iqaluit (Terrestrial Route)
- Iqaluit (Marine Route)
- Cable Landing Station
- EAUFON Project
- Existing Cable Route

Nesting Zones

- Potential for Interaction
 - N9 (Mid May - Mid Aug)
 - N10 (Late May - Mid Aug)
- No Potential for Interaction
 - D7 (Early May - Mid Aug)
 - N8 (Mid May - Mid Aug)

Key Migratory Bird Habitat Sites

- Potential for Interaction
 - Class 2
- No Potential for Interaction
 - Class 1
 - Class 3
- Migratory Bird Sanctuary
- Important Bird Area
- Nunavut Settlement Area
- Nunavik Marine Region

Drawn: CL

Edited: CL

Approved: VBC



Kivalliq-Baffin Fibre Project

Figure A-2

Designated Areas and Nesting Zones for Migratory Birds

Spatial Reference
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Metre

0 25 50 100
km

Scale: 1:4,500,000



Appendix B: Information Requests

Environmental Protection Operations Directorate
Prairie & Northern Region
5019 52nd Street, 4th Floor
P.O. Box 2310
Yellowknife, NT X1A 2P7

ECCC File: 6300 000 047/001
NIRB File: 25YN061



October 29, 2025

via email at: info@nirb.ca

Amir Pourmahabadian
Senior Impact Assessment Officer
Nunavut Impact Review Board
29 Mitik Street
P.O. Box 1360
Cambridge Bay, NU X0B 0C0

Dear Amir Pourmahabadian:

RE: 25YN061 – Government of Nunavut – The Kivalliq-Baffin Connector Horizontal Directional Drilling Feasibility Study" Project Proposal

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Impact Review Board (NIRB) by the Government of Nunavut ("the Proponent") regarding the above-mentioned Kivalliq-Baffin Connector Horizontal Directional Drilling Feasibility Study" Project Proposal.

ECCC provides expert information and knowledge to project assessments on subjects within the department's mandate, including climate change, air quality, water quality, biodiversity, environmental emergencies preparedness and responses. This work includes reviewing proponent characterization of environmental effects and proposed mitigation measures. We provide advice to decision-makers regarding a proponent's characterization of environmental effects, the efficacy of their proposed mitigation activities, and may suggest additional mitigation measures. Any comments received from ECCC in this context does not relieve the proponent of its obligations to respect all applicable federal legislation.

The following comments are provided:

1. Air emission standards for terrestrial equipment

Reference(s)

- Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program, Environmental Management Plan, Section 5.3.7 and Appendix A

Comment



ECCC appreciates the mitigation measures presented in Table 5-7 of Section 5.3.7. In Appendix A, Figures A-1 through A-4 show the drilling study areas for the four terrestrial sites. For Kinnigait and Kimmerut in particular, the sites are in close proximity to community structures, and it is preferred to have equipment equipped with engines emitting reduced air emissions.

ECCC Recommendation(s)

ECCC requests that externally supplied equipment be equipped with engines meeting at least Tier 3 (preferably Tier 4) emission standards where feasible and practical.

2. Drilling mud additive

Reference(s)

- Kivalliq-Baffin Connector Project, Horizontal Directional Drilling Engineering Support Program, Environmental Management Plan; Table 2-2: Description of Activities; Table 5-3: Sediment and Water Quality; Table 5-10: Waste Management

Comment

The project activities include drilling boreholes on land and in the marine environment. The drilling fluids and cuttings will be left on site, and their impact has been considered as Table 5-3 states: "Drill muds, additives, and other products shall be non-toxic and environmentally friendly." Further details on the drilling mud additives are provided in Table 5-10: "All drill fluids used will be bio-degradable gum xanthum and have minimal impact on the environment." ECCC notes that there may be a mistake in the additive name. Xanthan gum is a commonly used drilling mud additive which has been demonstrated to be non-toxic but no toxicity information was found on xanthum gum.

ECCC Recommendation(s)

ECCC recommends the Proponent clarify whether the planned additive for drilling mud is xanthan gum.

3. Monitoring turbidity in water

Reference(s)

- Kivalliq-Baffin Connector Project, Horizontal Directional Drilling Engineering Support Program, Environmental Management; Table 2-2: Description of Activities; Section 4.2: Sediment and Water Quality Degradation; Table 5-12: Reclamation Requirements; Section 5.4.3: Turbidity
- Section 7 Effects Analysis: Turbidity in the Greater Atlantic Region (National Oceanic and Atmospheric Administration Fisheries; consulted on 24-10-2025, <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-effects-analysis-turbidity-greater-atlantic-region>)

Comment

Several project in-water activities interact with the seabed, however the Proponent concludes: “Turbidity is not anticipated to exceed the Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines (WQG) (CCME, 2002), and turbidity beyond a compliance monitoring zone (generally 30 m from source) is not expected to occur.” Though some of the activities seem unlikely to cause much turbidity, the discharge of drill cuttings to the marine environment, as described in Table 5-12, could potentially cause suspended sediment plumes.

The turbidity monitoring described in Section 5.4.3 is not sufficiently detailed to evaluate if it will be adequate to respond to increases and prevent impacts to aquatic life. “The compliance monitoring will be performed if a turbidity plume is detected beyond a 30 m Compliance Monitoring Zone (CMZ) as per the thresholds summarized in Table 5-13.” It is not clear if the method of detection of turbidity plumes beyond the CMZ is visual observation or measured by turbidity meter. Visual observation may not be sufficiently precise to respect the thresholds in Table 5-13 (NOAA Fisheries, 2025). Assessment of potential effects related to turbidity require an understanding of the background turbidity, against which monitoring data during works is compared to assess whether guidelines are exceeded. Waiting for a plume to be detected is also problematic because it would not allow for background turbidity measurements, which should be made before work is initiated. ECCC notes that monitoring programs during in water works often use periodic or continuous turbidity monitoring to measure and respond to increases in turbidity and prevent impacts to aquatic life.

ECCC Recommendation(s)

- Discuss how drill cuttings will be discharged to the marine environment and if necessary, propose measures to mitigate suspended sediment plumes from this activity; and
- Further describe the planned turbidity monitoring including the methods and instruments used for monitoring and the sampling frequency and timing.

4. Species at Risk

Reference(s)

- Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program, Environmental Management Plan

Comment

Species at risk are assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or added to Schedule 1 of the *Species at Risk Act* (SARA) on a regular basis. It is important for proponents to ensure they are aware of what species are present in the project area and take appropriate actions to ensure compliance with the SARA.

The killing, harming or harassing of listed species as well as the damage and destruction of their residences is prohibited under SARA. In the territories, the prohibitions apply automatically to:

- Threatened, Endangered and Extirpated species listed on Schedule 1 of SARA on lands under the authority of the federal Minister of Environment.
- Migratory Birds (as defined under the *Migratory Birds Convention Act* [MBCA]) everywhere they are found.

These prohibitions can apply elsewhere if there is an order put in place.

The destruction of critical habitat of species listed under Schedule 1 of SARA is prohibited on all lands identified within the critical habitat protection order for the species.

ECCC Recommendation(s)

As species are assessed and listed on a regular basis, ECCC recommends the Proponent:

- Consult the Species at Risk registry to obtain the most current information for their operations.
- Consult the Government of Nunavut to identify appropriate mitigation and/or monitoring measures to avoid and lessen project effects to species under their management responsibility.

5. Species at Risk – SAR Missing

Reference(s)

- Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program, Environmental Management Plan

Comment

Section 79 of SARA requires the assessor and decision body to ensure that where a project is likely to affect a listed species or its critical habitat, all adverse effects of the project are identified and considered in the assessment of the project. Appropriate measures must be taken to avoid or lessen those effects and include monitoring. Measures should be consistent with applicable recovery documents.

Section 79 applies to all listed species on Schedule 1 of SARA including those listed as Special Concern, Threatened, Endangered and Extirpated. As a matter of best practice, COSEWIC-assessed species should be assessed similarly to those listed under SARA.

The Proponent has not identified all species at risk that are likely to be present in the Project area, and the Proponent has not identified all adverse effects of the Project on species at risk.

Table I in Appendix I (attached) contains a list of the species that are likely to be encountered in the Project area that have been assessed as at risk by COSEWIC or listed on Schedule 1 of SARA.

The Project may have adverse effects on listed species including direct habitat loss, impacts due to noise, dust or other sensory disturbances, wildlife injury or mortality and wildlife attraction.

ECCC Recommendation(s)

ECCC recommends the Proponent:

- Identify adverse effects of the Project on the species at risk likely to be affected and their critical habitat;
- Ensure that measures are taken to avoid or lessen those adverse effects and monitor them to inform adaptive management.

If the Proponent encounters species at risk, the primary mitigation measure should be avoidance. ECCC recommends:

- Mitigation and monitoring measures be consistent with applicable species at risk Recovery Strategies and Action Plans or Management Plans.
- At a minimum, monitoring should include recording timing and location of observed species at risk, their behavior when encountered, and actions taken by the Proponent to avoid disturbance to the species, its habitat, and/or its residence.
- The Proponent submit monitoring reports to the appropriate regulators and organizations with management responsibility for that species.

6. Migratory Birds – Project Activities (habitat disturbance) Within Migratory Bird Habitat During Nesting Season

Reference(s)

- Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program, Environmental Management Plan

Comment

This project involves habitat alteration and disturbance during the general nesting period.

The project is located in nesting zones N8, N9, and N10. In this area, migratory birds may be found nesting from mid-May to mid-August.

During this period, activities that may disturb or alter nesting habitat may increase the risk of destruction of the nests and eggs of migratory birds. It is important to note that breeding periods may vary from year to year due to climatic conditions and some species may nest outside the dates provided if conditions are favourable.

If there are occupied migratory bird nests where work is planned, activities that could disturb or destroy nests should be avoided, adapted, rescheduled, or relocated. The best way to avoid disturbing or destroying active nests is to avoid conducting harmful activities during the breeding season.

Determining the presence of nesting migratory birds may help reduce risks, but active nest searches are not recommended as the ability to detect nests is very low while the risk of disturbing and/or damaging active nests is high.

As detailed in ECCC's Guidelines to Avoid Harm to Migratory Birds, nest surveys to determine occupancy may only be appropriate when all of the following conditions are met:

- Conducted by skilled and experienced observers;
- Using appropriate methods;
- Only a few nesting spots or a small community of migratory birds are expected; and
- The activities will take place in simple habitats

Proponents are reminded that migratory bird species may nest on the ground, in ground cavities, in grasses, shrubs, cliffs, trees, tree cavities, and other sites, and that nest sites are often cryptic or camouflaged, making them difficult to locate.

ECCC Recommendation(s)

ECCC recommends the Proponent avoid habitat alteration and disturbance during the general nesting season, which extends from mid-May to mid-August for the project location.

If these activities cannot be avoided, the Proponent should consider options such as adapting, rescheduling, or relocating activities. If a nest containing a migratory bird or egg is discovered/disturbed, the Proponent should:

- Halt all disruptive activities in the nesting area until nesting is complete and the young have fledged; and
- Establish a protective buffer zone around the nests. The buffer zone must be determined by a setback distance appropriate for the species, the intensity of the disturbance and the surrounding habitat until the young have naturally and permanently left the vicinity of the nest. Proponents are encouraged to follow the guidance on ECCC's Guidelines to Avoid Harm to Migratory Birds.

For further questions or technical information, please contact ECCC (cwsnorth-scfnord@ec.gc.ca).

7. Migratory Birds Contamination of Water Bodies

Reference(s)

- Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program, Environmental Management Plan

Comment

Fuel and/or other hazardous materials may be stored, handled or transported near a water body that may be used by birds.

ECCC advises the Proponent that section 5.1 of the *Migratory Birds Convention Act* prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area.

ECCC Recommendation(s)

ECCC recommends the Proponent ensure their employees and contractors are made aware of plans and commitments related to storing, handling and transporting of petroleum products and other hazardous substances and take all necessary precautions to prevent spills.

8. Migratory Birds Oil Spills

Reference(s)

- Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program, Environmental Management Plan

Comment

There is a potential for large release of pollutants into marine environments where birds may congregate.

Migratory birds are particularly vulnerable to pollution incidents (e.g. oil spills, etc.) in their feeding areas. Proponents should determine what steps would be taken to mitigate the impacts of pollution incidents on migratory birds and their important habitats.

Having this information outlined and available not only benefits wildlife but also gives clear direction to staff and contractors on what to do during a pollution incident if wildlife is nearby.

ECCC Recommendation(s)

ECCC recommends the Proponent incorporate into existing emergency response plans:

- Steps to protect wildlife (including migratory birds) in the event of a pollution incident and keep wildlife out of contaminated areas;
- Equipment and resources available for incident response; and
- Measures to take if wildlife does come in contact with the spill.

9. Migratory Birds Drones/Aircraft

Reference(s)

- Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program, Environmental Management Plan

Comment

The Proponent indicates there may be a potential for low-level drone flights during the spring, summer or fall in areas of high bird concentrations (key habitat sites, Important Bird Areas, Wildlife Key Areas or colonies).

ECCC Recommendation(s)

In order to reduce drone/aircraft disturbance to migratory birds and subject to pilot discretion regarding safety, ECCC recommends:

- Avoiding known concentrations of birds such as Important Bird Areas, Key Habitat Sites, and Sea Duck Key Habitat Sites (e.g., Qaqsauqtuuq Migratory Bird Sanctuary [Common Eider colony, Snow Goose colony], Ikkattuaq Migratory Bird Sanctuary [Lesser Snow Goose colony], Fraser Island [Common Eider colony], Markham Bay [Common Eider colony, Iceland Gull nesting], Hantzcsch Island [Black-legged Kittiwake colony, Thick-billed Murre colony], Digges Sound [Thick-billed Murre colony], Cape Pembroke [Thick-billed Murre colonies], Boas River [Lesser Snow Goose colonies], Frobisher Bay, Killiniq Island) by a lateral distance of at least 1.5 kilometres.
- Avoiding the seaward side of seabird colonies and areas used by flocks of coastal migrating waterfowl by 3 kilometres.
- Avoiding excessive hovering or circling over areas of high bird concentrations.
- If avoidance is not possible, maintaining a minimum flight altitude of 1,100 metres (3,500 feet) over these areas.
- Informing operators/pilots of these recommendations and of areas of high bird concentrations.

The Proponent should ensure these measures are incorporated into wildlife management plans.

10. ECCC Contact Information

Reference(s)

- Kivalliq-Baffin Connector Project Horizontal Directional Drilling Engineering Support Program, Environmental Management Plan

Comment

The Proponent has provided an environmental management plan but has not identified ECCC as a contact for instances involving migratory birds.

ECCC has management responsibilities for migratory birds under the *Migratory Birds Convention Act* (MBCA). ECCC should be contacted in instances involving:

- Interactions and incidents involving the potential disturbance of individuals or nests and any mortality events of these species;
- Wildlife monitoring reports and annual reports that pertain to these species; and
- Updates to wildlife management and monitoring plans, or their equivalents, in relation to these species

ECCC Recommendation(s)

ECCC recommends the Proponent notify ECCC's Canadian Wildlife Service (cwsnorth-scfncord@ec.gc.ca) for instances involving:

- Interactions and incidents involving the potential disturbance of individuals or nests and any mortality events of these species;

- Wildlife monitoring reports and annual reports that pertain to these species; and
- Updates to wildlife management and monitoring plans, or their equivalents, in relation to these species.

If you need more information, please contact Jennifer Sabourin at Jennifer.Sabourin@ec.gc.ca.

Sincerely,



Jennifer Sabourin
Environmental Assessment Officer

Attachment(s): 291025-NIRB 25YN061-GN-Kivalliq-Baffin Connector Horizontal Directional Drilling-ECCC Appendix I

cc: Eva Walker, Head, Environmental Assessment North (NT and NU)