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WEST KITIKMEOT RESOURCES CORP

October 23, 2026

Nunavut Impact Review Board
P.O. Box 1360
Cambridge Bay, NU
X0B 0C0

NIRB File No.: 24XN038
NPC File No.: 150467

Attention: Amir Pourmahabadian, Senior Impact Assessment Officer, Nunavut Impact Review Board

Re: West Kitikmeot Resources Corp. Responses to Information Requests – Grays Bay Road and Port Project (NIRB File No. 24XN038)

Dear Mr. Pourmahabadian,

West Kitikmeot Resources Corp. (WKR) is pleased to submit its Responses to Information Requests (IRs) to the Nunavut Impact Review Board (the NIRB or the Board) for consideration in the current stage of the review of the Grays Bay Road and Port Project (the Project).

This submission is provided in accordance with the Board's correspondence of September 11, 2026, which extended the deadline for Responses to IRs to October 23, 2026.

WKR thanks the Board for its continued cooperation and remains available to discuss this submission at the Board's convenience. If you have any questions regarding this letter, please do not hesitate to contact the undersigned.

Yours truly,

Gavin Law
Manager, Environment
West Kitikmeot Resources Corp.

Cc: Elliot Holland, Chief Operating Officer, West Kitikmeot Resources Corp.
Kassidy Koaha-Laube, Community Engagement Leader, West Kitikmeot Resources Corp.
Dionne Filiatrault, Executive Director, Nunavut Impact Review Board
Tara Arko, Director, Operations, Nunavut Impact Review Board
Kelli Gillard, Manager, Impact Assessment, Nunavut Impact Review Board
Amir Pourmahabadian, Senior Impact Assessment Officer, Nunavut Impact Review Board



Grays Bay Road and Port Project

Information Request Response Package

WEST KITIKMEOT RESOURCES CORP

www.westkit.ca

October 2026

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Kugluktuk Angoniatit Association

West Kitikmeot Resources Corp. (WKR), thanks the Kugluktuk Angoniatit Association (KAA) for its Information Requests (IRs) dated June 19, 2026 (NIRB Document 260618-24XN038-KAA IRs Re Impact Statement-IR3E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the KAA's IRs are provided below.

WKR looks forward to continuing to work with KAA, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

KAA-1 (IR-01)

Subject

Land Use Plan

Issue / Concern

The Impact Statement acknowledges there is currently no approved Nunavut Land Use Plan in effect for the Kitikmeot Region. KAA is concerned that approval of a major permanent transportation and industrial corridor prior to completion of the Nunavut Land Use Plan could pre-determine future land use decisions, undermine Inuit-led planning processes, and establish a de facto industrial corridor before regional land use priorities, conservation objectives, and harvesting protections are finalized.

Information Request

1. *Please explain why WKR believes it is appropriate to proceed with the Project in the absence of an approved Nunavut Land Use Plan.*
2. *Please explain what consideration was given to postponing the Project review process until completion of the Nunavut Land Use Plan.*
3. *Please explain how WKR assessed Project compatibility with Inuit harvesting priorities, conservation objectives, and cumulative effects management in the absence of an approved land use plan.*

Proponent Response

1. **Regulatory Basis for Proceeding**

   The Project is proceeding under the statutory regime established by the Nunavut Land Claims Agreement and the *Nunavut Planning and Project Assessment Act* (NuPPAA). The Impact Statement (IS) records the specific sequence by which the Project entered the NIRB review:

   > *"The review process began with WKR's Project proposal submission to the NPC [Nunavut Planning Commission] on June 26, 2024, for the conformity review against approved land use plans. The NPC determined the Project was outside the scope of an applicable regional land use plan and referred it to the NIRB [Nunavut Impact Review Board] under section 12.4.3 of the Nunavut Agreement on August 6, 2024. Following screening, the NIRB issued a decision on December 4, 2024, recommending that the Project undergo a full review in accordance with Article 12 of the Nunavut Land Claims Agreement and Part 3 of the Nunavut Planning and Project Assessment Act (NuPPAA). This recommendation was confirmed by the federal Minister of Northern Affairs on February 14, 2025, establishing that a review is required under Article 12, Part 5 of the Nunavut Agreement and Part 3 of NuPPAA."* (Volume 2, Section 1.4, document page 1-8, PDF page 1062 of 8171)

The Project is proceeding under this confirmed statutory pathway. The NPC's referral, the NIRB's screening decision, and the Ministerial confirmation are the regulatory authorities under which the review is being conducted.

2. **Consideration of Postponement**

Project sequencing is governed by section 12.4.3 of the Nunavut Agreement, the NIRB's December 4, 2024 screening decision, and the federal Minister's February 14, 2025 confirmation (Volume 2, Section 1.4). Once the NPC made its referral on August 6, 2024, the Article 12 / NuPPAA process was initiated and proceeded in accordance with the statutory framework. The IS records WKR's ongoing engagement with the draft Nunavut Land Use Plan:

> *"Although the Project is outside the area of an applicable land use plan, WKR will monitor the status of the draft Land Use Plan to assess potential impacts and modifications to project planning. WKR will incorporate relevant aspects of the draft Land Use Plan where feasible, in alignment with its intended purpose and principles (see Section 1.4)."* (Volume 2, Section 1.2)

3. **Project Compatibility with Inuit Harvesting Priorities, Conservation Objectives, and Cumulative Effects Management**

In the absence of an approved land use plan, Project compatibility with these matters is assessed through the IS itself, in accordance with the NIRB's IS Guidelines (NIRB File No. 24XN038). Specifically:

- Inuit harvesting priorities are addressed through WKR's engagement program and through the integration of Inuit Knowledge from the Naonaiyaotit Traditional Knowledge Project (NTKP) report, used under licence with the Kitikmeot Inuit Association, as described in Volume 2, Section 1.2 and Volume 3, Section 4. Engagement details and outcomes are provided in Volume 3, Section 6 (Public Engagement), including Section 6.3 (Engagement Details and Outcomes). Detailed treatment of effects on traditional land, marine, and resource use is provided in Volume 9, Section 24.
- Conservation objectives, as applicable, are addressed through the Valued Component assessments in Volumes 5 through 9, which evaluate Project effects on the atmospheric, terrestrial, freshwater, marine, and human environments.
- Cumulative effects are addressed through the methodology set out in Volume 4 (Section 9) and Appendix 9A (Project Inclusion List), in the Valued Component assessments in Volumes 5 through 9, and summarized in the cumulative effects assessment overview in Volume 10 (Section 32).

KAA-2 (IR-02)

Subject

Access

Issue / Concern

The proposed all-season road and associated infrastructure may increase access into currently remote areas used by Kugluktuk harvesters. KAA is concerned that increased access may lead to increased harvesting pressure from non-local users, disturbance of wildlife, safety concerns, and impacts to Inuit harvesting rights and practices.

The Impact Statement does not clearly explain how access along the road corridor will be controlled or how unauthorized use will be prevented.

Information Request

1. *Please explain how access to the all-season road will be managed and enforced.*
2. *Please identify who will be permitted to use the road/port and under what conditions.*
3. *Please explain whether public access, recreational access, or third-party industrial access will be allowed.*
4. *Please provide details regarding proposed wildlife protection measures associated with road access.*
5. *Please explain how WKR will work with KAA and regulatory authorities to monitor and manage increased harvesting pressure and wildlife disturbance.*
6. *Please clarify whether checkpoints, permits, monitoring systems, or other enforcement mechanisms are proposed.*

Proponent Response

The Project's access management framework is set in the Road Management Plan (RMP; Volume 11, Appendix 37A), with related provisions in the Wildlife Mitigation and Monitoring Plan (WMMP; Volume 11, Appendix 37B) and the Port Management Plan (PMP; Volume 11, Appendix 37I). Each sub-part of the Information Request is addressed in order below.

1. **Access Management and Enforcement**

Grays Bay Road is a controlled access road. Operations and maintenance of the road will be managed by WKR (Volume 11, Appendix 37A, Section 1), which includes access management and enforcement. The RMP states:

> "*Grays Bay Road is a controlled access road which will be controlled through agreements with various user groups. Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station on the IOL. These access points will manage and*

> *monitor road use through sign-in procedures and radio check-ins, helping to track users and ensure the safety of users. WKR will maintain logs recording the entry and exit of all vehicles using the road. Logs will also record any incidents or accidents for regulatory and safety audit purpose. Unauthorized use may lead to security alerts and reports to local authorities*." (Volume 11, Appendix 37A, Section 5.1.1, Page 10)

Furthermore, Community users will be strongly encouraged, though not required, to carry radios, satellite phones, or other communication devices while using Project facilities. WKR's code of conduct will outline communication expectations for all facility users, including protocols for temporary shutdowns triggered by wildlife or environmental alerts. Environmental monitors stationed at the Port, Road, and Jericho Station will regularly patrol all facilities to identify vehicle locations, accidents, stranded vehicles, unauthorized road use, wildlife presence, and environmental or road condition concerns. Should an alert be issued while community members without communication devices are on-site, WKR will implement protocols to locate those individuals, communicate the nature of the alert and associated expectations, and help where necessary.

2. **Permitted Users and Conditions**

The RMP identifies three user categories and the conditions applicable to each:

> "*Mining users will have access to the road on a tolled basis, with port and road use fees to be established through agreements between WKR and mining/exploration companies. Security and other public government users will have access to the road through agreements to be established between WKR and the relevant government department or agency. Community users will have free access to the road for travel and transportation purposes, subject to agreeing to abide by safe operating procedures. Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA)."* (Volume 11, Appendix 37A, Section 5.1.1, Page 10)

Prior to using the road, all Users “will be required to sign an Access and/or Code of Conduct Agreement, which will include road use rules and expectations, including those measures implemented for the protection of wildlife." (Volume 11, Appendix 37A, Section 6, Page 17)

As a condition of this Access and/or Code of Conduct Agreement, WKR will provide all users with training on the rules of the road (which may include videos, quick-reference cards to keep in the vehicle while travelling, etc.). For Commercial Users, along with Security and Public Government users, this training will be included in their road access agreements and road users themselves will be required to present proof of successful completion. For Community users, both training and signing of the Access and/or Code of Conduct Agreement will occur at the gate before access is granted.

3. **Public, Recreational, and Third-Party Industrial Access**

The Project is designed as multi-user, multi-use infrastructure. The RMP states:

> "*The use of the road will primarily be by third parties; however, operations and maintenance of the road will be managed by West Kitikmeot Resources Corp. (WKR).*" (Volume 11, Appendix 37A, Section 1, Page 1)

Access by user category, as set out in the RMP and PMP, is as follows:

- Community use, including public access and recreational use, is permitted under the Community User category. The RMP Glossary defines a Community User as: "*Anyone using the road for non-industrial and non-security uses. A Community user can also be a harvester, but they will need a permit from a Hunters and Trappers Organization and the Kitikmeot Inuit Association to access the road for harvesting purposes. Community users would also be required to sign an Access and/or Code of Conduct Agreement, promising to abide by the rules of the road and not to harvest without permission."* (Volume 11, Appendix 37A, Glossary, Page iii)

The subcategories of community use associated with public and recreation access are further addressed as follows:

- Public access at the Grays Bay Port is provided through a Public Use Area adjacent to the Small Craft Harbour. The PMP states: "Adjacent to the Small Craft Harbour, an area for public use will be developed. This will consist of vehicle access and parking to facilitate short-term community use." (Volume 11, Appendix 37I, Section 3.3.5, document page 7, PDF page 8123 of 8171)
- Public access at the Grays Bay Road is provided through gates at each end of the road. The RMP states “Community users will have free access to the road for travel and transportation purposes, subject to agreeing to abide by safe operating procedures. Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA)." (Volume 11, Appendix 37A, Section 5.1.1, document page 10, PDF page 7790 of 8171)
- Third-party industrial access (mining and exploration companies) to both the port and the road is permitted on a tolled basis through agreements with WKR (Volume 11, Appendix 37A, Section 5.1.1).

4. **Wildlife Protection Measures Associated with Road Access**

Wildlife protection measures applicable to road users are set out in the RMP, Section 6 (Wildlife Protection Measures), and include:

- "*All wildlife has the right-of-way on roads, and personnel must remain within their vehicle while waiting for animals to pass*
- *Personnel will not feed, harass, or hunt wildlife while working on the Project*
- *All personnel will take wildlife awareness training as part of site orientation*
- *Construction, operations and maintenance personnel will be prohibited from using all-terrain vehicles and snowmachines for recreational purposes while working on the Project.*

- *Speed limits shall be posted along the complete portions of the road during construction activities. Posted speed limits shall not exceed 80 km/h. Slower speed limits (i.e., 60 km/h) shall be posted in areas of high potential for caribou or other wildlife occurrences (i.e., identified wildlife road crossing locations)*." (Volume 11, Appendix 37A, Section 6, Page 17,).

These measures also extend to Non-WKR users of the road

The RMP further specifies the wildlife encounter protocol on the road:

> "*Wildlife will have the right-of-way when they occur on or immediately adjacent to the roadway. All vehicles and equipment must slow down to 30 km/h when caribou or other wildlife occur within line of sight of the driver and must stop for 20 minutes when wildlife are within 100 m of the road and show intent to cross; vehicles may proceed after 20 minutes or wildlife no longer show intent to cross. When animals are on the road, drivers must come to a complete stop and wait for the animals to leave the area."* (Volume 11, Appendix 37A, Section 6, Page 18)

Additional access-related measures include the identification of high-potential wildlife crossing locations using Inuit and Community knowledge and monitoring of caribou movement along the road, and restricted road use during sensitive periods or when caribou are observed in close proximity to the road (Volume 11, Appendix 37A, Section 6). Firearm use within the designated one-mile (1.6 km) safety buffer zones around operations is prohibited (Volume 11, Appendix 37A, Section 5.1.2).

Adaptive management measures applicable to road operations are set out in the WMMP (Volume 11, Appendix 37B).

5. **Working with KAA and Regulatory Authorities to Monitor and Manage Harvesting Pressure and Wildlife Disturbance**

The WMMP establishes the framework for monitoring and adaptive management of Project-related effects on wildlife. It was developed at a conceptual level and states “Further development and refinement of the WMMP will occur through ongoing Project planning initiatives, continued engagement with affected Inuit and Indigenous governments and organizations and potentially affected communities, and consultation with relevant government agencies." (Volume 11, Appendix 37B, Section 3, document page 7, PDF page 7814 of 8171)

WKR's engagement with Hunters and Trappers Organizations in the Kitikmeot Region, including the Kugluktuk Angoniatit Association (KAA), forms part of these ongoing engagement commitments. The WMMP framework for adaptive management of Project-related effects on wildlife includes consultation with the Kitikmeot Inuit Association, the Government of Nunavut, and the Government of Northwest Territories, and arrangements for data sharing and annual reporting (Volume 11, Appendix 37B, Sections 8 and 10).

6. **Checkpoints, Permits, Monitoring Systems, and Other Enforcement Mechanisms**

The IS documents the following enforcement mechanisms applicable to road access:

- Security gates at the Grays Bay Port and Jericho Station, operated by WKR staff, with sign-in procedures, radio check-ins, and vehicle entry/exit logs (Volume 11, Appendix 37A, Section 5.1.1).
- User agreements applicable to all user categories, including Access and/or Code of Conduct Agreements for commercial and Community Users (Volume 11, Appendix 37A, Sections 5.1.1 and 6).
- Prior approval (permits) from the Kitikmeot Inuit Association and Hunters and Trappers Organization, issued jointly by two organizations, with WKR responsible for confirming permits and licences are in place before granting access for harvesting. The processes for access application and permit issuance to access the road for harvesting purposes will be established through discussions with the Kitikmeot Inuit Association and Hunters and Trappers Organizations. Harvest licences and species authorization tag(s) will be managed through the existing Nunavut Hunting Regulations (Volume 11, Appendix 37A, Section 5.1.1).
- Reporting of unauthorized use to local authorities (Volume 11, Appendix 37A, Section 5.1.1).
- Radio communication on the road frequency, with all Project and contractor vehicles required to report road conditions, wildlife presence, accidents, stranded vehicles, and unauthorized vehicle use (Volume 11, Appendix 37A, Section 5.1.2).

The plans (RMP, PMP, and WMMP) included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process and will be further developed as the review progresses. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

KAA-3 (IR-03)

Subject

Spill response and emergency preparedness

Issue / Concern

The Project includes large-scale fuel storage and transportation activities, including up to approximately 10 million litres of fuel storage expandable to approximately 160 million litres. Marine transport, fuel transfer, road transport, and quarry operations create risk of spills or accidents affecting land, freshwater systems, marine waters, wildlife, and harvesting areas.

KAA requires additional information regarding emergency preparedness, spill response capacity, response timelines, and community involvement.

Information Request

1. *Please provide details regarding anticipated fuel types, storage volumes, and transfer procedures during construction and operations.*
2. *Please provide detailed spill response plans for:*
    a) *marine spills;*
    b) *road-related spills*
    c) *fuel storage incidents;*
    d) *accidents involving hazardous materials.*
3. *Please explain what equipment and personnel would be available locally and regionally to respond to major spill incidents.*
4. *Please provide estimated response timelines for spill incidents occurring along the road corridor and marine shipping routes.*
5. *Please explain what role KAA and local harvesters would have in spill response planning, monitoring, and emergency communications.*
6. *Please identify what compensation mechanisms would be available if harvesting areas, wildlife, or country food resources are affected by a spill or accident.*
7. *Please explain who would be legally and financially responsible for spill response, environmental cleanup, long-term monitoring, habitat restoration, and compensation in the event of a major spill, accident, or infrastructure failure associated with the Project.*
8. *Please identify what entity or entities would provide and hold these funds, whether any financial assurance, trust, bond, insurance, escrow, or contingency fund is proposed, the value of such security, and how Inuit organizations and communities would be protected in the event WKR or third-party operators become insolvent, dissolve, or cease operations.*

Proponent Response

The Project's framework for spill response and emergency preparedness is set out in the Accidents and Malfunctions assessment (Volume 10, Section 34) and in the Environmental Protection Plan (Volume 11, Appendix 37H), which includes the Risk Management and Emergency Response Plan (RMERP; Attachment H4) and the Spill Contingency Plan (SCP; Attachment H5). Fuel infrastructure descriptions are provided in Volume 2 (Project Description). Each sub-part of the Information Request is addressed in order below.

1. **Fuel Types, Storage Volumes, and Transfer Procedures**

Fuel types required during construction and operations and maintenance of the Project will include diesel for power generation, heating, heavy equipment, and light vehicle operation; gasoline for light vehicles, utility vehicles, snowmobiles, and boats; Jet-A and Jet-B for helicopter and aircraft support operations; and propane for camp operations and heaters (Volume 10, Section 34.4.1, Page 34-9).

Project fuel storage is described as follows:

> *"Approximately 10 million L of diesel fuel will be required annually to support construction of the Project. Fuel resupply will be brought via sealift to the Port and by trucks via the TCWR to Jericho Station throughout construction. Fuel will be stored in drums and tanks situated at the laydown areas, quarries, and camps during Year 1 of construction. Permanent fuel facilities will be built at both the Port and Jericho Station for Year 2 of construction." (Volume 10, Section 34.4.1, document page 34-9, PDF page 7701 of 8171)*

The Impact Statement (IS) identifies an initial Project fuel storage capacity of approximately 10 million litres of diesel at the Port for Operations and Maintenance, with space made available for future third-party users beyond this initial Project capacity. The Operations and Maintenance fuel storage and refuelling facility at the Port will include secondary containment berms, piping and pipelines, fuel storage tanks, and an industrial building to house dispensing equipment, all constructed with materials suitable for −45 °C operations (Volume 10, Section 34.4.1).

Jericho Station fuel storage during construction is described as follows:

> *"During construction, facilities at Jericho Station are anticipated to store up to 180,000 L of diesel, 50,000 L of jet fuel, and 100 barrels of gasoline. Resupply will be delivered to Jericho Station by tanker truck either from the Port or via winter road from Yellowknife. During operations fuel storage at Jericho may increase to 10 million L dependent upon third-party use." (Volume 10, Section 34.4.1, document page 34-10, PDF page 7702 of 8171)*

Fuel transfer procedures are set out in Volume 10, Section 34.6.1 and are further detailed in the RMERP and SCP (Volume 11, Appendix 37H, Attachments H4 and H5). Volume 10, Section 34.6.1 identifies operational requirements including secondary containment with a minimum capacity of 110% of the largest tank volume and 10% of the aggregate capacity of all containers; set-back distances of at least 31 m from the ordinary high water mark of any watercourse or waterbody;

monitored refuelling and fuel transfer activities; and Project personnel trained in fuel handling and equipment maintenance.

2. **Spill Response Plans**

The Project's spill response framework will be established through the RMERP (Volume 11, Appendix 37H, Attachment H4) and the SPC (Volume 11, Appendix 37H, Attachment H5), with prevention and mitigation measures described in Volume 10, Section 34.6.1.

The SCP will be developed in accordance with the Government of Nunavut Environmental Guidelines: *Spill Contingency Planning and Reporting Regulations* (GN 2023) and the federal Environmental Emergency Regulations (SOR/2019-51) and will address environmental emergency prevention, preparedness, response, and recovery in response to uncontrolled, unplanned, or accidental releases of toxic and hazardous substances listed in Schedule 1 of the Environmental Emergency Regulations (Volume 10, Section 34.6.1).

The four scenarios identified in the Information Request are addressed as follows:

a) **Marine spills.** Project marine vessels and Port operations are subject to the *Canada Shipping Act, 2001*, the *Arctic Waters Pollution Prevention Act*, and the Arctic Shipping Pollution Prevention Regulations (Volume 10, Section 34.7.2). Project vessels carry Transport Canada–approved Shipboard Oil Pollution Emergency Plans (SOPEPs), and the Port will have Transport Canada–approved Oil Pollution Emergency Plans as required under the Oil Handling Facilities Regulations of the *Canada Shipping Act, 2001* (Volume 10, Section 34.7.2). The RMERP will incorporate and align with the SOPEPs of marine vessels (Volume 11, Appendix 37H, Attachment H4).

b) **Road-related spill** response along the road corridor will be addressed through the RMERP and SCP (Volume 11, Appendix 37H, Attachments H4 and H5). Provisions identified in Volume 10, Section 34.6.1 include emergency spill response kits kept in vehicles and at fuel storage locations, designated refuge and rest areas and temporary emergency shelters established along the road, and radio communication protocols for reporting incidents.

c) **Fuel storage incidents** will be addressed through the secondary containment, set-back distance, fuel transfer procedures, and inspection requirements identified in the response to Sub-part 1, and the response procedures in the SCP (Volume 10, Section 34.6.1; Volume 11, Appendix 37H, Attachment H5).

d) **Accidents involving hazardous materials** will be managed in accordance with the *Canadian Environmental Protection Act, 1999*, the Environmental Emergency Regulations (SOR/2019-51), and the *Transportation of Dangerous Goods Act* (Volume 10, Section 34.6.1). The SCP will include a list of higher risk chemicals with associated safety data sheets to be reviewed by Project personnel prior to handling, methods of handling spills, and required equipment; Material Safety Data Sheets for hazardous substances will be stored on site (Volume 10, Section 34.6.1)

3. **Equipment and Personnel Available for Major Spill Response**

The Project's spill response approach is designed to be self-sufficient given the remote Arctic operating environment, with off-site resources procured as required for events that exceed on-site capacity. The SPC states that it *"does not rely on off-site resources to successfully respond to anticipated upset conditions. The Plan has been developed such that the resources required to respond to spills have been positioned on site. It is anticipated that the Project will have sufficient resources and trained personnel to respond to most types/sizes of spills that could potentially occur on site. Additional off-site resources would be procured and flown to the site as needed in the event that on-site resources were exhausted." (Volume 11, Appendix 37H, Attachment H5, Section 2.6.2)*

On-site spill response capacity for the Port is described in Volume 10, Section 34.7.2:

> *"The operations and response structure at the port will be designed for rapid response to a spill. All equipment and resources will be strategically placed directly at the port operation site." (Volume 10, Section 34.7.2)*

On-site provisions identified in Volume 10, Section 34.6.1 include spill containment materials available at all physical work locations; emergency spill response kits kept in vehicles and at fuel storage locations; Project-related vessels equipped with spill containment and cleanup materials; and Spill Contingency Plan training and spill prevention awareness for all site personnel.

The plans (RMERP and SCP) included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process and will be further developed as the review progresses. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and after the final hearing is completed, if necessary.

4. **Estimated Response Timelines**

The Project's spill response is designed for rapid on-site response (Volume 10, Section 34.7.2; Volume 11, Appendix 37H, Attachment H5, Section 2.6.2). Response measures focus on containment of the spill to limit the effects, cleanup of the spill, and remediation of the affected areas as quickly as possible (Volume 10, Section 34.4.1).

Specific response time targets for road corridor and marine shipping route spill incidents are operational-level commitments that will be established as the RMERP and SCP are further developed, in conjunction with the regulatory mechanisms that follow the NIRB Project Certificate, including Nunavut Water Board water licence conditions, Kitikmeot Inuit Association land use licence conditions, and detailed design.

5. **Role of KAA and Local Harvesters in Spill Response Planning, Monitoring, and Emergency Communications**

   Volume 10, Section 34.2, Table 34.1 states that "*WKR commits to continued engagement on accidents and malfunctions during the advancement of project design, planning, and monitoring throughout the life of the Project.*"

   Additionally, Volume 10, Table 34.1 records WKR's commitments responsive to local harvester and community involvement in spill response training and reporting, including that all employees and third-party contractors will receive spill response training, and that community users are required to complete an orientation covering how to report a release (Volume 10, Section 34.2.1, Table 34.1).

   As described in Volume 11, Section 37.1.1, "*Monitoring programs will be developed with consideration of feedback from Inuit organizations, such as Hunters and Trappers Organizations and the Kitikmeot Inuit Association, as well as regulators, to align monitoring indicators and methods with Inuit perspectives, community priorities, and regulatory requirements. Implementation responsibilities will vary across plans.*"

   The specific mechanisms for Kugluktuk Angoniatit Association participation in spill response planning, monitoring, and emergency communications will be developed through ongoing engagement and through the regulatory mechanisms that follow the NIRB Project Certificate, including the Kitikmeot Inuit Association land use licensing process and the Nunavut Water Board water licensing process.

6. **Compensation Mechanisms for Affected Harvesting, Wildlife, or Country Food Resources**

   Compensation for damages arising from a spill or accident associated with the Project is governed by the federal and territorial liability regimes applicable to the responsible party (Volume 11, Appendix 37H, Attachment H5, Section 1.3).

   Specific compensation arrangements applicable to Project-related effects on Inuit harvesting rights, country food resources, and Inuit-owned lands will be addressed through the Kitikmeot Inuit Association land use licensing process, and through ongoing engagement with the Kitikmeot Inuit Association and the Kugluktuk Angoniatit Association.

7. **Legal and Financial Responsibility for Spill Response, Cleanup, Long-Term Monitoring, Habitat Restoration, and Compensation**

   WKR, as Project proponent, holds responsibility for spills and accidents associated with the Project during construction and from WKR activities and equipment during operations and maintenance. This includes spill response, environmental cleanup, long-term monitoring, habitat restoration, and compensation, as applicable and warranted. However, responsibility for spills and accidents by third parties or third-party equipment, vehicles or vessels using Project infrastructure remains with the third-party. WKR's RMERP (Volume 11, Appendix 37H, Attachment H4) and the SCP (Volume 11, Appendix 37H, Attachment H5), will provide a framework for reporting and response and the WKR's Project infrastructure will serve as an important staging point for emergency response in the event of a third-party accident or malfunction (Volume 10, Section 34.1).

Reporting responsibilities for WKR, third-party users, and marine vessels are set out in Volume 10, Table 34.1.

8. **Financial Assurance and Insolvency Protection (REVISED)**

Financial security applicable to the Project is addressed in Volume 2, Section 1.1.2:

> "*Given that the Project is primarily composed of permanent infrastructure, WKR does not expect to post a bond or other form of financial security to meet requirements for reclamation and security. However, areas used temporarily during construction will be reclaimed in accordance with permit conditions. Permit conditions for these areas may include reclamation security requirements to be established with regulators as the detailed design of these areas is finalized. The financial security required for the reclamation of these areas, will be addressed concurrently with overall Project construction financing.*" (Volume 2, Section 1.1.2)

Reclamation security obligations applicable to the temporarily disturbed areas will be established through permit conditions, principally the Nunavut Water Board Type A Water Licence and the Kitikmeot Inuit Association land use licence, with specific values, forms, and holders determined by the issuing regulatory authorities through the licensing process.

WKR's responsibility for establishing the necessary resources to implement the management plans is stated in Volume 11, Appendix 37H, Section 2:

> *"WKR, as the Proponent, is responsible for the implementation of environmental protection measures described in this EPP and its attachments during all phases of Project. […] WKR will establish the necessary human, material, and financial resources to implement the management plans." (Volume 11, Appendix 37H, Section 2)*

The framework for long-term ownership and liability of the permanent infrastructure is addressed in the response to KAA-4 (IR-04). Should financial assurances be required by regulators at subsequent permitting stages, WKR will implement a structured process to ensure appropriate financial assurance is in place at that time.

KAA-4 (IR-04)

Subject

Long-term closure, reclamation, and financial security

Issue / Concern

The Impact Statement states that because the Project is "primarily composed of permanent infrastructure," WKR does not expect to post a bond or other form of financial security for reclamation obligations. KAA is concerned regarding long-term liability, maintenance, abandonment risks, and the potential future burden on Inuit, communities, or governments if the infrastructure is no longer maintained.

Additional clarity is required regarding long-term ownership, maintenance obligations, reclamation planning, and financial security.

Information Request

1. *Please explain why WKR does not anticipate providing comprehensive financial security for the Project.*
2. *Please clarify what closure and reclamation obligations would apply to:*
   A) the Port;
   B) the All-season road;
   C) Quarries;
   D) Camps;
   E) Fuel storage facilities;
   F) Marine infrastructure.
3. *Please explain who would be responsible for long-term maintenance and liabilities if the Project ceases operation.*
4. *Please explain how KAA and other Inuit organizations and communities will be protected from future environmental or financial liabilities associated with abandoned infrastructure.*

Proponent Response

The Project's approach to long-term closure, reclamation, and financial security is set out in the Impact Statement (IS), specifically in Volume 2 (Project Description), Volume 11 (Management Plans), and Volume 11, Appendix 37F (Progressive Reclamation Plan). The following response consolidates and cross-references the IS content responsive to each of the four sub-parts of the Information Request.

1. **Why WKR Does Not Anticipate Providing Comprehensive Financial Security**

The Project is composed primarily of permanent infrastructure. Volume 2, Section 1.1.2 states:

> "*Given that the Project is primarily composed of permanent infrastructure, WKR does not expect to post a bond or other form of financial security to meet requirements for reclamation and security. However, areas used temporarily during construction will be reclaimed in accordance with permit conditions. Permit conditions for these areas may include reclamation security requirements to be established with regulators as the detailed design of these areas is finalized. The financial security required for the reclamation of these areas, will be addressed concurrently with overall Project construction financing.*

Funding these reclamation security obligations is expected to be a minor proportion of the total construction cost of the Project." (Volume 2, Section 1.1.2, Page 1-3 to 1-4)

Volume 1, Appendix A (Concordance Table) further addresses the application of performance bonds and financial assurance at subsequent permitting stages:

> "*Should performance bonds or other financial assurances be required by regulators at subsequent permitting stages, WKR will implement a structured process to ensure appropriate financial assurance is in place at that time*." (Volume 1, Appendix A Concordance Table, Page A-54)

2. **Closure and Reclamation Obligations by Project Component**

Closure and reclamation obligations vary by Project component based on whether the component is permanent infrastructure or a temporarily disturbed area used during construction. Permanent infrastructure components are not subject to a planned closure or decommissioning phase under the IS (Volume 2, Section 2.6.4; Volume 11, Section 37.1.8; Volume 11, Appendix 37F, Section 1.1). Temporarily disturbed areas are subject to reclamation in accordance with permit conditions and the Progressive Reclamation Plan (Volume 11, Appendix 37F) (Volume 2, Section 2.6.4).

The Progressive Reclamation Plan (Volume 11, Appendix 37F) sets out the framework for progressive reclamation of temporarily disturbed areas during Construction. As stated in the Progressive Reclamation Plan (PRP) Section 1.1:

> "*The Project is intended to be a permanent infrastructure and therefore does not include a planned closure or decommissioning phase. As such, this PRP consists of a care and maintenance plan, with focus on:*
>
> - *Temporary shutdown scenarios, including reduced operations or suspension of activities[.]*" (Volume 11, Appendix 37F, Section 1.1)
> - *Component-specific care and maintenance details will be developed through detailed design and the regulatory mechanisms that follow the NIRB Project Certificate* (Volume 11, Appendix 37F, Section 4).

A) Port (Grays Bay Port). The Grays Bay Port is permanent infrastructure (Volume 2, Section 2.6.1.1). With respect to temporarily disturbed areas at the Port, Volume 2, Section 2.6.1.1 states:

> "*Laydown areas and workspaces not required for the Operations and Maintenance phase of the Project (i.e., only used during construction) will be closed and reclaimed through a process of erosion stabilization, revegetation, restoration of natural drainage patterns, and prevention of future vehicular access, as required*." (Volume 2, Section 2.6.1.1)

B) All-season road (Grays Bay Road). The Grays Bay Road is permanent infrastructure (Volume 2, Section 2.6.1.3). Quarries and borrow sources used for road construction and Operations and Maintenance are addressed under Sub-part C) below.

C) Quarries. Volume 2 distinguishes between temporary quarries used during construction and permanent quarries retained for use during Operations and Maintenance (Volume 2, Section 2.6.1.1). With respect to reclamation of quarries not required for Operations and Maintenance, Volume 2, Section 2.6.2.4 (Borrow Sources and Quarry Development) states:

> "*Quarries not needed for operations will be reclaimed in accordance with applicable regulatory requirements and based on input from Inuit and other Indigenous land users and other stakeholders. A Site Restoration Plan will identify the methods to be used for rehabilitation of these areas*." (Volume 2, Section 2.6.2.4)

D) Camps. Stationary camps at the Grays Bay Port and Jericho Station, together with mobile camps used along the road alignment during construction, are described in Volume 2, Section 2.6.2.4 (Camps). With respect to the disposition of camp infrastructure at the end of Construction, Volume 2, Section 2.6.2.4 states:

> "*As construction progresses, components of the camps at both the Grays Bay and Jericho Station may become part of the permanent infrastructure (e.g., accommodation structures)."* (Volume 2, Section 2.6.2.4)

Permanent accommodations at the Grays Bay Port (Volume 2, Section 2.6.1.1) and Jericho Station (Volume 2, Section 2.6.1.4) are permanent infrastructure. Temporary camp components not retained as permanent infrastructure will be subject to the default reclamation framework described in Volume 2, Section 2.6.4.

E) Fuel storage facilities. Permanent bulk fuel storage at the Grays Bay Port (Volume 2, Section 2.6.1.1) and fuel storage and refueling facilities at Jericho Station (Volume 2, Section 2.6.1.4) are permanent infrastructure. Temporary fuel storage areas established during initial Construction are subject to the default reclamation framework described in Volume 2, Section 2.6.4.

F) Marine infrastructure. Marine-based infrastructure at the Grays Bay Port is permanent infrastructure (Volume 2, Section 2.6.1.1). Temporary marine and supporting infrastructure established during construction is subject to the default reclamation framework described in Volume 2, Sections 2.6.2.1 and 2.6.4.

3. **Long-Term Maintenance and Responsibility if the Project Ceases Operation**

WKR, as the Project proponent, is responsible for the operations and maintenance of the Project. Volume 2, Section 2.6.3.1 states:

> "*The Project components constructed by WKR are multi-user, multi-use facilities that will be of private/contracted user benefit in perpetuity. […] The use of the facilities will be by third parties; however, operations and maintenance of the facilities will be managed by WKR*." (Volume 2, Section 2.6.3.1)

The Impact Statement is based on the position that the Project is primarily composed of permanent infrastructure (Volume 2, Section 1.1.2) with no planned closure or decommissioning phase (Volume 2, Section 2.6.4; Volume 11, Section 37.1.8; Volume 11, Appendix 37F, Section 1.1). In the event of temporary closure scenarios — including reduced operations, suspension of activities, or temporary shutdown — the Progressive Reclamation Plan establishes care and maintenance provisions (Volume 11, Appendix 37F, Section 1.1, with operational detail to be developed in Section 4). Specific arrangements applicable to permanent cessation of operations would be developed through the regulatory mechanisms applicable to such circumstances, including conditions of the NIRB Project Certificate, the Nunavut Water Board Type A Water Licence, the Crown-Indigenous Relations and Northern Affairs Canada land use permit, and the Kitikmeot Inuit Association land use licence.

The Progressive Reclamation Plan, including commitments and obligations under Project regulatory approvals, will be updated as those approvals are received (Volume 11, Appendix 37F, Section 1.3).

4. **Protection of KAA and Inuit Organizations and Communities from Future Environmental or Financial Liabilities**

Protection of Inuit organizations and communities is established through the regulatory licensing processes that follow the NIRB Project Certificate. The applicable regulatory mechanisms include:

- The Nunavut Water Board Type A Water Licence, which establishes water use and waste disposal-related conditions, including any applicable reclamation security requirements, under the Nunavut Waters and Nunavut Surface Rights Tribunal Act;
- The Kitikmeot Inuit Association land use licence, which establishes land use conditions applicable to activities on Inuit Owned Lands, including any applicable reclamation security requirements;
- The NIRB Project Certificate, which establishes terms and conditions applicable throughout the life of the Project; and
- Permits and authorizations under federal and territorial legislation, including the Fisheries Act (Fisheries Act authorization), the Territorial Lands Act (CIRNAC land use permits), and others identified in Volume 2, Table 1.3.
- "*Borrow sites and quarries will be permitted pursuant to the Territorial Lands Act, as managed by CIRNAC and Kitikmeot Inuit Association*." (Volume 2, Section 2.6.2.4)

The Progressive Reclamation Plan will be updated to incorporate regulatory commitments as approvals are received:

> "*Commitments and obligations relating to this PRP under Project regulatory approvals, including the Nunavut Water Board Type A Water Licence, will be included within this plan once received.*" (Volume 11, Appendix 37F, Section 1.3)

WKR is committed to continued engagement with the Kugluktuk Angoniatit Association, the Kitikmeot Inuit Association, and other Indigenous governments and organizations during the implementation of the Progressive Reclamation Plan, including through the updates to that Plan as regulatory approvals are received (Volume 11, Appendix 37F, Section 1.3).

KAA-5 (IR-05)

Subject

Harvesting, Travel, Food Security

Issue / Concern

KAA members rely extensively on harvesting and travel throughout the Project region for food security, cultural continuity, and community wellness. The Project will profoundly affect access to harvesting areas, travel safety, wildlife availability, and confidence in country food quality.

The Impact Statement does not clearly explain how direct and indirect impacts to food security and Inuit harvesting practices will be monitored and addressed over the long-term.

Information Request

1) *Please provide details regarding how Kugluktuk harvesting areas, travel routes, cabins, camps, and culturally important areas were identified and incorporated into the assessment.*
2) *Please explain how WKR assessed impacts to:*
   - *A) harvesting success;*
   - *B) access to harvesting areas;*
   - *C) food security;*
   - *D) confidence in country foods;*
   - *E) Intergenerational transfer of harvesting knowledge.*
3) *Please explain what mitigation measures will be implemented to reduce impacts on harvesting activities and travel safety.*
4) *Please explain what monitoring programs will be implemented regarding country food quality and food security.*
5) *Please identify what role KAA and local harvesters will have in ongoing monitoring and adaptive management.*

Proponent Response

1) **Identification and Incorporation of Kugluktuk Harvesting Areas, Travel Routes, Cabins, Camps, and Culturally Important Areas**

   Kugluktuk harvesting areas, travel routes, cabins, camps, and culturally important areas were identified and incorporated into the assessment through three sources and incorporated in accordance with the methodology set out in Volume 9, Section 24 (Traditional Land, Marine, and Resource Use).

Inuit Knowledge from the Naonaiyaotit Traditional Knowledge Project (NTKP). WKR's authorization to use information from the NTKP report (Banci and Spicker 2024), under the NTKP licence signed by WKR and the Kitikmeot Inuit Association, is recorded in Volume 2, Section 1.2.

The NTKP report is referenced throughout Volume 9, Section 24 as a source for traditional land, marine, and resource use information for Kitikmeot Inuit, including harvesters from Kugluktuk.

Volume 9, Section 24.2.2.1 states that, through the project-specific engagement program, "*Kitikmiut and other potentially affected Indigenous groups shared information, expressed concerns, and provided recommendations related to potential effects on TLMRU. This feedback has been considered and summarized in Table 24.4 and has been integrated into the assessment of potential effects on TLMRU that follows. This feedback along with information shared through the NTKP report, and findings from the literature review have also been integrated into the supporting VC assessments to contextualize the perspectives and values of Kitikmiut and other potentially affected Indigenous groups as it relates to those VCs.*"

Consultants who participated in Wolfden 2006 Inuit Knowledge Study for the proposed High Lake Project included one person from Cambridge Bay, two people from Kingaok, and 22 people from Kugluktuk. Consultants who participated in the 2018 Inuit Knowledge Study for the proposed Grays Bay Road and Port Project included two people from Tahikyoak (Contwoyto Lake) and seven people from Kugluktuk. Consultants that provided input to the NTKP included people from Cambridge Bay, Kingaok, Kugluktuk, and Omingmaktok.

Project-specific engagement with the Kugluktuk Angoniatit Association, the Hamlet of Kugluktuk, and Kugluktuk community members. WKR's engagement program with the Kitikmeot communities, including Kugluktuk, is documented in Volume 3, Section 6 (Public Engagement) and supported by Appendix 6A (Inuit Advisory Group Workshop Summaries), Appendix 6B (Grays Bay Road and Port Project Kitikmeot Communities Engagement Plan), Appendix 6C (Current Engagement Meetings 2024 to 2025), and Appendix 6E (Historical Engagement Activities, including the Wolfden 2006 Inuit Knowledge Study). Engagement input was used to identify specific harvesting areas, travel routes, cabins, and culturally important areas relevant to the Project.

Community-based primary research. Volume 3, Appendix 6D (Socio-economic Community-based Primary Research) documents the community-based research conducted with Kitikmeot communities to support the socio-economic assessments in Volume 9. This research comprised 61 interviews with 70 community members conducted in-person and virtually in October and November 2024 across Kugaaruk, Cambridge Bay, Kugluktuk, Gjoa Haven, and Taloyoak.

WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association, to address any harvesting areas, travel routes, cabins, camps, or culturally important areas that may not have been captured in the assessment. WKR acknowledges that KAA has provided two Inuit Knowledge reports for review and consideration in the IS. WKR commits to reviewing and integrating these sources, where applicable. WKR appreciates KAA sharing these sources and looks forward to continued discussions on the matter.

2) **Assessment of Impacts to Harvesting Success, Access, Food Security, Country Food Confidence, and Intergenerational Knowledge Transfer**

A) Harvesting success. Assessed in Volume 9, Section 24 (TLRMU) and Section 25 (Food Security and Food Sovereignty). The assessment considers Project-related effects on harvesting effort, harvesting success, and country food availability, with effects pathways mediated through Project effects on caribou, marine mammals, fish, birds, and other species of harvesting importance (assessed in Volume 6 [Terrestrial Environment], Volume 7 [Freshwater Environment], and Volume 8 [Marine Environment]).

B) Access to harvesting areas. Assessed in Volume 9, Section 24 (Traditional Land, Marine, and Resource Use). The assessment considers Project-related effects on access to harvesting areas through direct overlap with the Project Development Area (PDA), road corridor, and marine shipping route, and through changes in land use patterns.

As described in the Road Management Plan (Volume 11, Appendix 37A, Section 5.1.1), access to Project infrastructure for harvesting purposes will require prior approval (permit), issued jointly by the Kitikmeot Inuit Association and the Hunters and Trappers Organizations (HTOs). Further detail on access management content is provided in the response to KAA-2 (IR-02).

C) Food security. Assessed in Volume 9, Section 25 (Food Security and Food Sovereignty). The assessment considers Project-related effects on the food security framework — including country food availability, accessibility, utilization, and stability — and on food sovereignty.

D) Confidence in country foods. Assessed in Volume 9, Section 26 (Community Health and Well-being), supported by the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A). The Human Health Risk Assessment evaluated potential exposure pathways for chemical contamination of country food and concluded the actual contamination pathway is inoperable:

> *"No COPCs have been identified for traditional country foods because pathways have not been identified for Project activities to introduce chemical contaminants into the plants or animals harvested by Inuit, Indigenous, and Community country food harvesters. Uptake of contaminants into vegetation, fish, and terrestrial wildlife would require the presence of chemical pollutants in soil or water from Project activities. […] [T]he Project is not expected to contaminate soils or waterbodies; therefore, no source of chemical contamination is expected that could lead to accumulation of contaminants in country foods." (Appendix 26A, Section 4.1.2.5, document page 27, PDF page 7542 of 8171)*
>
> *"Since the Project is not expected to introduce contaminants into soils, vegetation, surface water, or wildlife, there is no mechanism for plants or animals to accumulate chemicals in their tissues. This supports the conclusion that country foods will not experience Project-related changes in chemical quality." (Appendix 26A, Section 4.1.2.5, document page 27, PDF page 7542 of 8171)*

Volume 9, Section 26 addresses perceived country food contamination through community wellness pathways, risk communication to communities, and country food monitoring under the Socio-economic Monitoring Program. The assessment recognizes that community perceptions of country food safety in the vicinity of the Project may differ from the technical contamination assessment in Appendix 26A, and that mitigation and monitoring measures are required to address community confidence concerns regardless of the inoperable contamination pathway finding.

The Human Health and Ecological Risk Assessment (Volume 9, section 26, Appendix 26A) finding of an inoperable contamination pathway applies to planned Project operations. The assessment of Project accidents and malfunctions, including potential effects on country food and country food harvesting areas, is set out in Volume 10, Section 34 (Accidents and Malfunctions) and is further addressed in the response to KAA-3 (IR-03).

E) Intergenerational transfer of harvesting knowledge. Assessed in Volume 9, Section 24.3.6.3 (Change to Cultural Transference), which states: "*Opportunities for cultural transference are understood to emerge through access to traditionally harvested resources and traditional land use sites, ability to engage in cultural practices, and ability to transmit knowledge and language to current and future generations.*" Volume 9, Section 25 and Section 26 also address cultural continuity and community wellness pathways relevant to intergenerational knowledge transfer.

3) **Mitigation Measures to Reduce Impacts on Harvesting Activities and Travel Safety**

Mitigation measures applicable to harvesting and travel safety are documented across the Volume 9 VC assessments and the Volume 11 Management Plans.

Volume 9, Section 24 sets out mitigation, management, and enhancement measures at Table 24.12 (Change in Quality, Quantity, or Distribution of TLMRU Resources), Table 24.14 (Change to Specific Areas of Cultural Importance where TLMRU Occurs), Table 24.15 (Change in Access to Resources, Sites, or Areas where TLMRU Occurs), and Table 24.16 (Change to the Cultural Practices, Laws, and Governance Systems that Inform how TLMRU Occurs), including measures to manage access to harvesting areas, support continued use of cabins and culturally important areas, and address sensory disturbance to wildlife of harvesting importance.

Access controls and road management. Access management and road safety is described in Volume 11, Appendix 37A, Section 5.1. Access to the Grays Bay Road will be controlled through agreements with user groups, with security gates at the Grays Bay Port and Jericho Station, and prior approval (permit) issued jointly by the Kitikmeot Inuit Association and the Hunters and Trappers Organizations authorizing access to the road for harvesting purposes. Wildlife protection measures applicable to road access are also set out in the Road Management Plan, Section 6 (Wildlife Protection Measures) and the Wildlife Mitigation and Monitoring Plan (WMMP; Volume 11, Appendix 37B, Section 7.1).

4) **Monitoring Programs for Country Food Quality and Food Security**

The Socio-economic Monitoring Plan (SEMP; Volume 11, Appendix 37K) will include framework for monitoring socio-economic conditions, and states "The SEMP will track Project effects, including food-related indicators. Annual reporting will support early identification of trends and help inform responsive measures if conditions change" (Volume 11, Appendix 37K, Section 2).

In addition, Volume 9, Section 26 (Community Health and Well-being) addresses country food monitoring and risk communication as part of the Community Health and Well-being mitigation framework. As established in the Human Health and Ecological Risk Assessment, the actual chemical contamination pathway for country food is assessed as an inoperable pathway (Appendix 26A, Section 4.1.2.5). Country food monitoring under Section 26 is therefore framed as both confirmatory (verifying the no-contamination prediction over time) and responsive to community confidence concerns.

The SEMP included in Volume 11 of the IS has been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

5) **Role of KAA and Local Harvesters in Ongoing Monitoring and Adaptive Management**

The Environmental Management System framework governing Volume 11 monitoring plans and programs, including the WMMP (Volume 11, Appendix 37B) and SEMP (Volume 11, Appendix 37K) states: "Monitoring programs will be developed with consideration of feedback from Inuit organizations, such as Hunters and Trappers Organizations and the Kitikmeot Inuit Association, as well as regulators, to align monitoring indicators and methods with Inuit perspectives, community priorities, and regulatory requirements" (Volume 11, Section 37.1.1, Page 37-1).

The specific mechanisms of the Kugluktuk Angoniatit Association's role in ongoing monitoring and adaptive management of harvesting, travel, and food security effects will be developed through ongoing engagement and through the regulatory mechanisms that follow the NIRB Project Certificate.

KAA-6 (IR-06)

Subject

Community benefits, employment, and contracting commitments

Issue / Concern

The Impact Statement references employment, training, and economic opportunities associated with the Project. However, KAA requires greater clarity regarding how Kugluktuk residents, KAA members, Inuit workers, and local businesses will benefit in practice over both construction and operations.

Detailed information is required regarding commitments, targets, procurement approaches, training investments, and long-term community benefit mechanisms.

Information Request

1) *Please provide projected employment numbers for Kugluktuk residents during construction and operations.*
2) *Please provide details regarding Inuit employment targets and retention strategies.*
3) *Please explain what training programs are proposed specifically for Kugluktuk residents.*
4) *Please provide details regarding procurement policies and how local businesses and Inuit-owned businesses will be prioritized.*
5) *Please explain whether WKR intends to negotiate formal benefit agreements or monitoring committees involving KAA.*
6) *Please explain how WKR will publicly report on employment, contracting, and Inuit participation outcomes over the life of the Project.*

Proponent Response

The Project's framework for community benefits, employment, training, procurement, and Inuit participation is set out in Volume 2 (Project Description), Volume 9, Section 27 (Employment and Economy), Volume 11, Appendix 37J (Inuit Human Resources and Business Development Plan), and Volume 11, Appendix 37K (Socio-economic Monitoring Plan [SEMP]). The following addresses each of the six sub-parts of the Information Request.

1) **Projected Employment Numbers for Kugluktuk Residents During Construction and Operations**

   The IS does not project employment numbers at the level of specific residents of Kugluktuk. Total workforce requirements during Construction and Operations and Maintenance are set out in Volume 2, Sections 2.5.2.2 (Construction Workforce) and 2.5.2.3 (Operations and Maintenance Workforce).

Specific community-resident employment outcomes will depend on hiring outcomes through the Inuit recruitment, training, and retention programs established in the Inuit Human Resources and Business Development Plan; training and skills development outcomes achieved over the Construction phase; the capacity of partner organizations, contractors, and Project users to deliver Inuit-prioritized hiring; and ongoing engagement with the Kugluktuk Angoniatit Association, the Kitikmeot Inuit Association, and other Kitikmeot communities.

The SEMP identifies the following indicators for tracking employment by community of residence: "Percentage of Inuit employees or FTEs; Number of local hires by community; Workforce by Project phase" (Volume 11, Appendix 37K, Table 2.1, Page 4).

Employment outcomes for Kugluktuk residents will therefore be tracked through the Socio-economic Monitoring Plan and reported annually through the Plan's reporting framework (further addressed in the response to Sub-part 6 below).

2) **Inuit Employment Targets and Retention Strategies**

Volume 9, Section 27 (Employment and Economy) sets out WKR's Nunavummiut employment targets and predictions for both Project phases, including a specific Operations and Maintenance target and an aspirational objective to increase Nunavummiut representation over time. The Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J) establishes the strategy supporting this target:

> *"A Labour Relations Strategy to enhance and retain local Inuit employment through preferential hiring opportunities, clear communication of employment opportunities, and supportive workforce practices. The strategy will outline skills and entrance requirements, employee benefits, work rotation schedules, orientation, and ongoing support programs to promote employee retention and wellbeing."* (Volume 11, Appendix 37J, Section 3)

Supporting policies (Volume 11, Appendix 37J, Section 3.1.1) prioritize Inuit hiring, communicate opportunities through accessible community channels, and provide employee support services to reduce barriers to retention.

Specific thresholds or targets for tracking preferential Inuit hiring measures are addressed in the SEMP (Volume 11, Appendix 37K). The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

3) **Training Programs Proposed Specifically for Kugluktuk Residents**

Volume 9, Section 27 documents mitigation, management, and enhancement measures for education and training as part of the effects assessment (Volume 9, Section 27.3.5.2).

The Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J, Section 3.2 Training Strategy) establishes the framework for training and skills development for Project employment:

> *"A Training Strategy to identify the skills required for Project employment and support Inuit and youth participation through pre-employment, on-the-job, and apprenticeship training. Training will be delivered in collaboration with Inuit organizations and educational institutions, using community-based facilities or mobile training units where feasible, to build long-term regional workforce capacity."* (Volume 11, Appendix 37J, Section 3)

Section 3.2 further commits, where practicable and where feasible, to apprenticeship and skills development, youth employment opportunities, career awareness and school outreach, and mentorship connecting Inuit youth with Project professionals (Volume 11, Appendix 37J, Section 3.2, Pages 7–8).

Training programs that benefit Kugluktuk residents, alongside other Kitikmeot Inuit, will be developed in further detail through the Inuit Human Resources and Business Development Plan, consistent with WKR's Volume 11 plan-update commitment described in sub-part 2 above (Volume 11, Page 37-6).

4) **Procurement Policies and Prioritization of Local and Inuit-Owned Businesses**

Volume 9, Section 27 documents mitigation, management, and enhancement measures for contracting and business opportunities as part of the effects assessment (Volume 9, Section 27.3.6.2). The Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J) sets out the Project's procurement intent through the Procurement Strategy:

> *"A Procurement Strategy to prioritize Inuit and regional businesses by facilitating access to contracting opportunities at the Project and structuring procurement packages to be accessible to local suppliers. Where practical, the strategy will emphasize the use of local equipment and services to increase regional economic benefits and reduce reliance on externally sourced resources."* (Volume 11, Appendix 37J, Section 3)

Specific procurement policies, targets, and contract structuring will be developed in the Final Plan in collaboration with the Kitikmeot Inuit Association and other Inuit organizations, consistent with WKR's Volume 11 plan-update commitment described in sub-part 2 above (Volume 11, Page 37-6). Procurement outcomes will be tracked through the SEMP (Volume 11, Appendix 37K).

5) **Formal Benefit Agreements and Monitoring Committees**

Formal Benefit Agreements. WKR has offered to establish a formal benefit agreement with respect to the Project with the Kitikmeot Inuit Association. WKR will involve other organizations in these negotiations as directed by the Kitikmeot Inuit Association.

Monitoring committees — Kitikmeot Socio-Economic Monitoring Committee. The Socio-economic Monitoring Plan (Volume 11, Appendix 37K, Section 1.2) identifies the Kitikmeot Socio-Economic Monitoring Committee as the regional monitoring committee with which WKR will coordinate.

> *"In consultation with the Kitikmeot Socio-Economic Monitoring Committee, WKR will identify the role it will take in regional monitoring initiatives, including how the Project's monitoring plans will align with those of the Kitikmeot Socio-Economic Monitoring Committee."* (Volume 11, Appendix 37K, Section 1.2, document page 2, PDF page 8164 of 8171)

Monitoring committees — Inuit Environmental Advisory Committee (IEAC). "*In collaboration with the Kitikmeot Inuit Association, WKR will develop an IEAC (as a successor to the current Inuit Advisory Group) to review and provide feedback on the Project's monitoring and management plans with regards to study designs, the inclusion of monitors, monitoring findings, and adaptive management strategies, where applicable. Where possible, WKR will include relevant HTOs, Inuit land users, Elders, and Knowledge Holders in the membership of the group and will demonstrate its consideration for community input and Inuit and Community Knowledge as part of the group's function.*" (Volume 3, Table 6.4, document page 6-18, PDF page 1177 of 8171)

WKR is committed to continued engagement with the Kugluktuk Angoniatit Association on Project matters affecting Kugluktuk residents, including engagement on employment, training, procurement, and community benefit outcomes. The specific mechanisms for KAA participation in monitoring and adaptive management of socio-economic effects will be developed through ongoing engagement, through coordination with the Kitikmeot Socio-Economic Monitoring Committee, and through the regulatory mechanisms that follow the NIRB Project Certificate.

6) **Public Reporting on Employment, Contracting, and Inuit Participation Outcomes**

The reporting framework is established through the SEMP (Volume 11, Appendix 37K) and the Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J).

On monitoring approach, the SEMP states: "*Monitoring will draw primarily on WKR human resources, training, procurement, and transportation records, as well as aggregated information provided by third party service providers and contractors, where applicable*" (Volume 11, Appendix 37K, Section 2). On reporting frequency and audience, the SEMP states: "*Monitoring activities will be conducted throughout construction and operations, with results summarized and reported through annual socio-economic monitoring submissions to NIRB, or as required by regulatory authorities. Annual reports will be submitted to NIRB, and other interested parties as required*" (Volume 11, Appendix 37K, Section 3).

Annual reports submitted to NIRB are made publicly accessible through NIRB's public registry, providing public availability of socio-economic monitoring outcomes, including employment, training, and procurement indicators. WKR is also committed to providing these reports on its website for download.

Adaptive management will be applied where monitoring indicates mitigation measures are not achieving intended outcomes or targets (Volume 11, Appendix 37K, Section 4):

> *"Where monitoring indicates that mitigation measures are not achieving intended outcomes or targets, WKR will apply adaptive management approaches, which may include additional investigations, modifying implementation methods, enhancing engagement with Inuit organizations and communities, or revising commitments in consultation with regulators."* (Volume 11, Appendix 37K, Section 4)

The specific format, frequency, and audience of reporting will be developed in further detail through the Final Plans, consistent with WKR's Volume 11 plan-update commitment described in sub-part 2 above (Volume 11, Page 37-6).

KAA-7 (IR-07)

Subject

Project Purpose and Need

Issue / Concern

The Projects stated purpose of improved community infrastructure and re-supply appears wholly inconsistent with the fact that neither the road nor the port are connected to any community at any point. The additional justifications for the Project do not contextualize why this location is preferable to one that is within an existing community. The location appears arbitrary and severed from any local purpose. KAA note that the port could serve to advance Canada's sovereignty and security without the road. Furthermore the road location appears arbitrary and ineffective at connecting the port to anything of specific importance, especially given the fact that the road in the NWT is a winter road.

Information Request

1) *The Proponent must explain in more detail why the road is necessary to serve the sovereignty and security objectives of the port – the port can be adequately supplied by ocean going vessels and by air.*
2) *The Proponent must include "port only" as an alternative in their alternatives assessment. They should also include upgrading the port at Tuktoyaktuk as an alternative as there is already road access there.*

Proponent Response

The Project's purpose and need are set out in Volume 2, Section 1.6 (Project Purpose and Need). The alternatives evaluated for the Project are set out in Volume 2, Section 2.4 (Alternatives). The following response addresses each sub-part of the Information Request.

1) **Why the Road is Necessary to Serve the Project's Purposes**

Volume 2, Section 1.6, states:

> *"The Project's principal purpose is to create multi-use infrastructure that will connect the Kitikmeot Region by land and sea, for the benefit of Inuit and Canadians. This vital infrastructure will meet the needs for improved community infrastructure and re-supply, strengthened Inuit and Canadian sovereignty and security over the Northwest Passage, and economic development by unlocking the critical mineral wealth of the Kitikmeot Region.*
>
> *The Project aligns with the economic development and social objectives of the Kitikmeot Inuit Association and the Government of Nunavut. It is also consistent with the ongoing territorial and federal strategies – released from the early 2000s to present – that supports the need for infrastructure development, increased defence presence, and critical mineral access in the north*

(EDT 2007, 2009; NTI 2020; NRCan 2022; DND 2024). To meet these objectives, the Project will provide a controlled access, multi-user, multi-use transportation system to serve existing and foreseeable future needs in the Kitikmeot Region." (Volume 2, Section 1.6)

The Project's stated purpose is therefore not limited to community resupply or sovereignty objectives in isolation; it is a multi-use infrastructure project that meets three interrelated objectives — Economic, Community and Social, and, Sovereignty and Security. The road and port together enable these purposes.

Specifically with respect to sovereignty and security, establishing the first road connection between Arctic deep-water and southern Canada does have security and sovereignty benefits.

As stated in section 1.6.1.2:

"The Project's winter road connection to southern Canada will provide the opportunity to stage supplies and equipment at the port that are too large, too heavy, or not cost-efficient to deliver by air, to be loaded in vessels during the open water season. This road connection can also support winter security operations and training exercises, such as Operation Nanook-Nunalivut (DND 2025)." (Volume 2, Section 1.6.1.2, Page 1-22)

However, these benefits are interlinked with other project purposes and benefits, such as community resupply and economic development.

2) **Inclusion of "Port Only" and "Upgrading the Port at Tuktoyaktuk" as Alternatives**

The Project's location and design are the product of a decades-long, Inuit-led process. WKR and previous proponents have engaged with Kitikmiut, other Indigenous groups, and potentially affected communities on the Project since 2016 (Volume 3, Section 4.1). The alternatives evaluation in Volume 2, Section 2.4 considered three project location options: Option 1 (Port East of Kugluktuk and Road to Izok Lake), Option 2 (Bathurst Inlet Road and Port), and Option 3 (Grays Bay Road and Port Project, the preferred location), selected and advanced by the Government of Nunavut and the Kitikmeot Inuit Association in 2017, based on their assessment of alternatives. This location has direct access to the Northwest Passage, direct or spur road access to every major mining project in the region, and overland access to southern Canada. The location between Kugluktuk and Cambridge Bay provides a centrally located hub for marine transportation and safety. (Volume 2, Section 2.4, Table 2.2, Page 2-16). The Impact Statement also documents the "no Project" counterfactual, addressing continued reliance on barge and sealift resupply and the loss of the opportunity to strengthen sovereignty assertion through strategic infrastructure (Volume 2, Section 2.4, Page 2-11).

a) **"Port only" alternative**

An alternative that removes the road would not deliver the Project's stated purposes as described in Volume 2, Section 1.6. Specifically, a port-only configuration would not deliver: the sovereignty and security purpose to its full extent, which significantly benefits from the road to enable winter staging, security operations and training exercises (Volume 2, Section 1.6.1.2); the mineral

resource access purpose, which requires "all-season road access to deep water ports" for base metals projects (Volume 2, Section 1.6.2, document page 1-23, PDF page 1077 of 8171); or the community resupply purpose, which depends on the road's connection to the Tibbitt to Contwoyto Winter Road and to year-round overland access (Volume 2, Section 1.6.3). The alternatives assessment in Volume 2, Section 2.4 evaluated alternatives within the Project's scope, including alternative port siting locations within Grays Bay (Volume 2, Section 2.4, Table 2.3 [Port Site Location within Grays Bay]), alternative wharf structure types, and alternative road types (all-season road versus winter road), each evaluated against the Project's stated purposes.

b) **"Upgrading the port at Tuktoyaktuk" as an alternative**

Tuktoyaktuk falls outside the scope of alternatives capable of serving the Project's stated purpose. Volume 2, Section 1.6 defines the Project's purpose as connecting the Kitikmeot Region by land and sea and unlocking the critical mineral wealth of the Kitikmeot Region; Tuktoyaktuk, located in the Northwest Territories, would not serve the Project's stated purposes of connecting Kugluktuk and Cambridge Bay or providing access to the Slave Geological Province mineral deposits within the Kitikmeot Region. Tuktoyaktuk is also located within the Inuvialuit Settlement Region (ISR), governed by the Inuvialuit Final Agreement (IFA) with its own environmental assessment process and Inuit and Indigenous rights-holders, distinct from the Nunavut Agreement and the Nunavut Impact Review Board process under which this Project is assessed. WKR's engagement with the ISR in the context of the Project is documented in Volume 3 (Public Engagement) and addressed in Volume 10, Section 33 (Transboundary Effects Assessment), reflecting the transboundary nature of certain Project elements during Construction (such as marine vessel routes through the Inuvialuit Settlement Region and the supply route through ports in the Inuvialuit Settlement Region during initial mobilization). These transboundary considerations are distinct from the alternatives assessment for the Project's location and design.

Beyond these scope considerations, it is noted that the Port of Tuktoyaktuk is located close to the mouth of the Mackenzie River within the large Beaufort-Mackenzie sedimentary basin. This basin is a zone of sediment deposit for the Mackenzie River. As a result, the Port of Tuktoyaktuk suffers from a shallow approach channel and a high degree of in-fill silting, which makes it a difficult location for a deep-water port.

KAA-8 (IR-08)

Subject

Integration of Inuit and Indigenous Perspectives into Project Design

Issue / Concern

Volume 3 states that Inuit Knowledge, Indigenous Knowledge, and Community Knowledge were integrated into the IS and project planning. It is not clear how concerns or recommendations from these groups changed project design, mitigation measures, routing, or significance determinations.

Information Request

KAA Requests the Proponent provide specific example where community and Indigenous groups, specifically KAA, directly influenced project decisions and examples where feedback resulted in changes to the Project.

Proponent Response

The Project's framework for integrating Inuit Knowledge, Indigenous Knowledge, and Community Knowledge into the assessment and design is set out in Volume 3, Section 5.4 (Integration into Engagement Methods and the Assessment) and Section 6.3 (Engagement Details and Outcomes). This response provides specific examples of incorporation, refinement, or commitment within the Project.

Engagement with the Kugluktuk Angoniatit Association

WKR has engaged with the Kugluktuk Angoniatit Association on the Project virtually and in person on six recorded occasions between April 2024 and September 2025 (Volume 3, Appendix 6C, Table 6C.1).

These engagements included a discussion of the Project, Inuit Knowledge integration, the Inuit Advisory Group, and a request to appoint a member of the Association as a special advisor to the IAG (Volume 3, Appendix 6C). WKR also presented at the Kitikmeot Regional Wildlife Board's Annual General Meeting in 2024 and 2025, where members of KAA were in attendance. Further to these meetings, WKR has reached out to the KAA 80+ times via email and phone to arrange regular Project updates via attendance in regular board meetings or through project-specific workshops.

Approach to Integration of Knowledge

The IS uses three principal sources of Knowledge, applied in accordance with the methodology set out in Volume 3, Section 4: Inuit Knowledge from the Naonaiyaotit Traditional Knowledge Project (NTKP) report, used under licence from the Kitikmeot Inuit Association (Volume 2, Section 1.2); Community Knowledge gathered through the Inuit Advisory Group (IAG) and WKR's project-specific engagement program (Volume 3, Section 4.1.3; Section 6.3.2; Appendix 6A; Appendix 6C); and community-based primary research, including 61 interviews with 70 community members in five Kitikmeot communities in October and November 2024 (Volume 3, Section 4.1.3; Appendix 6D).

Specific Examples of Engagement and Knowledge Influence on Project Decisions

Kugluktuk Angoniatit Association-specific examples of engagement influence:

Provision for road access for harvesting purposes. In response to community feedback that land users would want to use the road to reach harvesting areas, the Road Management Plan establishes a permit framework under which the Kitikmeot Inuit Association and the Hunters and Trappers Organizations jointly issue permits authorizing access to Project infrastructure for harvesting purposes: "Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA)." (Volume 11, Appendix 37A, Section 5.1.1, document page 10, PDF page 7790 of 8171). These permits authorize access to the infrastructure only; harvesting itself remains governed by the existing Nunavut Hunting Regulations.

Baseline conditions informed by Kugluktuk-specific Knowledge. Volume 3, Section 5.4.3 states that "interviews conducted in Cambridge Bay and Kugluktuk in October and November 2024 documented changes in sea ice thickness and caribou movements that informed baseline conditions."

WKR acknowledges that Kugluktuk Angoniatit Association has provided two Inuit Knowledge reports for review and consideration in the IS. WKR commits to reviewing and integrating these sources, where applicable. WKR appreciates Kugluktuk Angoniatit Association sharing these sources and looks forward to continued discussions on the matter.

Documented issue categories. Volume 3, Table 6.2 records Kugluktuk Angoniatit Association by name as having raised issues addressed in the IS under wildlife movement/migration (Volume 6, Sections 16.4.1, 16.4.3), wildlife mortality (Sections 16.4.1–16.4.4, 18.4.3), shipping effects (Volume 7, Section 20.3; Volume 8, Sections 22.3, 23.3), and travel/access (Volume 9, Section 24.3.4). WKR's response and the IS section in which each issue is assessed are set out in full in Volume 3, Table 6.2. Table 6.2 documents where each issue is assessed rather than a specific Project design change resulting from the Kugluktuk Angoniatit Association's input.

Broader community and Indigenous group examples of engagement influence:

Project location and alternatives assessment

Volume 2, Section 2.4 states that:

> *"concepts for the Project have been evolving for over 30 years... alternatives have been evaluated using criteria informed by and/or based on the consideration of Inuit, Indigenous, and Community Knowledge."* The current alignment was selected and advanced by the Government of Nunavut and the Kitikmeot Inuit Association in 2017, based on their assessment of alternatives (Volume 2, Section 2.4, Table 2.2).

The project location, design, and purpose were all established by Inuit after decades of consideration and work on other alternatives. Every fundamental aspect of the project is the direct result of Inuit leadership and decision-making.

While there are other examples of community input into Project decision making, they are smaller scale.

Construction timing — fish in watercourses

The Kugaaruk HTO recommended that construction during spring and fall be avoided when fish can be found in watercourses. This feedback *"influenced the timing of planned road construction activities"* (Volume 3, Section 5.4.7).

Construction timing — caribou migration and calving

Community members in Gjoa Haven expressed concern about caribou calving areas and requested that surveys, field studies, or operations not occur during calving periods in mid-June (Volume 3, Section 5.4.7). Volume 3, Section 5.4.7 states this feedback *"influenced the timing of planned road construction activities."*

Significance criteria informed through the Inuit Advisory Group

Volume 3, Section 5.4.6 documents that significance criteria were discussed with Kitikmiut through the IAG, with feedback identifying nine priorities including: that Inuit perspectives are considered and addressed in project design; that the Project is located where community members can benefit; that the Project does not negatively affect peoples' ability to harvest caribou and put food on the table; that water and wildlife are protected; that healthy caribou herds are supported (including predator management); that the Project provides access for hunters and supplies for hunters at both Grays Bay and Jericho; that the Project reduces the cost of living; that the Project provides employment opportunities; and that the Project provides training opportunities (Volume 3, Section 5.4.6).

Community ferry service and community trail commitments

Volume 2, Section 1.6.3 commits:

> *"WKR will work with communities to explore options to make travel from Kugluktuk and Cambridge Bay to Grays Bay Port easier and safer (e.g., supporting community ferry service, improving access to community trails)."* (Volume 2, Section 1.6.3, document page 1-25, PDF page 1079 of 8171)

This commitment resulted from a discussion with the Inuit Advisory Group where it was suggested that the port area needs to be easier and safer to reach.

Predator Control

In Volume 9, Section 24.3.3, the IAG recommends that the Project "*[i]mplement Inuit-led predator control measures*" following feedback during an IAG workshop that while caribou will eventually adapt to the Project, it is important to control predators such as wolves when caribou are most vulnerable. Addressing this commitment will continue to be explored through the IAG and management planning.

Continued Engagement.

WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association, to discuss any specific matters where Kugluktuk Angoniatit Association seeks confirmation of how a particular concern or recommendation was considered or incorporated into the Project.

WKR has also committed that:

> "*WKR will inform those engaged on how their input has been considered, whether incorporated into the Project or not. This will occur through ongoing engagement activities."* (Volume 3, Section 6.3.4)

KAA-9 (IR-09)

Subject

Reconciling Perspectives

Issue / Concern

Section 5.5 states that the Proponent considered and attempted to reconcile differing perspectives raised through engagement. However, the IS does not clearly identify which concerns raised by Inuit, Indigenous groups, or communities remain unresolved or were not incorporated into the Project.

Information Request

KAA requests a summary of concerns or recommendations raised during engagement that could not be incorporated into Project design, mitigation measures, monitoring or assessment conclusions, and why they were not accommodated.

Proponent Response

The Project's approach to reconciling differing perspectives raised through engagement is set out in Volume 3, Section 5.5 (Reconciling Perspectives) and Section 6.3.4 (Reporting and Updates). A comprehensive, issue-by-issue record of concerns raised during engagement, the organizations that raised them, WKR's response, and the IS section in which each is addressed is provided in Volume 3, Section 6.3.3 (Table 6.2). This response summarizes concerns or recommendations raised during engagement that were considered but could not be incorporated, partially incorporated, or are subject to ongoing engagement, and the rationale for those outcomes, consistent with the commitment that

> *"WKR will inform those engaged on how their input has been considered, whether incorporated into the Project or not. This will occur through ongoing engagement activities."* (Volume 3, Section 6.3.4, document page 6-15, PDF page 1174 of 8171).

This response complements the response to KAA-8 (IR-08), which addresses examples of incorporation; Kugluktuk Angoniatit Association-specific recommendations and how each was incorporated, addressed, or rejected are addressed in the response to KAA-11 (IR-11).

The Project itself is the product of decades of consideration by Inuit. Volume 2, Section 2.4 states that *"concepts for the Project have been evolving for over 30 years"*, with a considerable number of studies of alternative means of carrying out the Project conducted over that period. Since 2016, WKR and previous proponents have engaged extensively with Kitikmiut, other Indigenous groups, and potentially affected communities to build a general understanding of community priorities and preferences (Volume 3, Section 4.1). Consistent with this, engagement feedback most often takes the form of broad priorities, values, and preferences rather than site- or design-specific direction, and informs the assessment accordingly: as Volume 3, Section 5.4.1 states, *"the scope has taken the influence of Inuit, Indigenous, and Community Knowledge into consideration"* in each Valued Component assessment,

with *"a summary of this feedback along with WKR's response to the feedback and whether and how it has been further integrated into the IS... included in each VC baseline conditions section."* The Project's alternatives assessment, including the evaluation of Project location and road alignment options, is addressed in response to KAA-7 (IR-07).

Concerns Considered but Not Incorporated

Alternative road alignment to avoid mapped caribou calving habitat not carried forward

Caribou calving concerns were raised through engagement, specific to road alignment and mapped core calving area overlap (Volume 3, Section 5.4.7). Within the preferred Grays Bay alignment, an alternate road alignment was evaluated to avoid overlap with mapped core calving habitat for the Bathurst caribou herd. As documented in Volume 2, Section 2.4:

> *"In 2016, an alternate road alignment was evaluated to avoid overlap of the published mapping of core calving grounds from the Government of Nunavut, which have subsequently been used in the Nunavut Planning Commission's Draft Nunavut Land Use Plan. This alignment was not carried forward based on the additional 50% length added to the road, two bridge crossings that would be greater than 100 m in length, the more rugged topography with a higher number of valleys and hills that would increase the road footprint and require additional fill areas; all of these resulted in additional design and construction costs for the road and less desirable vehicle operation and safety considerations. Therefore, this route option was not carried forward." (Volume 2, Section 2.4, document page 2-12, PDF page 1091 of 8171)*

The preferred Grays Bay alignment is described in Volume 2, Section 2.4, Table 2.2 as being "west of the observed Bathurst caribou core calving area, outside of Bluenose East calving area and annual range entirely." (Volume 2, Section 2.4, Table 2.2, document page 2-16, PDF page 1095 of 8171) Mitigation measures applicable to caribou and other wildlife along the preferred alignment are addressed through the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B) and the Road Management Plan (Volume 11, Appendix 37A).

Concerns Addressed Through Different Means Than Proposed

Some concerns raised through engagement have been addressed through mitigation measures, monitoring commitments, or management plan provisions that may differ from the specific approach proposed during engagement (Volume 3, Section 6.3.3, Table 6.2). For example, concerns regarding the effects of vessel traffic on marine fish and marine mammals, raised by multiple Inuit and Indigenous organizations including the Kugluktuk Angoniatit Association (Volume 3, Table 6.2 “Shipping effects”), are addressed through Volume 8 marine fish and marine mammal assessments (Sections 22, 23), the Port Management Plan (Volume 11, Appendix 37I), and the Risk Management and Emergency Response Plan (Volume 11, Appendix 37H). The specific mitigation and monitoring approach adopted reflects the integration of multiple inputs, including engagement feedback, technical analysis, and regulatory requirements.

Concerns Subject to Ongoing Engagement, Adaptive Management, and Regulatory Processes

Several matters raised through engagement will be developed in further detail through ongoing engagement, adaptive management, or the regulatory processes that follow the NIRB Project Certificate. These include:

Specific operational details for the management plans (Road Management Plan, Wildlife Mitigation and Monitoring Plan, Spill Contingency Plan, Risk Management and Emergency Response Plan, Progressive Reclamation Plan, Socio-economic Monitoring Plan, and others), which are conceptual at the IS submission stage (further addressed in the responses to KAA-2 [IR-02], KAA-3 [IR-03], KAA-4 [IR-04], KAA-5 [IR-05], and KAA-6 [IR-06]).

Detailed reclamation security requirements for temporarily disturbed areas (further addressed in the response to KAA-4 [IR-04]).

Specific benefit agreement provisions between WKR and the Kitikmeot Inuit Association (further addressed in the response to KAA-6 [IR-06]).

Specific mechanisms for KAA participation in ongoing monitoring and adaptive management of the Project (further addressed in the responses to KAA-2 [IR-02], KAA-3 [IR-03], KAA-5 [IR-05], KAA-6 [IR-06], KAA-10 [IR-10], and KAA-11 [IR-11]).

Country food monitoring program details, including specific indicators, sampling locations, and frequencies, to be determined as the Socio-economic Monitoring Plan is developed (further addressed in the response to KAA-5 [IR-05]).

Long-term ownership and liability arrangements for the permanent infrastructure, which are addressed through the regulatory mechanisms that follow the NIRB Project Certificate (further addressed in the response to KAA-4 [IR-04]).

Concerns Relating to Broader Regulatory Framework Matters

Some concerns raised through engagement relate to broader regulatory framework matters that are addressed through regulatory processes outside the NIRB review of this Project. These include the development of the Nunavut Land Use Plan, which is under the authority of the Nunavut Planning Commission (further addressed in the response to KAA-1 [IR-01]), and the cumulative effects of induced development and the broader resource development context, which are addressed through the cumulative effects assessment framework (further addressed in the responses to KAA-12 (IR-12) and KAA-60 through KAA-64 [IR-60 through IR-64]).

Continued Engagement and Reporting

WKR will continue to engage with the Kugluktuk Angoniatit Association and other affected parties to discuss specific concerns or recommendations and to report on how each has been considered. WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association, to discuss any specific concerns or recommendations where Kugluktuk Angoniatit Association seeks confirmation of how a matter was considered and the rationale for the outcome.

KAA-10 (IR-10)

Subject

Governance, Inuit participation, and adaptive management

Issue / Concern

The Impact Statement references engagement and the use of Inuit Knowledge; however, KAA requires greater clarity regarding how Inuit organizations and harvesters will participate in Project governance, monitoring, and adaptive management throughout the life of the Project. KAA is concerned that ongoing community participation and decision-making roles have not been sufficiently defined. To date, no project specific IQ study has been conducted with KAA members. The Proponent relies on data collected in previous IQ studies that were completed without Project specific context.

Information Request

1) *Please explain how Inuit Knowledge influenced Project routing, design, mitigation, and monitoring decisions.*
2) *Please provide details regarding proposed governance structures, advisory committees, or co-management mechanisms involving Inuit organizations and harvesters.*
3) *Please explain how KAA will participate in:*
   - *A) environmental monitoring;*
   - *B) wildlife monitoring;*
   - *C) marine monitoring;*
   - *D) adaptive management decisions;*
   - *E) review of monitoring results.*
4) *Please explain how monitoring information and Project performance reporting will be shared with Kugluktuk and KAA.*
5) *Please explain whether long-term funding will be provided to support community participation in monitoring and technical review activities.*

Proponent Response

The Project's framework for governance, Inuit participation, monitoring, and adaptive management is set out in Volume 3 (Inuit Knowledge, Indigenous Knowledge, and Community Knowledge and Perspectives), Volume 11 (Management Plans), and the dedicated Valued Component assessments in Volumes 5 through 9. The following response addresses each sub-part of the Information Request.

Specific examples of how Inuit Knowledge influenced Project design, mitigation, and monitoring decisions are provided in the response to KAA-8 (IR-08), including direct examples involving the Kugluktuk Angoniatit Association.

This response addresses the governance and adaptive management framework for ongoing Inuit participation. WKR will continue to respond to questions and concerns from Kitikmiut, other Indigenous groups, and other potentially affected communities through its ongoing engagement efforts. Information provided following submission of the IS will be reviewed in the context of the IS and for incorporation into Project planning, including adaptive management and monitoring, as appropriate.

1) **How Inuit Knowledge Influenced Project Routing, Design, Mitigation, and Monitoring Decisions**

   The IS integrates Inuit Knowledge, Indigenous Knowledge, and Community Knowledge through three principal sources: the Naonaiyaotit Traditional Knowledge Project (NTKP) report, used under licence from the Kitikmeot Inuit Association (Volume 2, Section 1.2; Volume 3, Section 4.1.1); Project-specific engagement with the Kugluktuk Angoniatit Association, the Hamlet of Kugluktuk, Kugluktuk community members, the Inuit Advisory Group (IAG), and other Kitikmeot communities and organizations (Volume 3, Section 6; Appendices 6A, 6B, 6C, 6E); and community-based primary research including 61 interviews with 70 community members in five Kitikmeot communities in October and November 2024 (Volume 3, Section 4.1.3; Appendix 6D).

   Specific examples of how Inuit Knowledge, Indigenous Knowledge, and Community Knowledge influenced Project decisions are provided in the response to KAA-8 (IR-08), including:

   - The 2017 selection of the preferred Grays Bay project alternative by the Kitikmeot Inuit Association and the Government of Nunavut, based on connectivity and a centrally located port location for marine transportation and safety (Volume 2, Section 2.4).
   - Construction timing adjustments to address fish and caribou seasonal sensitivity, based on engagement with the Kugaaruk HTO and Gjoa Haven community members (Volume 3, Section 5.4.7).
   - Inclusion of the Beverly caribou herd in the assessment, based on KAA's April 16, 2024 recommendation (Volume 3, Appendix 6C, Table 6C.1).
   - Identification of high potential wildlife crossing locations along the road using Inuit and Community Knowledge (Volume 11, Appendix 37A, Section 6).
   - Use of Kugluktuk-specific knowledge to inform baseline conditions, including changes in sea ice thickness and caribou movements (Volume 3, Section 5.4.3).
   - Significance criteria informed through the IAG, including nine community priorities relating to harvesting, wildlife, water, employment, and training (Volume 3, Section 5.4.6).

WKR's use of Inuit Knowledge in the IS draws on the NTKP report developed under licence from the Kitikmeot Inuit Association, which includes contributions from current and former members of the KAA (further addressed in the response to KAA-5 [IR-05]); Project-specific engagement with KAA (further described in the response to KAA-8 [IR-08]); and Project-specific community-based primary research conducted in Kugluktuk and other Kitikmeot communities in October and November 2024 (Volume 3, Appendix 6D). WKR will continue to engage with KAA on Inuit Knowledge integration through ongoing engagement, including consideration of how additional Inuit Knowledge sources may be integrated where identified.

2) **Governance Structures, Advisory Committees, and Co-Management Mechanisms**

The Project's framework for ongoing governance and Inuit participation is established through the Volume 11 Management Plans and through coordination with the regional Kitikmeot Socio-Economic Monitoring Committee (KSEMC).

As described above, WKR will continue to respond to questions and concerns from Kitikmiut, other Indigenous groups, and other potentially affected communities through its ongoing engagement efforts. As part of this ongoing engagement, Volume 3, Table 6.4 documents WKR's commitment to develop a Project-level advisory mechanism, as a successor to the current Inuit Advisory Group, in collaboration with the Kitikmeot Inuit Association. Benefit-related arrangements (employment, training, procurement) are addressed separately through a benefits agreement that WKR has offered to establish with the Kitikmeot Inuit Association (further addressed in the response to KAA-6 (IR-06). WKR will also coordinate with the regional Kitikmeot Socio-Economic Monitoring Committee on alignment of Project monitoring with regional initiatives (Volume 11, Appendix 37K, Section 1.2).

Kitikmeot Socio-Economic Monitoring Committee (KSEMC). The Socio-economic Monitoring Plan identifies WKR's intent to coordinate with the regional Kitikmeot Socio-Economic Monitoring Committee on regional monitoring initiatives, including alignment of the Project's monitoring plans with those of the Committee (Volume 11, Appendix 37K, Section 1.2). The detail of WKR's role in this coordination will be developed through advancement of the Socio-economic Monitoring Plan and through ongoing engagement with the Committee.

Engagement with Inuit and Indigenous governments and organizations across the management plans. The Volume 11 Management Plans establish frameworks for engagement with Inuit and Indigenous governments and organizations during implementation. These include the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B), the Socio-economic Monitoring Plan (Volume 11, Appendix 37K), the Road Management Plan (Volume 11, Appendix 37A), the Spill Contingency Plan (Volume 11, Appendix 37H, Attachment H5), the Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J), and other applicable Plans.

3) **KAA Participation in Environmental, Wildlife, and Marine Monitoring; Adaptive Management Decisions; and Review of Monitoring Results**

Monitoring programs across the Volume 11 Management Plans are structured to reflect Inuit Knowledge and Inuit organization input. Volume 11, Section 37.1.1 states that monitoring programs "will be developed with consideration of feedback from Inuit organizations, such as Hunters and Trappers Organizations and the Kitikmeot Inuit Association, as well as regulators, to align monitoring indicators and methods with Inuit perspectives, community priorities, and regulatory requirements," and that "community based monitoring, such as Guardians initiatives, may be carried out entirely by Inuit organizations, with support from WKR..., whereas monitoring required under regulatory authorizations will be carried out by WKR, with opportunities for Inuit participation" (Volume 11, Section 37.1.1, Page 37-1). Within this framework, KAA participation in monitoring and adaptive management activities will be provided through the IEAC together with the specific Plan-level engagement and adaptive management frameworks in the Environmental Protection Plan (Appendix 37H), Wildlife Mitigation and Monitoring Plan (Appendix 37B), and Port Management Plan (Appendix 37I).

- Environmental monitoring. Environmental monitoring is established through the Environmental Protection Plan (Volume 11, Appendix 37H) and supporting plans. Engagement with Inuit and Indigenous governments and organizations during environmental monitoring implementation is provided through ongoing engagement.
- Wildlife monitoring. The Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B) establishes the framework for wildlife monitoring and adaptive management, including consultation with the Kitikmeot Inuit Association, the Government of Nunavut, and the Government of Northwest Territories.
- Marine monitoring. Marine monitoring is established through the Port Management Plan (Volume 11, Appendix 37I) and the WMMP marine components. Engagement on marine monitoring is provided through ongoing engagement.
- Adaptive management decisions. Adaptive management commitments are established across the Volume 11 Management Plans, including the Socio-economic Monitoring Plan (Volume 11, Appendix 37K, Section 4), which sets out the adaptive management approach to be applied where monitoring indicates mitigation measures are not achieving intended outcomes or targets.
- Review of monitoring results. Monitoring results will be reported through the Socio-economic Monitoring Plan reporting framework (Volume 11, Appendix 37K) and the Wildlife Mitigation and Monitoring Plan reporting framework (Volume 11, Appendix 37B), with KAA review and input provided through ongoing engagement.

4) **Sharing of Monitoring Information and Project Performance Reporting**

The Project's reporting framework will be established through the Volume 11 Management Plans and through the regulatory mechanisms that follow the NIRB Project Certificate, submissions to NIRB made publicly accessible through NIRB's public registry and WKR's website.

Socio-economic Monitoring Plan reporting. The Socio-economic Monitoring Plan (Volume 11, Appendix 37K, Section 3) sets out the framework for annual socio-economic monitoring submissions to NIRB and to other interested parties as required. Reports submitted to NIRB are made publicly accessible through NIRB's public registry and WKR's website. The detail of the reporting framework, including format and frequency, will be developed through advancement of the Socio-economic Monitoring Plan and through the regulatory mechanisms that follow the NIRB Project Certificate.

Inuit Human Resources and Business Development Plan reporting. The Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J, Section 4) establishes the reporting framework for labour relations, training, retention, and procurement outcomes, with further information provided through the Socio-economic Monitoring Plan.

Wildlife Mitigation and Monitoring Plan reporting. Volume 11, Appendix 37B establishes the reporting framework for wildlife monitoring outcomes.

Reporting to KAA specifically. As Volume 3, Section 6.3.4 states:"Reporting and Updates: WKR will inform those engaged on how their input has been considered, whether incorporated into the Project or not. This will occur through ongoing engagement activities." WKR is committed to ongoing engagement with the Kugluktuk Angoniatit Association on Project monitoring and performance reporting, as described above.

5) **Long-Term Funding for Community Participation in Monitoring and Technical Review**

Long-term funding arrangements applicable to community participation will be developed through the regulatory mechanisms that follow the NIRB Project Certificate and through a benefits agreement that WKR has offered to establish with the Kitikmeot Inuit Association (further addressed in the response to KAA-6 [IR-06]). WKR is committed to continued engagement with the Kugluktuk Angoniatit Association on the development of these arrangements.

KAA-11 (IR-11)

Subject

Recognition of KAA authority, harvesting rights, and decision-making role

Issue / Concern

KAA is concerned that the Impact Statement generally references Inuit organizations and Inuit Knowledge, but does not clearly recognize the distinct role, authority, expertise, and responsibilities of the Kugluktuk Hunters and Trappers Organization with respect to wildlife harvesting, harvesting management, land use knowledge, and protection of Inuit harvesting rights within the Kugluktuk region.

KAA is further concerned that the Project may proceed in a manner that undermines Inuit harvesting rights, interferes with harvesting activities, and transfers long-term environmental and social risk onto Inuit harvesters and future generations.

Information Request

1) *Please explain specifically how KAA participated in:*
   - *A*) *Project planning;*
   - B) *routing decisions;*
   - *C*) *wildlife effects assessment;*
   - *D*) *marine effects assessment;*
   - *E*) *development of mitigation measures.*
2) *Please identify all recommendations, concerns, or issues raised directly by KAA during engagement activities and explain how each was incorporated, addressed, or rejected.*
3) *Please explain whether WKR recognizes KAA as a primary rights-holder organization with ongoing authority regarding harvesting impacts and wildlife-related monitoring within the Kugluktuk region.*
4) *Please explain whether WKR will commit to obtaining ongoing KAA review and input prior to:*
   - *A*) *changes to shipping activities;*
   - *B*) *increases in traffic levels;*
   - *C*) *expansion of facilities;*
   - *D*) *approval of third-party access arrangements*
   - *E*) *implementation of adaptive management decisions affecting harvesting activities or wildlife.*
5) *Please explain what authority or decision-making role KAA would have if monitoring identifies significant impacts to harvesting, wildlife, or travel safety.*

Proponent Response

The Project's framework for engagement with the Kugluktuk Angoniatit Association (KAA) is set out in Volume 3 (Inuit Knowledge, Indigenous Knowledge, and Community Knowledge and Perspectives). The following response addresses each sub-part of the Information Request.

WKR engaged with Kugluktuk Angoniatit Association on local wildlife harvesting matters and integration of Inuit Knowledge from Kugluktuk harvesters into Project-related matters.

1) **How KAA Participated in Project Planning, Routing, Wildlife and Marine Effects Assessments, and Mitigation Development**

   WKR has engaged with the KAA on the Project on six recorded occasions between April 2024 and September 2025 (Volume 3, Appendix 6C, Table 6C.1), covering Project planning, environmental studies, road alignment, caribou and other wildlife considerations, and the Inuit Advisory Group. Specific examples of how engagement with KAA, other Kitikmeot Hunters and Trappers Organizations, the Kitikmeot Inuit Association, and Kitikmeot communities and Knowledge Holders informed Project decisions are documented in the response to KAA-8 (IR-08). With reference to the five matters identified in this Information Request:

   A) **Project planning.** Engagement with KAA on Project planning is documented in Volume 3, Appendix 6C (Table 6C.1), including the April 16, 2024 introduction of the Project to KAA and discussion of the 2024 environmental studies; the November 5, 2024 discussion of effects on caribou and road alignment; the April 30, 2025 discussion of Inuit Knowledge integration and the Inuit Advisory Group; and the August 12, 2025 tour of the Grays Bay port site. As stated in Volume 3, Section 4.1:

      "*WKR, as well as the previous proponents, the Government of Nunavut and the Kitikmeot Inuit Association, have been engaging on the Project since 2016.*" (Volume 3, Section 4.1, document page 4-1, PDF page 1146 of 8171)

   B) **Routing decisions.** KAA engagement on road alignment is documented in the November 5, 2024 meeting, at which "WKR and Kugluktuk HTO discussed concerns regarding effects on caribou and road alignment" (Volume 3, Appendix 6C, Table 6C.1, document page 6C-9, PDF page 1571 of 8171). The preferred Grays Bay alignment (Option 3) was identified by the Government of Nunavut and the Kitikmeot Inuit Association in 2017 based on connectivity and a centrally located port location for marine transportation and safety (Volume 2, Section 2.4). Within the preferred Grays Bay alignment, an alternate road alignment to avoid mapped Bathurst caribou core calving habitat was evaluated but not carried forward on the grounds set out in Volume 2, Section 2.4 (further addressed in the response to KAA-9 [IR-09]).

C) **Wildlife effects assessment.** KAA's input into the wildlife effects assessment is documented in Volume 3, Appendix 6C, Table 6C.1, and in Volume 3, Section 6.3.3 (Table 6.2), under the issue categories of wildlife movement and migration and wildlife mortality. KAA's specific recommendations on the inclusion of the Beverly caribou herd in the assessment (April 16, 2024) and on snow clearing methodology (April 16, 2024) are documented in Appendix 6C. Wildlife assessment outcomes are addressed in Volume 6 (Sections 16, 17, 18).

D) **Marine effects assessment.** KAA's input into the marine effects assessment is documented in Volume 3, Appendix 6C, Table 6C.1, including KAA's April 16, 2024 observation regarding vessel traffic and fish migration, and in Volume 3, Section 6.3.3 (Table 6.2) under the shipping effects issue category. Marine assessment outcomes are addressed in Volume 8 (Sections 22 and 23).

E) **Development of mitigation measures.** KAA's input contributed to mitigation measures that have been incorporated into the Project, including the identification of high potential wildlife crossing locations using Inuit and Community Knowledge as committed in the Road Management Plan (Volume 11, Appendix 37A, Section 6). Mitigation measures applicable to traditional land, marine, and resource use, including harvesting and travel safety, are set out in Volume 9, Section 24, and in the Volume 11 Management Plans.

2) **Recommendations, Concerns, and Issues Raised by KAA and Their Treatment**

Volume 3, Appendix 6C (Table 6C.1) documents the four recorded in person engagements between WKR and KAA between April 2024 and September 2025, with further virtual meetings, emails and phone calls as described in KAA-8 (IR-08). Volume 3, Section 6.3.3 (Table 6.2) further documents the issue categories raised by KAA and other organizations during engagement, with WKR's response and the IS section in which each issue is assessed and addressed.

Specific recommendations and observations raised by KAA, as documented in Volume 3, Appendix 6C (Table 6C.1), and the treatment of each include:

Beverly caribou herd inclusion (April 16, 2024). KAA "shared that the Beverly caribou herd should be included in the assessment" (Volume 3, Appendix 6C, Table 6C.1, document page 6C-9, PDF page 1571 of 8171). This recommendation is addressed in Volume 6, Section 16.3.5. The treatment of the Beverly/Ahiak herd is addressed further in the responses to GC IR-02 (IR-149).

Snow clearing methodology (April 16, 2024). KAA "recommended to use snowblowers to clear the snow as graders cause windrows that act as barrier for caribou travel" (Volume 3, Appendix 6C, Table 6C.1, document page 6C-9, PDF page 1571 of 8171). WKR will consider this recommendation and will continue to engage with KAA on snow management methodology and other operational matters as the Project advances.

Vessel traffic and fish migration observation (April 16, 2024). KAA "shared results from a study for Cod and Char and stated that there was no fish migration when vessel traffic increased" (Volume 3, Appendix 6C, Table 6C.1, document page 6C-9, PDF page 1571 of 8171). This observation was raised during Project engagement and is among the issue categories addressed in the marine fish and marine mammal assessments in Volume 8.

Caribou movement and road alignment concerns (November 5, 2024). KAA and WKR discussed concerns regarding effects on caribou and road alignment (Volume 3, Appendix 6C, Table 6C.1). Caribou movement is assessed in Volume 6, Section 16, with mitigation measures set out in Volume 11, Appendix 37B (Wildlife Mitigation and Monitoring Plan) and Volume 11, Appendix 37A (Road Management Plan).

Inuit Knowledge integration and Inuit Advisory Group (April 30, 2025; May 21, 2025). KAA discussed Inuit Knowledge integration and the Inuit Advisory Group (IAG; Volume 3, Appendix 6C). KAA requested to appoint a member of the Association as a special advisor to the IAG (Volume 3, Appendix 6C). WKR appointed a member of the KAA as a special advisor, who attended WKR's IAG meeting in September 2025. The invitation was extended again for KAA's attendance in May 2026, although they were unable to attend due to conflicting schedules.

Issue categories addressed in Table 6.2. KAA is identified by name in Volume 3, Table 6.2 as having raised issues in the following categories: wildlife movement and migration (addressed in Volume 6, Sections 16.4.1 and 16.4.3); wildlife mortality (Volume 6, Sections 16.4.1, 16.4.2, 16.4.3, 16.4.4, and 18.4.3); shipping effects (Volume 7, Section 20.3; Volume 8, Sections 22.3 and 23.3); and travel and access (Volume 9, Section 24.3.4).

WKR will continue to engage with KAA on the development and refinement of mitigation, monitoring, and adaptive management measures, including through the proposed Inuit Environmental Advisory Committee (further addressed in the response to IR-10) and ongoing engagement. WKR is available to discuss with KAA any specific concerns or recommendations where KAA seeks confirmation of how a matter was considered, the rationale for the outcome, or how it will be addressed through the Volume 11 Management Plans.

3) **KAA's Role as a Hunters and Trappers Organization Under the Nunavut Agreement**

WKR engages with KAA in the role established by the Nunavut Agreement, including as the Hunters and Trappers Organization for Kugluktuk under Article 5 of the Nunavut Agreement. The characterization of KAA as a "primary rights-holder organization" is a matter for the framework established by the Nunavut Agreement and the parties to it, including KAA, the Kitikmeot Inuit Association, the Nunavut Wildlife Management Board, and the Government of Canada.

The Nunavut Agreement establishes the wildlife management framework for Nunavut, including the roles of the Nunavut Wildlife Management Board, Regional Wildlife Organizations (including the Kitikmeot Regional Wildlife Board), and Hunters and Trappers Organizations.

Decision-making authority on matters affecting the Project's interaction with wildlife harvesting and the environment is established through the regulatory framework, including:

- The Nunavut Impact Review Board (NIRB), which exercises decision-making authority through the Project Certificate process under Article 12 of the Nunavut Agreement and Part 3 of the Nunavut Planning and Project Assessment Act (NuPPAA).

- The Nunavut Water Board, which exercises decision-making authority under the Nunavut Waters and Nunavut Surface Rights Tribunal Act.
- The Nunavut Wildlife Management Board, which exercises decision-making authority on wildlife management matters under Article 5 of the Nunavut Agreement.
- The Government of Nunavut, the Government of Northwest Territories, and federal regulators (including Fisheries and Oceans Canada under the Fisheries Act), which exercise statutory authorities applicable to specific matters.
- The Kitikmeot Inuit Association, which exercises authority over Inuit Owned Lands within the Kitikmeot Region.

WKR's commitments to KAA, Kitikmeot Inuit Association, and other Inuit organizations operate within and are consistent with this regulatory framework.

4) **WKR Commitment to Obtain KAA Review and Input Prior to Operational Changes**

WKR is committed to ongoing engagement with the KAA throughout the life of the Project, in accordance with WKR's engagement commitments documented in Volume 3 (Section 6) and the Volume 11 Management Plans, and through the Inuit Environmental Advisory Committee to be developed in collaboration with the Kitikmeot Inuit Association (Volume 3, Section 6.3.6, Table 6.4; further addressed in the response to IR-10).

With respect to the specific operational matters identified in the IR:

Changes to shipping activities. Shipping activities are addressed through the Port Management Plan (Volume 11, Appendix 37I) and through Transport Canada regulatory requirements. Material changes to shipping activities affecting the assessment in the IS would be subject to applicable regulatory review. WKR will continue to engage with KAA on shipping matters relevant to KAA's role through ongoing engagement and the Inuit Environmental Advisory Committee.

Increases in traffic levels. Road traffic management is addressed through the Road Management Plan (Volume 11, Appendix 37A). Material increases in traffic levels affecting the assessment in the IS would be subject to applicable regulatory review. WKR will engage with KAA on road traffic matters through ongoing engagement and the Inuit Environmental Advisory Committee.

Expansion of facilities. Material expansion of Project facilities beyond what is assessed in the IS would be subject to applicable regulatory review by the NIRB and other regulators.

Approval of third-party access arrangements. Third-party access to the Project facilities is addressed through the Road Management Plan (Volume 11, Appendix 37A, Section 5.1.1), including the requirement for joint Kitikmeot Inuit Association and Hunters and Trappers Organization permits for harvesting access to the road (further addressed in the response to IR-02).

Implementation of adaptive management decisions affecting harvesting activities or wildlife. Adaptive management decisions are addressed through the Volume 11 Management Plans, including the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B) and the Socio-economic Monitoring Plan (Volume 11, Appendix 37K). Ongoing engagement and the Inuit Environmental Advisory Committee will provide a Project-level venue for KAA review and input on study designs, the inclusion of monitors, monitoring findings, and adaptive management strategies (Volume 3, Section 6.3.6, Table 6.4).

5) **KAA's Role if Monitoring Identifies Significant Impacts to Harvesting, Wildlife, or Travel Safety**

Adaptive management commitments applicable to monitoring outcomes are set out in the Volume 11 Management Plans, including the Socio-economic Monitoring Plan (Volume 11, Appendix 37K, Section 4) and the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B). As Volume 11, Appendix 37K, Section 4 states: "*Where monitoring indicates that mitigation measures are not achieving intended outcomes or targets, WKR will apply adaptive management approaches, which may include additional investigations, modifying implementation methods, enhancing engagement with Inuit organizations and communities, or revising commitments in consultation with regulators*." (Volume 11, Appendix 37K, Section 4, document page 8, PDF page 8170 of 8171).

KAA's role in adaptive management is provided through:

- The Inuit Environmental Advisory Committee, which will provide a Project-level venue for KAA review and input on monitoring findings and adaptive management strategies (Volume 3, Section 6.3.6, Table 6.4).
- Ongoing engagement between WKR and KAA on Project-related matters.
- The statutory role of KAA, Kitikmeot Inuit Association, Nunavut Wildlife Management Board, and other regulatory authorities under the Nunavut Agreement and applicable federal and territorial legislation.

Significant adverse effects identified through monitoring would also engage the regulatory authorities responsible for the affected matter — including NIRB (Project Certificate compliance), Nunavut Wildlife Management Board (wildlife management decisions), Fisheries and Oceans Canada (Fisheries Act authorization compliance), and others. The decisions of these regulatory authorities, made under their statutory frameworks, would govern the response to identified significant impacts. WKR is committed to implementing measures that may be required by the regulatory authorities and to ongoing engagement with KAA throughout this process.

KAA-12 (IR-12)

Subject

Project Purpose

Issue / Concern

KAA remains concerned that the Impact Statement places substantial emphasis on national economic, sovereignty, and industrial development objectives while insufficiently addressing the potential for significant and irreversible impacts to Inuit harvesting rights, wildlife, marine use, food security, and Inuit cultural continuity.

KAA is concerned that the Project's stated purpose is fundamentally tied to enabling future large-scale industrial and mining development throughout the region, despite substantial uncertainty regarding long-term cumulative effects.

Information Request

1) *If significant adverse effects were identified as possible, please explain:*
   - *A) the rationale for proceeding with the Project;*
   - *B) what accommodation measures were considered;*
   - *C) how WKR concluded that Project benefits outweigh risks to Inuit harvesting and land use. Please explain whether WKR assessed a "no project" scenario from the perspective of protecting harvesting rights, wildlife populations, and long-term Inuit use of the region.*
2) *Please provide details regarding any irreversible or permanent changes to harvesting access, wildlife movement, or marine use patterns anticipated by WKR.*
3) *Please explain how WKR determined that future industrial development enabled by the Project is compatible with the long-term protection of Inuit harvesting rights and traditional land use.*

Proponent Response

The Project's purposes — set out in Volume 2, Section 1.6 — include Economic, Community and Social, and Security and Sovereignty benefits; they are interrelated, not hierarchical (further addressed in the response to KAA-7 [IR-07]). The Project's effects on Inuit harvesting rights, wildlife, marine use, food security, and cultural continuity are assessed through the Volume 6, 7, 8, and 9 Valued Component (VC) assessments, with the integrated Holistic Assessment presented Volume 10, Section 31. The framework for the consideration of all three interrelated purposes against the predicted effects is established under Article 12 of the Nunavut Agreement and Part 3 of the *Nunavut Planning and Project Assessment Act* (NuPPAA), with the Nunavut Impact Review Board (NIRB) as the decision-maker.

The following addresses each sub-part of the Information Request.

1) *Significance of Residual Effects and Rationale for Proceeding with the Project*

The IR's Sub-part 1 questions are conditional on the identification of "significant adverse effects." Based on the assessment of residual project and cumulative effects across all Valued Components, the IS does not predict significant adverse effects following the application of mitigation, management, and enhancement measures. As stated in Volume 10, Section 31.2: "Based on the individual VC assessment analyses, residual project and cumulative adverse effects were found to be not significant for each VC." (Volume 10, Section 31.2, document page 31-3, PDF page 7616 of 8171). This finding is confirmed in the assessment for each Holistic VC: Land and Freshwater (Section 31.3.1); Ocean (Section 31.3.2); and Human Environment, where "Cumulative effects are expected to be long-term but not significant." (Volume 10, Section 31.3.3).

a) **Rationale for proceeding with the Project.** The Project's purpose is set out in Volume 2, Section 1.6, which identifies three interrelated purposes (further addressed in the response to KAA-7 [IR-07]). The Project is assessed under Article 12 of the Nunavut Agreement and Part 3 of NuPPAA. Decisions on whether to issue a Project Certificate, and the terms and conditions applicable to the Project, are made by NIRB under this regulatory framework.

b) **Accommodation measures considered.** The IS sets out mitigation measures, monitoring commitments, and adaptive management frameworks across the VC assessments in Volumes 5 through 9 and the Volume 11 Management Plans, including:

- Wildlife protection measures associated with road access set out in the Road Management Plan, Section 6 (Volume 11, Appendix 37A; further addressed in the response to KAA-2 (IR-02).
- Adaptive caribou and wildlife management commitments, including the Mobile Caribou Conservation Measure and caribou Trigger Action Response Plan framework, set out in the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B).
- Marine vessel speed and seasonal timing considerations addressed in Volume 8 and the Port Management Plan (Volume 11, Appendix 37I).
- Ongoing engagement with Kitikmiut and other Inuit and Indigenous organizations (further addressed in the response to KAA-10 [IR-10]); and the formal benefit agreement WKR has offered to establish with the Kitikmeot Inuit Association (further addressed in the response to KAA-6 [IR-06]).

The Holistic Assessment in Volume 10, Section 31 acknowledges Inuit, Indigenous, and Community perspectives on effects that would be considered unacceptable:

> "*Inuit, Indigenous, and Community Knowledge suggested that a significant adverse effect extends beyond simple Western scientific population models to encompass threats to sustenance, culture, and the ability to continue traditional harvesting practices. IAG members advised that negative effects on the ability of Inuit to harvest caribou and other wildlife and*

> *put country food on their tables is considered unacceptable (IAG 2025). Inuit, Indigenous, and Community Knowledge also strongly suggests that the loss of traditional way of life (i.e., cultural transference) would also be considered an unacceptable effect.*" (Volume 10, Section 31.4, document page 31-26, PDF page 7639 of 8171)

The mitigation, management, and enhancement measures applied in the IS are designed to address these perspectives in addition to the technical effects characterizations in each VC assessment.

c) **How benefits relate to risks.** The determination of whether the Project's predicted benefits outweigh its predicted residual effects is made by NIRB through the Project Certificate process under Article 12 of the Nunavut Agreement and Part 3 of NuPPAA, not by WKR. The IS presents the assessment of effects (including the Volume 10, Section 31 finding that residual project and cumulative adverse effects are not significant), the mitigation measures and monitoring commitments, and the Project's purpose; NIRB will determine, based on the IS and the public technical review process, whether the Project should proceed and on what terms.

2) **Assessment of a "No Project" Scenario**

The IS addresses the "no Project" counterfactual in Volume 2, Section 2.4 (Alternatives), which describes continued reliance on Mackenzie River barge and Eastern Canada sealift resupply, continued supply-chain disruption risk, fewer employment, training, and business opportunities, and no improvement to the safety and efficiency of marine and overland travel in the west Kitikmeot Region (Volume 2, Section 2.4, document page 2-11, PDF page 1090 of 8171).

This scenario reflects continued existing and reasonably foreseeable conditions in the absence of the Project, and establishes the baseline against which Project effects on Inuit harvesting, wildlife, and long-term Inuit use are assessed throughout the VC effects assessments in Volumes 5 through 9, with integrated holistic findings presented in Volume 10, Section 31.

3) **Irreversible or Permanent Changes to Harvesting Access, Wildlife Movement, or Marine Use Patterns**

The Project is composed primarily of permanent infrastructure: the Grays Bay Port (marine-based and landside infrastructure), the Grays Bay Road, the Aerodrome, and Jericho Station (Volume 2, Section 2.6.4; further addressed in the response to KAA-4 [IR-04]).

The Holistic Assessment (Volume 10, Section 31) explicitly identifies the irreversibility of certain Project effects given the permanence of Project infrastructure. With respect to the Land and Freshwater Holistic VC:

> "*Most residual effects on the land and freshwater systems are expected to be long-term where built infrastructure will be permanent (e.g., the road).*
>
> *[...]*

> *Effects on individual VCs are predicted to range from low to high magnitude and will occur over various spatial and temporal scales, with many effects deemed to be irreversible given the permanence of project infrastructure.*" (Volume 10, Section 31.3.1, document page 31-20, PDF page 7633 of 8171)

With respect to the Ocean Holistic VC:

> "*Effects on individual VCs are predicted to range from low to moderate magnitude and will occur over various spatial and temporal scales, with some effects deemed to be irreversible given the permanence of project infrastructure.*" (Volume 10, Section 31.3.2, document page 31-22, PDF page 7635 of 8171)

Project effects on harvesting access, wildlife movement, and marine use patterns are addressed in the dedicated VC assessments:

- **Harvesting access.** Volume 9, Section 24 (Traditional Land, Marine, and Resource Use) assesses Project effects on access to harvesting areas, including effects through direct overlap with the Project Development Area, road corridor, and marine shipping route. The Road Management Plan (Volume 11, Appendix 37A) establishes the access management framework for the road, including controlled access through user agreements, the Community User category, and the joint Kitikmeot Inuit Association and Hunters and Trappers Organization permit for access to the road for harvesting purposes (further addressed in the response to KAA-2 [IR-02]).
- **Wildlife movement.** Volume 6, Section 16 (Caribou), Section 17 (Birds), and Section 18 (Other Terrestrial Wildlife) assess Project-related effects on wildlife movement and habitat. Mitigation measures applicable to wildlife movement are set out in the Road Management Plan (Volume 11, Appendix 37A, Section 6) and the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B), including the Mobile Caribou Conservation Measure, the caribou Trigger Action Response Plan framework, and identification of high potential crossing locations using Inuit and Community Knowledge.
- **Marine use patterns.** Volume 8 assesses Project effects on marine water and sediment quality (Section 21), marine fish (Section 22), and marine mammals (Section 23). The Port Management Plan (Volume 11, Appendix 37I) sets out the framework for marine operations including vessel access, the Small Craft Harbour, and the Public Use Area.

Specific residual effects characterizations for each VC, including identification of where residual effects are characterized as permanent or irreversible, are presented in the relevant Volume 5 through 9 VC sections. Detailed VC-specific effects and cumulative effects significance determinations are provided in the responses to KAA-13 through KAA-31 [IR-13 through IR-31] and KAA-65 [IR-65].

4) **Compatibility of Future Induced Development with the Long-Term Protection of Inuit Harvesting Rights and Traditional Land Use**

The framework for assessing the Project in relation to reasonably foreseeable future induced development is set out in Volume 10, Section 32 (Cumulative Effects Assessment Overview) and Volume 4 (Effects Assessment Methodology), Section 9 and Appendix 9A (Project Inclusion List), with the integrated holistic findings presented in Volume 10, Section 31.

Volume 2, Section 1.6.2 (Table 1.6) identifies the present or reasonably foreseeable induced developments anticipated to use Project infrastructure. The Project's cumulative effects assessment, presented in Volume 10, Section 32, considers Project-related effects in combination with past, present, and reasonably foreseeable future developments, including the Reasonably Foreseeable Induced (RFI) development scenario.

The Holistic Assessment in Volume 10, Section 31.4 concludes: "*With the implementation of mitigation, management, and enhancement measures, residual project and cumulative effects are not predicted to affect the capability of terrestrial, freshwater, and ocean systems to maintain their structure and functions and to support biological and ecological diversity and health.*" (Volume 10, Section 31.4, document page 31-27, PDF page 7640 of 8171)

Each future induced development would be subject to its own NIRB review and Project Certificate process under Article 12 of the Nunavut Agreement and NuPPAA, with consideration of cumulative effects in combination with this Project. Determinations affecting the long-term protection of Inuit harvesting rights and traditional land use are established through the regulatory framework, including NIRB (Article 12), the Nunavut Wildlife Management Board (Article 5, Wildlife), the Kitikmeot Inuit Association (authority over Inuit Owned Lands), and the Nunavut Planning Commission's Nunavut Land Use Plan process (further addressed in the response to KAA-1 [IR-01]). Detailed responses on the RFI development scenario and cumulative effects significance determinations are provided in the responses to KAA-60 through KAA-65 [IR-60 through IR-65].

KAA-13 (IR-13)

Subject

Spatial Boundary Selection

Issue / Concern

The terrain, soils, and permafrost spatial boundaries were selected based on past project experience, guidance from regulators, input from Kitikmiut, other Indigenous groups, and other potentially affected communities, public interest, and professional judgment. The rationale and input that informed the boundary selection is not clearly explained.

Information Request

KAA requests that the proponent provides the rationale and methodology used to establish the boundaries and how input from Kugluktuk and other indigenous groups informed the assessment boundaries.

Proponent Response

The methodology for selecting spatial assessment boundaries for the Terrain, Soils, and Permafrost Valued Component (VC) is set out in Volume 6, Section 14.1.4 (Boundaries) and Section 14.1.4.1 (Spatial Boundaries), with reference to the overarching effects assessment methodology in Volume 4, Section 9.2.4 (Spatial Boundaries). The role of engagement and Inuit, Indigenous, and Community Knowledge in informing the spatial boundaries is described in Volume 6, Section 14.1.1.1 and in Volume 3 (further addressed in the response to IR-08).

Spatial Boundaries for the Terrain, Soils, and Permafrost Valued Component

The Project Development Area (PDA) "encompasses the physical footprint of all project components, including both permanent and temporary disturbances (e.g., extent of project infrastructure, planned clearing, and laydown areas).... For the purposes of the impact assessment, the PDA is the same as the Site Study Area identified in the IS Guidelines" (Volume 6, Section 14.1.4.1).

The Terrain, Soils, and Permafrost Local Assessment Area (LAA) "was defined as a 1-kilometre (km) buffer centred on the PDA, as it corresponds to the area within which measurable project-related effects on terrain, soils, and permafrost (direct or indirect) are expected to occur... The LAA includes the PDA and adjacent areas where environmental effects may reasonably be expected to occur, due to project activities from any phase of the Project, ongoing normal activities, or possible abnormal operating conditions" (Volume 6, Section 14.1.4.1).

The Terrain, Soils, and Permafrost Regional Assessment Area (RAA)"was defined as a 30 km buffer centred on the PDA based on the regional context needed for Vegetation (Section 15) and Wildlife (Caribou Section 16, Birds Section 17, Wildlife Other Section 18) assessment (i.e., to align with habitat connectivity, and with wildlife and wildlife habitat assessment boundary). It includes the area within which cumulative effects on soils, terrain and permafrost may occur, depending on the location of other past, present or reasonably foreseeable future projects or activities" (Volume 6, Section 14.1.4.1). The 30 km buffer is consistent with the 30 km buffer used for the Vegetation RAA. (Volume 6, Section 14.1.4.1)

Integration of Inuit, Indigenous, and Community Knowledge into Boundary Selection and Assessment

The basis for assessment boundary selection considered Inuit, Indigenous, and Community Knowledge as identified in Volume 6, Section 14.1.1.1 (Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment Boundaries).

Inuit, Indigenous, and Community Knowledge contributed directly to refining and confirming the spatial boundaries, based on providing input to the baseline conditions through information shared by knowledge holders regarding land use patterns, travel corridors, and culturally important locations. This integration of Inuit knowledge alongside scientific and technical information increased confidence in the representativeness and appropriateness of the selected assessment areas for which direct and indirect effects are measurable and are attributed to the Project.

KAA-14 (IR-14)

Subject

Indigenous Perspectives on the Assessment of Potential Effects on Terrain, Soils, and Permafrost

Issue / Concern

Throughout Section 1.4.1.1 and Appendix 14, the IS states that "Kitikmiut, other Indigenous groups, and other potentially affected communities shared comments, perspectives, concerns, and recommendations related to terrain, soils, and permafrost".

It is unclear exactly how input from these groups was integrated into the assessment and design of the project.

Information Request

KAA requests that the proponent provides specific examples of how Inuit and Indigenous knowledge, priorities, and concerns informed the terrain, soils and permafrost assessment and project design, and how impacts to harvesting, wildlife, and water were assessed and incorporated into mitigation measures.

Proponent Response

The integration of Inuit Knowledge, Indigenous Knowledge, and Community Knowledge into the Terrain, Soils, and Permafrost Valued Component (VC) assessment is described in the Impact Statement (IS), specifically in Volume 6, Section 14.1.1 (Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment), Section 14.3 (Effects Assessment), Section 14.3.2.3 (Mitigation, Management, and Enhancement Measures), and the supporting Volume 6, Appendix 14A (Terrain, Soils, and Permafrost Baseline Report). The general framework for Inuit, Indigenous and Community Knowledge integration into the Project assessment is set out in Volume 3 and addressed in the response to KAA-8 (IR-08). The application of this methodology to the Terrain, Soils, and Permafrost VC spatial boundaries is addressed in the response to KAA-13 (IR-13).

This response provides specific examples of how engagement themes informed the Terrain, Soils, and Permafrost VC assessment and Project design, and how effects on harvesting, wildlife, and water are addressed through the linked Valued Component framework.

Engagement Themes Informing the Terrain, Soils, and Permafrost VC Assessment

Volume 6, Section 14.1.1 identifies engagement themes that informed and shaped the Terrain, Soils, and Permafrost VC assessment. Table 14.4 (Volume 6) summarizes Inuit, Indigenous, and Community Knowledge and Engagement feedback, the IS responses, and the sections of the IS where the feedback has been addressed. As identified in Volume 6, Section 14.1.1, the engagement themes were drawn from engagement activities with Kitikmiut, other Indigenous groups, and other potentially affected communities , and the Inuit Advisory Group. The general engagement record between WKR

and Kitikmeot Region Residents and Organizations, including the Kugluktuk Angoniatit Association, on the Project is documented in Volume 3, Appendix 6C (Table 6C.1).

Examples of How Specific Engagement Themes Informed the Assessment and Project Design

Specific connections between the engagement themes identified in Section 14.1.1, Section 14.2.2.1, and elements of the Terrain, Soils, and Permafrost VC assessment include the following.

Eskers and important landforms. Inuit, Indigenous, and Community Knowledge identified important areas, particularly eskers which contain unique flora and fauna habitats and are important for travel and migration, (Banci and Spicker 2024; NIRB 2024, 2025; NWTMN 2012) that informed both the baseline characterization and the assessment of effects on eskers. The potential effects of the Project on unique landforms, with a particular focus on eskers, were characterized and described in Section 14.3.2.2 (Volume 6). In Section 14.4 (Volume 6), we also evaluated potential cumulative effects on eskers using a quantitative assessment approach.

The mitigation measures applicable to unique landforms, including eskers, that "take into consideration the values identified by Kitikmiut, other Indigenous groups, and other potentially affected communities" (Volume 6, Section 14.3.2.3, page 14-31) are set out in Volume 6, Section 14.3.2.3. They include the mapping and delineation of eskers to document their location and to support avoidance where feasible.

Further detail on the methods used to assess the traditional and functional importance of eskers, how Inuit land use associated with eskers was considered, and the mitigation and monitoring measures for esker crossings is provided in the response to KAA-15 (IR-15).

Permafrost and climate change. Inuit, Indigenous, and Community Knowledge emphasized the concerns regarding permafrost and climate change impacts, which informed the Terrain, Soils, and Permafrost VC assessment of permafrost effects, including the identification of thaw-sensitive terrain, ice wedges, and excess ground ice. Volume 6, Section 14.3.7 integrates Inuit Knowledge on observed permafrost change.

Inuit Knowledge in tracking environmental changes and Inuit involvement in monitoring. Inuit, Indigenous, and Community Knowledge shared for the Project note the importance of Inuit Knowledge in tracking environmental changes, involving Inuit in monitoring, and provided recommendations to incorporate Inuit Knowledge into the assessment of environmental impacts (IAG 2025) (Volume 6, Section 14.2.2.1). These values are reflected in integrating Inuit Knowledge into the assessment methodology (Section 14.1.1) and the engagement and adaptive management framework.

Changing weather patterns, vegetation changes, and food chain effects. The engagement themes on changing weather patterns and impacts to wildlife, changes to vegetation in the Northwest Passage area, and the food chain and waterway contamination themes are treated through linked Valued Component assessments, including effects on water resources (Volume 7, Section 19), freshwater fish (Volume 7, Section 20), vegetation (Volume 6, Section 15), wildlife (Volume 6, Sections 16, 17, 18), and traditional land, marine, and resource use (Volume 9, Section 24).

Assessment and Mitigation of Effects on Harvesting, Wildlife, and Water

The Terrain, Soils, and Permafrost VC is an ecosystemic Valued Component. As set out in Volume 10, Section 31 (Holistic Assessment, Table 31.1 — Valued Component Summary and Relationships), residual effects on terrain, soils, and permafrost are linked to effects on Vegetation, Caribou, Birds, Other Terrestrial Wildlife, Water Resources, and Traditional Land, Marine, and Resource Use.

The effects pathways identified in the Terrain, Soils, and Permafrost VC assessment are propagated through the linked VC assessments as follows:

Wildlife

Effects on terrain, soils, and permafrost are addressed through linked VC assessments in Volume 6, Section 16 (Caribou), Section 17 (Birds), and Section 18 (Other Terrestrial Wildlife). Specific mitigation measures applicable to wildlife are set out in the Road Management Plan (Volume 11, Appendix 37A, Section 6) and the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B), and addressed in the responses to KAA-19 through KAA-31 (IR-19 through IR-31).

Water

Effects on terrain, soils, and permafrost as they affect water resources are addressed through the linked VC assessment in Volume 7, Section 19 (Water Resources), and effects on freshwater fish and fish habitat are addressed in Volume 7, Section 20. Mitigation measures applicable to water resources are set out in the Environmental Protection Plan (Volume 11, Appendix 37H), including the Erosion and Sediment Control Plan (Attachment H2), the Water Management Plan (Attachment H6), and other applicable plans.

Harvesting

Effects on terrain, soils, and permafrost as they affect access to and use of harvesting areas are addressed through the linked VC assessment in Volume 9, Section 24 (Traditional Land, Marine, and Resource Use). The integration of Inuit, Indigenous, and Community Knowledge into the assessment of effects on harvesting is further addressed in the response to KAA-5 (IR-05).

Continued Engagement

WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association, to discuss the integration of Inuit, Indigenous, and Community Knowledge into the Terrain, Soils, and Permafrost VC assessment and the linked VC assessments.

KAA-15 (IR-15)

Subject

Impact on Eskers

Issue / Concern

The IS states that the Project Road alignment crosses several eskers and concludes that effects are nonsignificant primarily because the total directly disturbed area represents approximately 33.3 ha, or 0.2% of the total esker area within the RAA. Additionally, the IS states that terrain effects associated with Project construction are expected to be long-term and irreversible.

Information Request

KAA requests the Proponent:

A. *Provide methods used to assess traditional and functional importances of eskers impacted by the Project*
B. *Explanation of how Inuit land use associated with eskers were considered in the assessment*
C. *Explanation of how the permanent and irreversible nature of esker disturbance was accounted for in the significance determinations*
D. *Details/plans regarding mitigation and monitoring measures for esker crossings.*

Proponent Response

The assessment of effects on eskers and the integration of Inuit Knowledge into the esker assessment are addressed in the Impact Statement (IS), specifically in Volume 6, Section 14.3.2.1 (Analytical Assessment Techniques), Section 14.3.2.2 (Project Effects Pathways), Section 14.3.2.3 (Mitigation, Management, and Enhancement Measures), Section 14.3.2.4 (Project Residual Effect), Section 14.4.4.2 (Assessment of Cumulative Effects), Section 14.5 (Significance of Effects), Section 14.7 (Follow-up and Monitoring), and Volume 6, Appendix 14A, Section 4.3.1 (Materials and Landforms Description). The general framework for the integration of Inuit, Indigenous, and Community Knowledge into the Terrain, Soils, and Permafrost VC assessment is addressed in the responses to KAA-13 (IR-13) and KAA-14 (IR-14).

This response addresses each of the four sub-parts of the Information Request.

A. **Methods Used to Assess Traditional and Functional Importance of Eskers Impacted by the Project**

The methods used to assess traditional and functional importance of eskers are set out in Volume 6, Section 14.3.2.1.

The three principal data sources are described in Section 14.3.2.1:

- **Inuit, Indigenous, and Community Knowledge.** Knowledge shared by Kitikmiut, other Indigenous groups, and other potentially affected communities, including Inuit Knowledge from the Naonaiyaotit Traditional Knowledge Project (NTKP) report (Banci and Spicker 2024) used under licence from the Kitikmeot Inuit Association, and engagement themes identified in Volume 6, Section 14.1.1.
- **Literature review.** Reports, maps, and relevant databases referenced throughout Volume 6, Section 14 and Appendix 14A.
- **Terrain mapping.** Formal classification system applied to the Local Assessment Area as described in Section 14.3.2.1.

Specific Inuit Knowledge inputs on esker traditional and functional importance are reproduced verbatim in Volume 6, Section 14.3.2.2 and in Appendix 14A, Section 4.3.1:

> "*Inuit used the area below the eskers for campsites so that they could use the high points of the eskers for lookouts. (Banci and Spicker 2024)*" (Volume 6, Section 14.3.2.2; Appendix 14A, Section 4.3.1)

> "*Many species make their dens in eskers, such as grizzlies, wolves, foxes and squirrels. Caribou also travels on eskers during the summer. Most of these eskers have permafrost under them so they are a lot cooler than straight moss or soil. The ground is a lot cooler at the bottom of these eskers and the water is a lot colder too. At the bottom of these eskers are ponds formed from the esker springs. (Banci and Spicker 2024)*" (Volume 6, Appendix 14A, Section 4.3.1)

> "*Athabasca Denesųłiné Né Né Land Corporation Development and Northwest Territory Métis Nation also shared that eskers are important for travel, migration, and may host cultural sites (NIRB 2024, 2025; NWTMN 2012).*" (Volume 6, Section 14.3.2.2)

> "*It is important to note that eskers are important features, for both Inuit (past and present) and wildlife use (Banci and Spicker 2024; BGC 2013; Traynor 2001). They were used by Inuit as landmarks, camp sites and corridors to move across the tundra*" (Volume 6, Appendix 14A, Section 4.3.1)

The technical characterization of eskers, including dimensions, composition, and ice content, is provided in Volume 6, Appendix 14A, Section 4.3.1.

B. **How Inuit Land Use Associated with Eskers Was Considered in the Assessment**

Inuit land use associated with eskers was considered in the assessment through integration of Inuit Knowledge (NTKP report and engagement) into the baseline characterization and the effects assessment. Specific Inuit land use associated with eskers identified through Inuit Knowledge integration includes:

- Use of the area below eskers for campsites, with the high points of eskers used for lookouts (Banci and Spicker 2024).
- Use of eskers as landmarks for navigation across the tundra (Volume 6, Appendix 14A, Section 4.3.1).
- Use of eskers as travel corridors (Volume 6, Appendix 14A, Section 4.3.1).
- Recognition of eskers as habitat for grizzlies, wolves, foxes, squirrels, and as caribou summer travel routes (Banci and Spicker 2024).
- Recognition of eskers as features associated with permafrost, cooler ground and water temperatures, and esker spring-fed ponds (Banci and Spicker 2024).
- Esker importance for travel, migration, and as host to cultural sites, as shared by Athabasca Denesųłiné Né Né Land Corporation Development and Northwest Territory Métis Nation (Volume 6, Section 14.3.2.2; NIRB 2024, 2025; NWTMN 2012).

The incorporation of Inuit, Indigenous, and Community Knowledge has played a key role in highlighting the unique nature of eskers as landforms, which is recognized in the IS. As stated in Volume 6, Section 14.3.2.2:

> "*A unique landform is one that formed in specific conditions that cannot be met again, and/or over a timescale beyond the human timescale. Once a unique landform has been altered, it cannot be recreated or restored. Eskers are unique landforms that formed over thousands of years; Athabasca Denesųłiné Né Né Land Corporation Development and Northwest Territory Métis Nation also shared that eskers are important for travel, migration, and may host cultural sites (NIRB 2024, 2025; NWTMN 2012). They are glaciofluvial deposits that formed from deposition of glacier meltwater flowing through channels located within and underneath glaciers.*" (Volume 6, Section 14.3.2.2, document page 14-30, PDF page 2569 of 8171)

Inuit, Indigenous, and Community Knowledge provided important context regarding the unique value of eskers beyond their physical characteristics, highlighting their significance for traditional land use and cultural practices. This knowledge supported the formulation of mitigation measures (Volume 6, Section 14.3.2.3) designed to protect esker integrity, where possible.

Effects of Project access on Inuit harvesting use of eskers (e.g., caribou hunting routes that traverse eskers; harvesting access via traditional travel corridors) are also addressed through the linked Valued Component assessment in Volume 9, Section 24 (Traditional Land, Marine, and Resource Use), and through the access management framework set out in the Road Management Plan (Volume 11, Appendix 37A; further addressed in the response to IR-02). Effects on caribou use of

eskers, including as summer travel routes, are addressed in Volume 6, Section 16 (Caribou) and in the responses to KAA-19 through KAA-31 (IR-19 through IR-31).

C. **How the Permanent and Irreversible Nature of Esker Disturbance Was Accounted For**

The IS explicitly characterizes Project effects on terrain conditions, including effects on eskers, as long-term and irreversible. As stated in Volume 6, Section 14.3.2.4:

> "*As construction of the project components (Volume 2, Section 2.3) are permanent changes to the terrain, the effects are long-term and irreversible*." (Volume 6, Section 14.3.2.4)

The assessment of effects of change to specific areas of cultural importance where Traditional Land, Marine and Resource Use occurs in Volume 9, Section 24.3.4, includes consideration of traditional importance and use of eskers; residual effects on change to specific areas of cultural importance where there is direct land disturbance are also characterized as irreversible.

The IS explicitly acknowledges that unique landforms, including eskers, cannot be recreated or restored once altered (Volume 6, Section 14.3.2.2; Volume 9, Section 24.3.4.3).

The significance threshold for the Terrain, Soils, and Permafrost VC, as established in Section 14.5.1, addresses long-term stability of terrain and permafrost and the ability of soils to support vegetation. The cultural and ecological significance of traditional land, marine, and resource use, including Inuit harvesting use of eskers and the cultural importance of esker landscapes, is assessed under the Traditional Land, Marine, and Resource Use Valued Component in Volume 9, Section 24.3.4. Effects on caribou use of eskers as summer travel routes are assessed under the Caribou Valued Component in Volume 6, Section 16.

The significance determination for effects on eskers integrates two complementary approaches. The quantitative regional-scale metric for the terrain, soils and permafrost valued component (the proportion of total esker area within the RAA directly affected by the Project (0.2%) or by the Project in combination with other developments (1.6%)) supports the magnitude characterization and the significance determination per the methodology set out in Volume 6, Sections 14.1.5 and 14.1.6. The qualitative avoidance, design, and reclamation measures applied for eskers identified through Inuit, Indigenous, and Community Knowledge as having particular cultural or ecological significance address the qualitative dimension of esker importance. The significance determination reflects the integration of both approaches, together with the irreversibility of the directly disturbed footprint as expressly acknowledged in Section 14.3.2.4. The mitigation framework described in Sub-part D below is designed to avoid eskers identified as having particular cultural or ecological significance where feasible.

D. **Mitigation and Monitoring Measures for Esker Crossings**

Mitigation Measures

Mitigation measures applicable to esker crossings are set out in Volume 6, Section 14.3.2.3:

> "*Mitigation measures to prevent or reduce changes to terrain conditions and landforms include the following:*
>
> - *The Project will use previously disturbed areas for project activities, infrastructure, and workspace to the extent practical.*
> - *As much as possible the road alignment, as well as roads to quarries and borrow sources will be built over bedrock to lessen terrain disturbance.*
> - *Unique landforms cover and localization will be properly identified.*
> - *As much as possible, unique landforms (including eskers) will be avoided.*
> - *The Project will develop and implement an Erosion and Sediment Control Plan (ESCP) to target standards, mitigations, and procedures that will be used to lessen erosion and landscape modification.*" (Volume 6, Section 14.3.2.3)

Monitoring Framework

The monitoring framework for terrain, soils, and permafrost effects is established in Volume 6, Section 14.7:

> "*Monitoring will consist of the regular observation, measurement, or assessment of the Project and its components or activities on terrain, soil, and permafrost. In parallel, sustained engagement with Inuit communities will support the assessment of management measures' effectiveness as well as the identification and response to any unanticipated impacts.*" (Volume 6, Section 14.7)

Monitoring plans included in the Erosion and Sediment Control Plan (ESCP), will describe sampling, observation and measurement schedules, locations and procedures, quality control, and reporting requirements (Volume 6, Section 14.7). Section 14.7 further commits:

> "*WKR will continue to respond to questions and concerns from Kitikmiut, other Indigenous groups, and other potentially affected communities through its ongoing engagement efforts. Information provided following submission of the IS will be reviewed in the context of the IS and for incorporation into project planning, including adaptive management and monitoring, as appropriate.*" (Volume 6, Section 14.7)

WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association, to discuss the specific eskers identified along the road alignment, the application of avoidance and design measures, and the monitoring framework for esker-related effects.

KAA-16 (IR-16)

Subject

Analysis of Permafrost Significance

Issue / Concern

The IS states that most of the RAA is underlain by continuous permafrost and acknowledges the presence of thaw-sensitive terrain, ice wedges, and excess ground ice. It also states that some permafrost degradation is inevitable, construction on permafrost cannot be avoided, and some effects on terrain and permafrost will be permanent and irreversible.

However, the assessment still concludes that residual effects will not be significant after mitigation measures are applied, many of which rely on avoiding sensitive terrain where possible or where practical. It is unclear how the Proponent determined that these unavoidable and irreversible effects would not be significant given the uncertainty related to excess ground ice, climate change, and long-term permafrost degradation.

Information Request

KAA Requests the Proponent provide:

A. *The criteria and thresholds used to determine that permanent, long-term, and irreversible terrain and permafrost effects are not significant*
B. *The extent of thaw-sensitive terrain that cannot be avoided by the Project;*
C. *A rationale supporting the conclusion that residual terrain and permafrost effects are not significant despite the acknowledgement that some effects are unavoidable, permanent, and irreversible.*

Proponent Response

The assessment of effects on permafrost is set out in the Impact Statement (IS), specifically in Volume 6, Section 14.3.4 (Change in Terrain Stability), Section 14.3.7 (Effects of Climate Change on Terrain, Soils, and Permafrost), Section 14.5 (Significance of Effects), Section 14.6 (Prediction Confidence and Uncertainty), Section 14.7 (Follow-up and Monitoring), and Volume 6, Appendix 14A, Section 4.2 (Permafrost).

The IS states in Volume 6, Section 14.3.4.4:

> "*To some degree, building on permafrost is unavoidable, and some localized permafrost degradation is inevitable (e.g., in sensitive terrain where ice-rich soils might be present) due to change in thermal regime resulting from ground disturbance and ongoing effects of climate change. Effects are, therefore, expected to be long-term as the port, road, and Jericho station will be permanent, and irreversible.*" (Volume 6, Section 14.3.4.4)

This response addresses each of the three sub-parts of the Information Request.

A. **Criteria and Thresholds Used to Determine That Permanent, Long-term, and Irreversible Terrain and Permafrost Effects Are Not Significant**

The significance threshold for the Terrain, Soils, and Permafrost VC is established in Volume 6, Section 14.5.1:

> "*A significant adverse residual effect on landforms and terrain conditions, soil properties, and terrain stability is one that, following the application of avoidance and mitigation measures, threatens the long-term stability of terrain and permafrost, as well as the ability of soils to support the vegetation. The evaluation of the significance of effects incorporated concerns expressed by Kitikmiut, other Indigenous groups, and other potentially affected communities alongside previously identified project-related effects.*" (Volume 6, Section 14.5.1)

The significance threshold is therefore framed around two criteria: (i) whether the long-term stability of terrain and permafrost is threatened, and (ii) whether the ability of soils to support vegetation is threatened. The threshold itself is not the question of whether residual effects are permanent or irreversible — the IS expressly acknowledges in Section 14.3.4.4 that some residual effects on directly disturbed terrain are expected to be permanent and irreversible. The significance threshold is whether the long-term stability of the terrain and permafrost system is threatened by those residual effects after mitigation.

B. **The Extent of Thaw-Sensitive Terrain That Cannot Be Avoided by the Project**

The IS quantifies the extent of thaw-sensitive terrain within the Project Development Area and along the road alignment in Volume 6, Section 14.3.4.2 and supporting Tables 14.7 and 14.8.

Volume 6, Section 14.3.4.2 identifies the aerodrome as a particularly sensitive area:

> "The aerodrome area is particularly characterized by sensitive ice-rich permafrost (Tetra Tech 2025)." (Volume 6, Section 14.3.4.2)

The distribution of dominant geomorphological processes within each PDA component is summarized in Volume 6, Table 14.7 and Table 14.8. Among the listed geomorphological processes, permafrost processes, ice-wedge polygons, thermokarst, and solifluction are signs of thaw-sensitive terrain. The extent of each of these thaw-sensitive processes by PDA component is:

- **Aerodrome PDA:** 20.3% of the PDA (303.5 ha) is characterized by Permafrost Processes; 4.4% (65.0 ha) by Seepage and Solifluction; 1.6% (24.5 ha) by Thermokarst; 1.5% (22.3 ha) by Ice-wedge Polygons (Volume 6, Section 14.3.4.2, Table 14.7).
- **Jericho Station PDA:** 3.3% of the PDA (48.6 ha) is characterized by Ice-wedge Polygons; 0.1% (1.0 ha) by Seepage and Solifluction; 0.0% (0.5 ha) by Permafrost Processes (Volume 6, Section 14.3.4.2, Table 14.7).

- **Port PDA (Landside Infrastructure):** 24.9% of the PDA (372.4 ha) is characterized by Seepage and Solifluction; 11.4% (169.5 ha) by Permafrost Processes (Volume 6, Section 14.3.4.2, Table 14.7).
- **Road alignment PDA:** 23.3% of the PDA alignment (54.4 km) is characterized by Seepage and Solifluction; 4.6% (10.8 km) by Ice-wedge polygons; 1.9% (4.4 km) by Permafrost Processes; 0.5% (1.1 km) by Thermokarst (Volume 6, Section 14.3.4.2, Table 14.8).

Additional geotechnical information to inform the design will be collected in further surveys, prior to construction. The final Project design will, where feasible, consider avoiding such areas.

The extent of thaw-sensitive terrain identified in Tables 14.7 and 14.8 represents the baseline characterization of geomorphological processes within the PDA and along the road alignment. The boundaries of the PDAs were created by applying buffers around where the Project components will be sited and varies by each of the sub-areas depending on necessary flexibility for final siting of certain Project components based on conditions on the ground. The Project footprint is expected to be smaller than the area of the PDA.

Volume 6, Section 14.3.4.1 acknowledges that "the design does not yet incorporate site-specific geotechnical information" and that "[a]dditional geotechnical information to inform the design will be collected in further surveys, prior to construction" (Volume 6, Section 14.3.4.1). The specific extent of unavoidable thaw-sensitive terrain effects will be refined through these additional geotechnical surveys.

C. **Rationale Supporting the Conclusion That Residual Terrain and Permafrost Effects Are Not Significant Despite Acknowledgement That Some Effects Are Unavoidable, Permanent, and Irreversible**

The rationale supporting the not-significant determination integrates three components.

1. **The significance threshold addresses the long-term stability of the terrain and permafrost system**

   As established in Volume 6, Section 14.5.1, the significance threshold for the Terrain, Soils, and Permafrost VC is whether residual effects threaten "the long-term stability of terrain and permafrost, as well as the ability of soils to support the vegetation" (Volume 6, Section 14.5.1). The threshold is a system-level criterion. Effects on the directly disturbed footprint are acknowledged as long-term and irreversible (Section 14.3.4.4), but the terrain and permafrost system within the Regional Assessment Area — the system the threshold addresses — is not threatened by the residual effects after mitigation. The Section 14.5.1 verbatim conclusion states that "ground surface disturbance will be limited to the [Project Development Area] and this will most likely correspond to areas of changes" and that "not all the areas with surface disturbance are likely to be prone to residual effects." (Volume 6, Section 14.5.1)

2. **Specific mitigation measures target permafrost preservation**

   Volume 6, Section 14.3.4.3 sets out the mitigation framework for terrain stability, organized to address: (i) avoid or limit ground disturbance leading to terrain stability issues; (ii) avoid or limit water and wind erosion; (iii) avoid and limit ground subsidence due to permafrost degradation; and (iv) limit terrain instability under construction footprints.

   The mitigation measures specifically targeting permafrost preservation are stated in Volume 6, Section 14.3.4.3 and Section 14.5.3:

   "*To avoid and limit ground subsidence due to permafrost degradation, the following mitigation measures will be followed where possible and appropriate:*

   - *Ice-rich terrain in thick material deposits will be avoided where practical.*
   - *Steep grades where subsidence may occur as a result of permafrost thaw will be avoided, where possible.*
   - *When sensitive terrain is not avoidable, mitigation measures and design will include ground thermal regime management and limit heat transfer to the ground as follows:*
     - *Road embankment will be thicker and made of coarse materials, with sand and gravel to provide insulation, to limit heat transfer to the ground and to limit ice formation in the embankment.*
     - *Buildings foundations will follow general guidelines for construction in permafrost terrain (CSA Group 2019).*
   - *If ice-rich permafrost is identified during excavation activities, suitable measures will be taken to protect permafrost and ground ice." (Volume 6, Section 14.3.4.3)*
   - *"Use of previously disturbed areas for project activities, infrastructure, and workspace to the extent practical*
   - *Avoidance of unique landforms and ice-rich permafrost where possible*
   - *Preservation of ground thermal regime and limitation of heat transfer to the ground with appropriate design for construction in permafrost regions*
   - *Use of terrain with dominant bedrock and/or shallow soils where possible*
   - *Proper design of culverts and maintenance*
   - *Development and implementation of an [Erosion and Sediment Control Plan]*" (Volume 6, Section 14.5.3)

3. **Geographic constraint of residual effects within the PDA and limited extent into the LAA**

The Project's framework for spill response and emergency preparedness is set out in the Accidents and Malfunctions assessment (Volume 10, Section 34) and in the Environmental Protection Plan (Volume 11, Appendix 37H), which includes the Risk Management and Emergency Response Plan (RMERP; Attachment H4) and the Spill Contingency Plan (SCP; Attachment H5). Fuel infrastructure descriptions

are provided in Volume 2 (Project Description). Each sub-part of the Information Request is addressed in order below.

> "*With the implementation of best practices, as well as adherence to the mitigations, procedures, and strategies that will be outlined in the [Erosion and Sediment Control Plan], adverse effects of the Project on permafrost are anticipated to be limited geographically within the [Project Development Area] and more hardly in the [Local Assessment Area] (e.g., thaw-sensitive permafrost).*" (Volume 6, Section 14.3.4.4)

This geographic confinement is reflected in the significance determination: while individual residual effects on directly disturbed terrain are long-term and irreversible (Section 14.3.5, Table 14.10), they are spatially limited to the PDA and limited portions of the LAA. The terrain and permafrost system within the broader RAA, which the significance threshold addresses, is not threatened.

Continued Engagement

WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association, to discuss the permafrost assessment, the mitigation framework, and the monitoring framework for terrain stability and permafrost effects.

KAA-17 (IR-17)

Subject

Dust Deposition

Issue / Concern

The IS states that indirect deposition of dust may affect vegetation communities to a distance of 40 meters, however earlier the IS references a study that in Northern Alaska vegetation communities can be altered beyond 100 m.

Information Request

We request the Proponent provide the rationale used to determine that 40 m is an appropriate distance for assessing dust-related effects on vegetation, including how studies reporting effects beyond 100 m were considered in the assessment.

Proponent Response

Rationale for the 40 m Dust-Related Vegetation Effects Distance

The assessment applied a 40 m distance to quantify anticipated indirect effects of dust on vegetation community diversity ,based on the literature reviewed in Section 15.3.2.2, which indicates that the most pronounced dust-related changes to vegetation and soil conditions occur close to dust sources, while effects generally lessen with distance. Although some studies reported vegetation community composition changes beyond 40 m, the evidence reviewed showed that changes in soil conditions, plant composition and cover, biomass, and species loss were more evident within approximately 40 m of roads or other dust sources. On this basis, the IS concluded that dust-related effects on vegetation are expected to occur primarily within 40 m of the Project Development Area.

KAA-18 (IR-18)

Subject

Unquantifiable effects on vegetation

Issue / Concern

The IS states that cumulative indirect effects from changes to hydrology, permafrost and the introduction or spread of non-native and invasive plant species cannot be quantified with available information. Despite this acknowledgement, it is concluded that effects on vegetation community diversity and cumulative effects are expected to be low.

Information Request

The Proponent must provide an explanation on how the mentioned indirect effects were incorporated into the cumulative effects assessment given that these effects could not be quantified.

Proponent Response

Indirect effects associated with changes to hydrology, permafrost conditions, and the introduction or spread of non-native and invasive plant species on vegetation were retained as cumulative-effects pathways and evaluated qualitatively using available information, including spatial distribution of mapped land cover, known disturbance mechanisms, and mitigation measures.

As explained in section 15.1.5, Table 15.3, residual effects on vegetation were characterized based on the potential for loss of landcover types, plant Species of Conservation Concern (SOCC), and plant resources of cultural importance to Kitikmiut, other Indigenous groups, and other potentially affected communities. Changes to vegetation from altered hydrology, permafrost and the introduction or spread of non-native and invasive plant species are expected to occur on and near development footprints.

Cumulative effects to hydrology are expected to occur from blocked surface water flow and permafrost degradation and available scientific literature indicates permafrost degradation occurs within a short distance of roads (Schneider von Deimling et al. 2021). The introduction and spread of non-native and invasive plant species are limited by the harsh climatic conditions and presence of permafrost (Volume 6, Section 15.3.2.2).

Mitigation to reduce effects, including drainage culvert installation, equipment and material inspection and cleaning, reclamation material selection, and disturbance monitoring, are also expected to be required and implemented.

Based on the planned project mitigation measures and expected mitigation measures of Reasonably Foreseeable Induced projects, the overall cumulative indirect effect is not expected to result in the loss of landcover types, plant SOCC, or plant resources of cultural importance to Kitikmiut, other Indigenous groups, and other potentially affected communities. Indirect effects will contribute to changes in landcover

class condition and plant resources of cultural importance to Kitikmiut, other Indigenous groups, and other potentially affected communities, and potentially plant SOCC that occur near footprints. Native landcover classes will remain common and development limited.

KAA-19 (IR-19)

Subject

Raptors

Issue / Concern

The assessment acknowledges that it is unlikely that all raptor cliff-nests located within the LAA and RAA were identified.

Information Request

The Proponent must provide more information on how this uncertainty was incorporated into the assessment of habitat loss and disturbance for raptors, if additional pre-construction nest surveys are proposed, and how newly identified nests would be incorporated into project design and mitigation measures.

Proponent Response

The IS acknowledges it is unlikely that all raptor cliff nests within the LAA and RAA were identified because new nest sites may have been established since baseline surveys were completed, and some species routinely maintain and build multiple nests within a territory. This uncertainty is addressed through a conservative assessment approach. As stated in Section 17.8:

> *"...there is some uncertainty with the raptor nest data... conservative assumptions made in the habitat evaluation are likely to result in an overestimate of the overall habitat effect." (*Volume 6, Section 17.8, page 17-64*)*

The change in habitat assessment does not rely solely on documented nest locations. As described in Section 17.2.1.4 (page 17-16), raptor habitat suitability incorporates both known nesting locations and foraging habitat quality. Areas within 2 km of known peregrine falcon nests are classified as highly suitable, while the remaining habitat classifications are informed by passerine prey densities calculated from 2012 PRISM surveys. Thus, suitable raptor habitat beyond documented nest locations is included in the assessment. Furthermore, consistent with the guidance for general raptor nesting sites, the assessment applies a conservative 1,500 m Zone of Influence around the Project (Volume 6, Section 17.4.1.1, Table 17.10, page 17-35) to account for indirect effects to all suitable nesting habitat, not just known nests.

Beyond the assessment approach, the Project commits to measures that reduce disturbance to nest sites, as per the *Migratory Birds Convention Act* (MBCA) and Migratory Birds Regulations (MBR), In particular, "*pre-construction bird nest sweeps [are used] to protect active bird nests and/or flightless young from incidental take during construction*" (Volume 11, Appendix 37B, Section 8.3.5, page 30). These surveys are intended to identify active nests and other sensitive wildlife features immediately prior

to disturbance activities, thereby reducing the uncertainty associated with changes in nest occupancy between baseline studies and construction.

If wildlife sweeps identify previously undocumented active raptor nests, these locations will be incorporated into Project planning through the mitigation measures described in Section 17.4.1.3 (Volume 6, Section 17.4.1.3, page 17-37) and implemented through the Wildlife Mitigation and Monitoring Plan (WMMP; Volume 11, Appendix 37B, Table 7.1, pages 14-17). Specifically:

- no-disturbance buffers will be established around identified nests;
- where disturbance within a buffer cannot be avoided, a Qualified Professional will develop site-specific protection measures;
- the WMMP will establish species-appropriate timing windows and recommended setback distances for active nests; and
- mitigation and monitoring measures will be updated throughout the Project lifecycle to incorporate new information, including newly identified wildlife sensitivities, management reviews, Inuit, Indigenous and Community Knowledge, improved scientific methods, and regulatory guidance.

Therefore, while some uncertainty remains regarding the complete inventory of raptor nests across the LAA and RAA, the effects assessment incorporated conservative assumptions, and the Project includes pre-construction surveys, adaptive mitigation, and monitoring commitments to identify and protect newly discovered active nests. These measures confirm that new information can be incorporated into Project implementation without changing the conclusions of the effects assessment.

KAA-20 (IR-20)

Subject

Dolphin and Union Caribou (Island Caribou)

Issue / Concern

KAA is concerned that the assessment fails to treat sea ice as a critical migration habitat component for the Dolphin and Union caribou herd and does not quantify the potential effects of Project-related marine shipping and port operations on sea-ice migration habitat.

Despite the importance of sea ice to the herd's annual life cycle, the assessment does not quantify potential loss, alteration, degradation, fragmentation, or reduced accessibility of sea-ice migration habitat resulting from Project-related shipping activities. KAA is concerned that the assessment does not demonstrate whether vessel traffic, shipping operations, ice management activities, or associated changes to ice conditions could affect migration timing, crossing success, habitat connectivity, or mortality risk for the Dolphin and Union herd.

Information Request

The Proponent must provide a quantitative analysis of potential Project-related disruption to sea-ice migration habitat used by the Dolphin and Union caribou herd, including loss, alteration, fragmentation, or reduced accessibility of habitat during seasonal migrations between Victoria Island and the mainland, and assess implications for migration success, habitat connectivity, and herd survival.

Proponent Response

WKR acknowledges that sea-ice disruption is a concern and could cause disruption to the herd's annual life cycle. WKR has investigated this issue in detail in the IS and has developed comprehensive mitigation and management measures to ensure this does not occur.

The Project's interaction with the DUH's sea-ice migration habitat is addressed in the Impact Statement (IS) through the following:

1. the scope of Project shipping (i.e., open-water only, no icebreaking by Project operations);
2. the explicit characterization of the shoulder-season Canadian Coast Guard activity at the Grays Bay Port in Volume 2 (Introduction, Project Description and Alternatives);
3. the assessment of the DUH in Volume 6, Section 16 (Caribou); and
4. the mitigation and monitoring framework in Volume 11 (Wildlife Mitigation and Monitoring Plan [WMMP]).

Project Shipping Season

Volume 2, Section 2.6.3.3 and Volume 8, Section 23 (Marine Mammals) confirms the operational scope of the Grays Bay Port shipping season during construction and operation is limited to ice-free conditions and does not include ice-breaking:

> *"The Large Vessel Wharves and Medium Vessel Wharf, Barge Landing Area and Small Craft Harbour at Grays Bay Port will be operated during ice-free conditions, which is generally forecasted from late June through October, with annual variation depending on weather conditions."* (Volume 2, Section 2.6.3.3, page 2-50)

> *"Inuit, Indigenous, and Community Knowledge helped to determine seasonal work; as a result, no icebreaking will occur during normal port operations in any of the Construction or Operations and Maintenance phases of the Project. In addition, marine in-water work will only be done during the open-water season, which is typically from late June through October."* (Volume 8, Section 23.1.1.3, page 23-3 to 23-4)

> *"It is important to note that in-water activities will not occur in ice, and no icebreaking will occur during normal port operations in any of the Construction or Operations and Maintenance phases of the Project."* (Volume 8, Section 23.3.2.1, page 23-47)

Shoulder-Season Operations at the Grays Bay Port

Volume 2, Section 2.6.3.3 addresses the shoulder-season use of the Grays Bay Port by the Canadian Coast Guard and the anticipated absence of effects on wildlife transiting trails to and from the mainland:

> *"Grays Bay Port will be made available during the shoulder season (i.e., early June and into November) to the Canadian Coast Guard, which carries out icebreaking services from June to November for search and rescue, environmental response, community resupply, breakouts, ship escorts and marine communications and traffic services and other approved vessels during this time, as necessary. Ice breaking during this period is not anticipated to affect human or wildlife transiting trails to and from the mainland. Marine-based infrastructure at the Grays Bay Port will not be available for use between December to May, annually."* (Volume 2, Section 2.6.3.3, page 2-50 to 2-51)

Dolphin and Union Herd Sea-Ice Crossing Migration Windows

The DUH's sea-ice crossing migration windows are summarized in Volume 11 (WMMP) to guide mitigations and monitoring:

> *"Dolphin and Union caribou herd | November 1 to November 30; April 15 to May 30 | Migration periods when herd is moving across Coronation Gulf."* (Volume 11, WMMP, Section 6.2, Table 6.1, page 10)

Mitigation and Monitoring Framework

The WMMP commits to monitoring DUH movements and interactions with the Project, including the timing of seasonal migrations. This commitment primarily involves caribou collar data sharing with the Government of Nunavut:

> *"WKR will form data sharing agreements with the GN and GNWT for annual access to caribou collar data for the BCH, DUH, Beverly/Ahiak herd, and Bluenose-East herd ... For the DUH, monitoring will focus on when individuals migrate to the mainland (post-fall migration, November 9 to 30), during winter residency on the mainland, and when individuals prepare to migrate towards Victoria Island (pre-spring migration staging, April 15 to May 28)."* (Volume 11, WMMP, Section 8.2.1.2, page 22)

Caribou protection is a top priority at WKR, and we are confident that constructing and operating the port and road will not significantly impact the Dolphin and Union herd, particularly once we account for the extensive mitigation measures proposed, namely the commitment to no ice-breaking and operating only during the open-water season. WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association, to discuss measures to further protect caribou.

KAA-21 (IR-21)

Subject

Dolphin and Union Caribou (Island Caribou)

Issue / Concern

The baseline does not provide any quantified measure of sea-ice crossing performance for the Dolphin and Union caribou herd. While migration timing and general routes are described, there is no baseline quantification of how many crossings are successful versus failed, how often crossings are aborted or redirected due to ice conditions, or how these outcomes vary by crossing location and year. As a result, the baseline does not establish the fundamental ecological performance of the sea-ice crossing system, which is the critical mechanism linking seasonal migration, survival, and population change for this Endangered herd.

Information Request

The proponent must provide a quantified baseline of Dolphin and Union caribou sea-ice crossing performance for all available years of data, including:

A. number and proportion of successful crossings;

B. number and proportion of failed or aborted crossings;

C. documented or inferred mortality associated with crossing events; and

D. spatial breakdown of outcomes by major crossing zones (Coronation Gulf, Dease Strait, Dolphin and Union Strait).

The analysis must clearly separate outcomes by season (spring vs fall) and year and must identify instances of rerouting or delayed crossing attributable to ice conditions.

Proponent Response

WKR acknowledges Kugluktuk Angoniatit Association's request for further baseline data collection focused on sea-ice crossing performance. WKR respectfully submits the following response.

The sea-ice crossing system used by the Dolphin and Union Herd (DUH) is well-described in the published peer-reviewed literature and documented Inuit Knowledge, which the Impact Statement (IS) draws from to summarize crossing initiation and timing, crossing routes, necessary sea ice concentration conditions, and the risks associated with crossing events. The IS identifies key crossing corridors and what conditions are necessary for suitable crossings. The DUH's seasonal migration between Victoria Island and mainland Nunavut is described in the IS in Volume 6, Appendix 16A, Section 4.3.4 (Movements and Distribution) and is summarized in Volume 6, Section 16.2 (Existing Conditions). The IS baseline draws on published peer-reviewed literature (Poole et al. 2010; Dumond et al. 2013; Bowler et al. 2025; COSEWIC 2017; Species at Risk Committee 2013, 2023b), Inuit Knowledge

documented through the Naonaiyaotit Traditional Knowledge Project (Banci and Spicker 2024; NTKP 2018), and a collar-based Brownian bridge movement model analysis spanning 2015 to 2024 (Volume 6, Section 16.2).

As operations of the Grays Bay Port are limited to the open-water season with no associated ice-breaking (see response to IR KAA-20), a per-crossing quantification of success, failure, and mortality outcomes does not contribute more information that would help with understanding potential effects of the Project or planning mitigations.

Caribou protection is a top priority at WKR, and we are confident that constructing and operating the port and road will not significantly impact the Dolphin and Union herd, particularly once we account for the extensive mitigation measures proposed, namely the commitment to no ice-breaking and operating only during the open-water season. WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association, to discuss measures to further protect caribou.

KAA-22 (IR-22)

Subject

Dolphin and Union Caribou (Island Caribou)

Issue / Concern

The baseline does not quantify Dolphin and Union caribou mortality or survival in a way that reflects the herd's seasonal migration ecology. Mortality is presented at an aggregate population level, without separating key life-history phases where risk is known to vary substantially (notably fall sea-ice crossings, wintering on the mainland, spring return migration, and calf survival). As a result, the baseline does not identify when or where mortality is occurring within the annual cycle, nor which mechanisms are most influential (e.g., ice-crossing failures, predation during migration staging, winter starvation/icing events, or calf losses linked to timing of migration). This prevents a defensible understanding of the drivers of the observed population decline and limits the ability to assess how Project-related effects could overlap with the highest-risk periods, particularly sea-ice crossing windows and winter conditions that are known to influence survival.

Information Request

The Proponent must provide baseline mortality and survival rates for Dolphin and Union caribou, broken down by migration phase and cause of mortality. Where direct empirical phase-specific rates are unavailable, provide best-available estimates or modelled proxies derived from collar data, observed mortality events, harvest-adjusted survival analyses, and/or expert elicitation, with all assumptions, limitations, and uncertainty ranges clearly documented.

Proponent Response

WKR acknowledges Kugluktuk Angoniatit Association's request to provide baseline mortality and survival rates for Dolphin and Union caribou. WKR respectfully submits the following response.

The Impact Statement (IS) draws information from the published peer-reviewed literature, government reports, and documented Inuit Knowledge to describe the Dolphin and Union Herd's (DUH's) sources of mortality and survival. The IS baseline characterizes the DUH demographic state through survival rates (Poole et al. 2010; Species at Risk Committee 2023), pregnancy rates (Aguilar et al. 2023), predation (Dumond 2007; Banci and Spicker 2024; Species at Risk Committee 2023), body condition and parasite relationships (Hughes et al. 2009), community-specific harvest rates (Volume 6, Appendix 16A, Section 4.3.2), and documented crossing-related mortality (Dumond and Lee 2013).

As acknowledged in the DUH Species Status Report:

> "*Limited information is available on the relative importance of causes of mortality, which include drowning (breaking through sea ice), predation, hunting and starvation (due to adverse weather affecting availability of forage in winter).*" (Species at Risk Committee 2023)

Identifying the phase-specific (seasonal) mortalities of individuals is difficult given the limited data available and held by the Government of Nunavut (GN), including the mortality of collared animals.

Given that mortality sources are known but mortality rates are uncertain, the IS applies a conservative approach to assess mortality risk. The IS uses Total Allowable Harvest (TAH) rates (a relatively small number) to set a high magnitude threshold for mortality risk.

Caribou protection is a top priority at WKR, and we are confident that constructing and operating the port and road will not significantly impact the Dolphin and Union herd, particularly once we account for the extensive mitigation measures proposed. If the Kugluktuk Angoniatit Association has information to share on phase-specific (seasonal) mortalities of individuals, WKR would be happy to consider it.

KAA-23 (IR-23)

Subject

Muskox

Issue / Concern

KAA is concerned the baseline does not determine the current population state of muskox within the Project area or broader region. While abundance estimates are provided across multiple survey years, the data are not interpreted to determine whether the population is stable, cyclic, or in a phase of transient expansion or adjustment. Without this classification, it is not possible to understand whether observed changes in abundance reflect normal variability, recovery dynamics, or underlying population instability, limiting the ability to interpret future Project-related effects.

Information Request

The Proponent must provide an assessment of the current muskox population state within the Project area and regional context, including whether the population is stable, cyclic, declining, or in a phase of transient expansion. This assessment must be supported by available survey trends, calf recruitment rates, and any relevant demographic indicators, and must clearly describe the basis, assumptions, and uncertainty associated with the classification.

Proponent Response

Baseline conditions of the muskox population at the Project and in the wider region of management unit MX-11 are summarized in the IS in Volume 6, Section 18.2 (Other Terrestrial Wildlife — Baseline Conditions) and described in more detail in Volume 6, Appendix 16A (Wildlife Baseline Report), Section 4.6.1 (Population). The assessment of baseline population condition considered the regional aerial survey record from the Government of Nunavut (GN), GBRP-specific RSA surveys (2004–2013), and Inuit Knowledge documented through the NTKP and the Inuit Advisory Group engagement record (IAG 2025a).

As noted in the IS, due to differences in survey methods, area, and timing across the survey record, it is not possible to quantify a population trend for muskox, let alone define a trend as stable, cyclic, declining, or in a phase of transient expansion. This same issue was noted in the report of the GN's most recent comprehensive survey of the muskox population of MX-11 conducted in 2022 (Leclerc et al. 2024). Instead, a weight of evidence approach was used in the IS to qualify the muskox population at the Project and within the wider region as a recovering population that recolonized historical range from the 1970s onward, with continued spatial variability ("seen one year and not the next"), an uneven and clumped distribution favouring the central and northern portions of the RAA toward Bathurst Inlet, and an apparent 2015 disease-related decline followed by continued community sightings (Volume 6, Section 18.2.2.1).

Notably, Leclerc et al. (2024) concluded that, based on their 2022 survey results, “there is no immediate conservation concern for the muskox in MX-11” (p. 26, Leclerc et al. 2024) and their population estimate was used in part in 2023 to support an increase in the Total Allowable Harvest for muskox in MX-11 from 225 individuals to 350 individuals. Should the GN follow the recommendation of Leclerc et al. (2024) to continue to monitor the population in MX-11 every 3-5 years using the same methodology, a time series of population estimates will be available in the future to quantify and define the nature of muskox population trends in this management unit.

Similarly, no reliable estimate of muskox calf recruitment rates is currently available for the Project or the wider region. The most recent population census of MX-11 was conducted prior to the calving season specifically to avoid disturbance to muskox during this sensitive period (Leclerc et al. 2024).

KAA-24 (IR-24)

Subject

Vulnerability assessment of the Bathurst, Beverly/Ahiak, and Dolphin and Union caribou herds to the proposed Grays Bay Road and Port project

Issue / Concern

KAA has concerns regarding how uncertainty is addressed within the CCE model, including key behavioural, spatial, climatic, and demographic inputs used across sub-models.

Information Request

The Proponent must describe how uncertainty is represented and incorporated within the CCE model, including which parameters are treated as fixed versus variable, the ranges or distributions applied (if applicable), and how parameter uncertainty is accounted for in model outputs and population projections.

Proponent Response

WKR acknowledges uncertainty within the CCE model and has investigated this issue in detail in the IS. The response below focuses on how it addresses that uncertainty.

The Impact Statement (IS) addresses uncertainty in the Caribou Cumulative Effects (CCE) model—referred to as the Caribou Herd Vulnerability Model (CHVM) in Volume 6, Section 16—in two ways:

1. the IS identifies how uncertainty is interpreted for different model components, including which model components are validated and which are not;
2. the IS identifies parameter assumptions that are likely to overestimate effects, including the fixed Zone of Influence (ZOI) buffer and discrete foraging penalty values.

These points are discussed in detail below.

How Uncertainty Is Represented and Incorporated Within the CCE/CHVM

Volume 6, Section 16 characterizes the level and treatment of uncertainty in the CCE/CHVM:

> "*The CHVM is useful for exploring the relative outcomes in herd dynamics under different scenarios (i.e., comparisons among scenarios), but there is substantial uncertainty in the absolute outcomes (e.g., predicted exposure, changes in body condition, and population decline rates). Specifically, while the physiological component (energy-protein submodel; see Figure 16.18) has been well-validated (White et al. 2014), the projection of herd dynamics has not. This additional component (population submodel; see Figure 16.18) lacks precision, and is mostly hypothetical, but can be a useful decision support tool to calculate risk (Russell et al. 2021). For this reason, the results presented in Section 16.4.7.3 focused on the relative outcomes of human development and mitigation scenarios, not numerical predictions (i.e., annual decline rates).*" (Volume 6, Section 16.6.3.3, document page 16-156)

Uncertainty is therefore represented in the CCE/CHVM through: (i) differentiating between model subcomponents that have been validated (energy-protein submodel) and those that have not been validated and either lack precision or are mostly hypothetical (population and movement submodels); and (ii) interpreting model outputs as relative comparisons across scenarios rather than as absolute numerical predictions of population trajectory. (Volume 6, Section 16.6.3.3, document page 16-156)

The structural framework within which uncertainty is represented is described in Appendix 16B and summarized in Volume 6, Section 16:

> *"The current model framework links three sub-models: movement, energy-protein, and population (see Figure 16.18). The movement submodel simulates caribou movement using collar data, determines the level of interaction between caribou and human development, and identifies the vegetation (and potential forage) used by the caribou. The energy-protein submodel uses the output from the movement submodel to estimate caribou activity budgets (i.e., feeding, resting, moving) based on available forage biomass and quality, climate factors (e.g., temperature, drought, snow), and interactions with human disturbances. Daily energy and nitrogen intake and allocation are calculated to predict changes in body condition, subsequent pregnancy rates, and overwinter calf survival. The population submodel projects the herd size and composition from an initial population size based on expected age and sex composition, adult and calf survival, fecundity, and harvest rates.*" (Volume 6, Section 16, citing Appendix 16B, document page 16-153)

The linked submodel framework described above provides the structural pathway through which input uncertainty enters and propagates before reaching the population submodel. A detailed discussion of the prediction confidence and uncertainties of the CCE/CVHM is provided in Volume 6, Section 16.6.3.3 (document page 16-156 to 16-567).

Overestimation and Parameter Treatment

Volume 6, Section 16 expressly identifies the principal fixed parameters in the CCE/CHVM and how they likely overestimate potential effects:

> "*Several assumptions related to exposure rates are likely producing overestimates in the effects of human development on caribou herds. First, the CHVM assumes that an individual's single occurrence within the ZOI of human disturbance (fixed at a 5-km buffer) entails a 6%, 12%, or 18% foraging penalty over 24 hours (see Appendix 16B). Based on this assumption, the average exposure rate of [Bathurst Caribou Herd] to the Project is 9.4 days—a rate 6.3-times larger than the actual Bathurst Caribou Herd] exposure rate calculated in this assessment (i.e., 1.5 days of net exposure to the Project; see Section 16.4.3.4). This difference may overestimate effects on herd dynamics up to six-fold.*" (Volume 6, Section 16.6.3.3, document page 16-156)

The IS therefore identifies the following parameters as fixed: (i) the ZOI buffer for human disturbance, fixed at a 5-km buffer for the purposes of the CCE/CHVM exposure calculation; and (ii) the daily foraging penalty associated with a single occurrence within the ZOI, applied as discrete values of 6%, 12%, or 18% over 24 hours rather than as a continuous distribution.

Variable parameters are applied through the discrete scenarios described in Appendix 16B and summarized in Volume 6, Section 16. As described in Appendix 16B, the scenario structure varies climate inputs, development inputs (baseline, Project, and future-development alternatives), mitigation inputs (traffic-control and harvest-control assumptions), and herd-specific demographic inputs reflecting the differing annual ranges, landscapes, and climate of the Bathurst, Beverly/Ahiak, and Dolphin and Union herds.

Caribou protection is a top priority at WKR, and we are confident that constructing and operating the port and road will not significantly impact the caribou, particularly once we account for the extensive mitigation measures proposed. WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association, to discuss measures to further protect caribou.

Reference

Russell, D., Gunn, A., and White, R. 2021. A decision support tool for assessing cumulative effects on an Arctic migratory tundra caribou population. Ecology and Society 26(1):art4. DOI: 10.5751/ES-12105-260104

KAA-25 (IR-25)

Subject

Vulnerability assessment of the Bathurst, Beverly/Ahiak, and Dolphin and Union caribou herds to the proposed Grays Bay Road and Port Project

Issue / Concern

The current description of the CCE model does not provide enough detail to independently reproduce model results. Key steps, assumptions, and parameter applications are not fully clear from the documentation provided.

Information Request

The Proponent must provide sufficient detail for the model to be independently reproduced. This includes providing:

A. *Full model code or detailed step-by-step pseudocode, including clear description of all sub-model interactions and how outputs are passed between components.*
B. *A complete list of all parameter values used in the model, including how each parameter is applied within the analysis.*
C. *All input datasets used in the analysis, including descriptions of data sources, preprocessing steps, and how datasets are incorporated into the model.*

Proponent Response

The Caribou Cumulative Effects (CCE) model—referred to as the Caribou Herd Vulnerability Model (CHVM) in Volume 6, Section 16—is a well-documented methodology framework in the published literature (White et al. 2014; Russell et al. 2021) that is external to the Impact Statement (IS). The framework was applied in the IS through a WKR-commissioned report, which is provided in Volume 6, Appendix 16B, and is summarized in Volume 6, Section 16. The IS provides a comprehensive conceptual overview of the CCE/CHVM, but detailed information on parameters and step-by-step procedures are not provided. Readers are referred to the published literature for further details (White et al. 2014, Russell and Gunn 2019, Russell et al. 2021, Russell et al. 2024, Russell and Gunn 2025). Production of model code, a consolidated reproducibility-level parameter set, and a consolidated input dataset annex beyond the existing Appendix 16B documentation is not possible at this time given the untimely passing of the primary author, Don Russell.

References

Russell, D., and Gunn, A. 2025. Caribou futures: assessing vulnerability of migratory tundra caribou to climate change. Prepared for WWF Global Arctic Programme. https://www.arcticwwf.org/newsroom/news/caribou-futures-report-and-executive-summary/

Russell, D., Gunn, A., and Frid, L. 2024. Vulnerability Assessment of the Bathurst Caribou Herd for the Proposed Slave Geological Province Road, NWT. Manuscript Number 323. Prepared for the Government of Northwest Territories by Shadow Lake Environmental Inc., CARMA, APEX Resource Management. 83 pp.

Russell, D., Gunn, A., and White, R. 2021. A decision support tool for assessing cumulative effects on an Arctic migratory tundra caribou population. Ecology and Society 26(1):art4. DOI: 10.5751/ES-12105-260104

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White, R.G., Russell, D.E., and Daniel, C.J. 2014. Simulation of maintenance, growth and reproduction of caribou and reindeer as influenced by ecological aspects of nutrition, climate change and industrial development using an energy-protein model. Rangifer 34(22). DOI: 10.7557/2.34.2.3269.

KAA-26 (IR-26)

Subject

Vulnerability assessment of the Bathurst, Beverly/Ahiak, and Dolphin and Union caribou herds to the proposed Grays Bay Road and Port Project

Issue / Concern

KAA has concerns regarding the interpretation of seasonal caribou distribution patterns presented in Figures 6–13 of the report. The analysis concludes that there is no meaningful temporal shift in caribou distribution between the 2010–2019 and 2020–2024 periods.

However, this conclusion appears to be based primarily on visual comparison of kernel density estimate (KDE) outputs rather than formal quantitative spatial or statistical testing.

While KDE maps are useful for illustrating broad-scale distribution patterns, visual interpretation alone is not sufficient to demonstrate the absence of change, particularly for a herd that has experienced long-term population decline and range contraction.

Without quantitative comparison metrics, it is not possible to determine whether observed similarities in spatial patterns reflect true stability or are the result of smoothing effects inherent in KDE methods.

Given the importance of accurately characterizing caribou spatial use in relation to the Grays Bay Road and Port project, a more rigorous assessment of spatial change is required to support the conclusion of no meaningful distribution shift.

Information Request

The Proponent has concluded that there is no meaningful change in caribou seasonal distribution between the 2010–2019 and 2020–2024 periods based primarily on visual comparison of kernel density outputs. However, this conclusion requires quantitative and method-tested support to confirm that it is not influenced by smoothing effects or subjective interpretation of spatial patterns.

The Proponent must provide:

a) Statistical measures of spatial change between 2010–2019 and 2020–2024, including centroid shift analysis, spatial overlap indices, or equivalent quantitative metrics describing differences in seasonal distribution.

b) Formal statistical tests (or equivalent analytical methods) that support the conclusion that there is no significant difference in seasonal distribution between the two time periods.

Proponent Response

Volume 6, Appendix 16B uses the 2010–2019 and 2020–2024 kernel density estimate (KDE) outputs to guide the temporal extent of collar data to use in the Caribou Cumulative Effects (CCE) model (referred to as the Caribou Herd Vulnerability Model [CHVM] in Volume 6, Section 16). Ultimately, the full period of collar data (2010–2024) was used in the CCE to define potential interactions with the Project. Any "small" differences (as described by the CHVM authors) between the 2010–2019 and 2020–2024 KDEs and especially in areas of seasonal concentrations, do not influence the outcomes of the CCE/CHVM as all potential interactions are considered for the full period (2010–2024). Therefore, additional tests comparing the 2010–2019 and 2020–2024 KDEs do not contribute to the objectives of the CCE/CHVM.

KAA-27 (IR-27)

Subject

Vulnerability assessment of the Bathurst, Beverly/Ahiak, and Dolphin and Union caribou herds to the proposed Grays Bay Road and Port Project

Issue / Concern

The Caribou Cumulative Effects (CCE) model is presented as a predictive framework for estimating caribou movement, disturbance response, and population outcomes under infrastructure and climate change scenarios. The model is built by integrating previously developed sub-models.

However, the documentation does not demonstrate that either the integrated CCE model, or the specific combination and parameterization of these sub-models used in this assessment, has been formally validated against independent, real-world infrastructure monitoring data.

There is no clear presentation of predictive performance testing comparing model outputs to independent post-construction monitoring data. As a result, it is not possible to assess the accuracy or reliability of the model in reproducing observed caribou movement patterns, avoidance behaviour, survival rates, or population-level responses under infrastructure disturbance.

Information Request

The Proponent must provide the following information to demonstrate model applicability, validation history, and transparency of supporting data for both the integrated CCE model and its component sub-models:

A list of all projects or case studies where the full CCE model (as a combined system) has been used, including how the model was set up in each case.

A. *A list of all projects where each sub-model (movement, energy–protein, and population) has been used and tested, along with a summary of how well they performed.*
B. *A comparison of model predictions to real-world observations for both the full model and sub-models, including caribou movement, avoidance behaviour, survival, and population changes.*
C. *Clear identification of where validation data and results are reported, and clear separation between data used to build the model and data used to test it.*

Proponent Response

The Caribou Cumulative Effects (CCE) model—referred to as the Caribou Herd Vulnerability Model (CHVM) in Volume 6, Section 16—is well-described in the peer-review, published literature (White et al. 2014; Russell et al. 2021). An earlier application of the model from the Northwest Territories is available in Russell et al. (2024).

The Impact Statement (IS) explicitly identifies the CCE/CHVM as a model that:

> "*... links three assumption-based submodels (movement, energy-protein, and population) to make **hypothetical** [emphasis added] predictions of herd dynamics under different scenarios, including the effects of development and climate change, and the potential effectiveness of mitigations. The CHVM helps "explore and project such complex and interacting threats as climate change and industrial development … [and] gaming with such simulation models then allows the user to analyze responses to a single variable or suites of variables" (White et al. 2014). Thus, the primary utility of CHVMs is evaluating the relative changes in predictions across different scenarios.*" (Volume 6, Section 16.1.5, document page 16-19 to 16-20)

This point is reiterated in subsequent text, along with a discussion of the submodels that have and have not been validated:

> "*The CHVM is useful for exploring the relative outcomes in herd dynamics under different scenarios (i.e., comparisons among scenarios), but there is substantial uncertainty in the absolute outcomes (e.g., predicted exposure, changes in body condition, and population decline rates). Specifically, while the physiological component (energy-protein submodel; see Figure 16.18) has been well-validated (White et al. 2014), the projection of herd dynamics has not. This additional component (population submodel; see Figure 16.18) lacks precision, and is mostly hypothetical, but can be a useful decision support tool to calculate risk (Russell et al. 2021). For this reason, the results presented in Section 16.4.7.3 focused on the relative outcomes of human development and mitigation scenarios, not numerical predictions (i.e., annual decline rates).*" (Volume 6, Section 16.6.3.3, document page 16-156)

For its current use case in the IS, the CCE/CHVM has not been validated against real-world observations. It is primarily used as a tool to explore a range of scenarios to support the assessment of potential transboundary effects on the Bathurst Caribou Herd (BCH) and the Dolphin and Union Caribou Herd (DUH).

A list of case studies for the CCE/CHVM, including model setup, testing, and validation, is not available given the untimely passing of the primary author, Don Russell. We refer readers to Russell et al. (2021) for a published application of the full model, and to Russell et al. (2024) for an earlier application of the model in the Northwest Territories.

References

Russell, D., Gunn, A., and Frid, L. 2024. Vulnerability Assessment of the Bathurst Caribou Herd for the Proposed Slave Geological Province Road, NWT. Manuscript Number 323. Prepared for the Government of Northwest Territories by Shadow Lake Environmental Inc., CARMA, APEX Resource Management. 83 pp.

Russell, D., Gunn, A., and White, R. 2021. A decision support tool for assessing cumulative effects on an Arctic migratory tundra caribou population. Ecology and Society 26(1):art4. DOI: 10.5751/ES-12105-260104

White, R.G., Russell, D.E., and Daniel, C.J. 2014. Simulation of maintenance, growth and reproduction of caribou and reindeer as influenced by ecological aspects of nutrition, climate change and industrial development using an energy-protein model. Rangifer 34(22). DOI: 10.7557/2.34.2.3269.

KAA-28 (IR-28)

Subject

Zones of Influence for Muskox

Issue / Concern

The assessment applies a 1.5 km zone of influence (ZOI) around the road and quarries and a 4 km ZOI around higher activity Project components to assess indirect effects on muskox habitat. Habitat within these areas is assigned a lower suitability rating and some habitat is considered functionally lost. However, it is not clear how the selected ZOI distances and habitat rating reductions were determined for this Project or how they reflect expected muskox responses to disturbance in the area.

Information Request

Please provide:

1. *Additional rationale for the use of the 1.5 km and 4 km muskox ZOI distances, including how Inuit Knowledge and the cited studies were applied to the Project.*
2. *The basis for reducing habitat suitability ratings within the ZOI.*
3. *A summary of the amount of muskox habitat that is considered directly lost, indirectly affected, and functionally lost during each season.*

Proponent Response

1. The rationales for the use of the 1.5 km and 4 km ZOI distances for muskox are provided in Volume 6, Section 18.4.1.1 (Analytical Assessment Techniques) of the Impact Statement (IS). While Inuit Knowledge (IK) was used to inform habitat suitability rankings for muskox, there was no IK available to inform ZOI distances. These distance values were selected based on published studies on muskox and other Arctic ungulate response to anthropogenic noise (e.g., Miller and Gunn 1979; McLaren and Green 1985), ZOIs used for muskox in other approved Nunavut project ISs, baseline noise levels for the Regional Assessment Area, and expected attenuation distances for Project generated noise (see Volume 5, Section 13).

   Few studies have examined sensory response distances of muskox. The cited studies in the IS estimated response distances to snowmobile and helicopter traffic of approximately 1 km. Other ISs in Nunavut have used a 4 km ZOI for muskox from all components (Hope Bay) or have differentiated access roads from mine facilities and have used 1.5 km for all-season roads based on noise modeling (Back River). The noise modelling results for the Project had noise attenuating to below 45 dB at 1 km, following mitigation, or 1.5 km unmitigated. For the IS, the more conservative distance of 1.5 km was selected as the ZOI for sensory disturbance of muskox from the road component of the Project to align with that previously used for Back River.

2. The ZOIs represent defined distances from the Project Development Area within which habitat suitability is considered reduced or lost due to indirect project effects (e.g., sensory disturbance, dust deposition, perceived barriers). Within the ZOIs, high and moderate habitat values were reduced by one rating level. Habitat patches reduced from high to moderate represent indirect habitat alteration but remain suitable, whereas areas reduced from moderate to low were considered functional habitat loss (i.e., they become “unsuitable”). This approach recognizes that indirect effects may reduce habitat quality adjacent to infrastructure or project activities but it may still provide some value to muskox.

3. A summary of the amount of muskox habitat that is considered directly lost, indirectly affected, and functionally lost during each season is provided in Volume 6, Section 18.4.1.4 (Project Residual Effect). For the estimated change in summer habitat, for example, 45.1 km^2 of suitable habitat was considered directly lost, 751.3 km^2 indirectly or “functionally” lost, and 763.3 km^2 indirectly affected but still suitable for muskox (see Table 18.12 for the first two values and the preceding text in Section 18.4.1.4 for the latter value). Similar summaries are also provided for late winter habitat in Volume 6, Section 18.4.1.4 and Table 18.13.

KAA-29 (IR-29)

Subject

Effects of Wolverine

Issue / Concern

The assessment concludes that effects on wolverine movement are limited to within 1 km of Project components and that the Project is not expected to create a movement barrier for wolverine.
The assessment also acknowledges that natal and maternal denning periods are highly sensitive to disturbance. However, the basis for the 1 km disturbance distance and the conclusion that movement effects will remain localized is not clearly explained.

Information Request

Please provide:

1. *The rationale and supporting information used to determine that movement effects on wolverine are limited to within 1 km of Project components.*
2. *The basis for concluding that the Project will not create a barrier to wolverine movement, particularly during natal and maternal denning periods.*
3. *An explanation of how disturbance to denning females was considered in the movement assessment and residual effects conclusions.*

Proponent Response

Rationale for limiting effects on wolverine movement to within 1 km of project components

The basis for the 1 km disturbance distance for wolverine movement was the same as provided in Volume 6, Section 18.16.1.1 (Analytical Assessment Techniques) for Change in Habitat, so was not repeated verbatim in Section 18.16.2 (Change in Movement). A ZOI of 1 km around the Project Development Area (PDA) was used to assess indirect effects on suitable wolverine habitat [or wolverine movement], based on the range of habitat avoidance from roads determined by May et al. (2012) and findings on road densities adversely affecting wolverine habitat use (Rowland et al. 2003; Dawson et al. 2010; Scrafford and Boyce 2015; Kortello et al. 2019). In academic research on wolverine habitat selection, 1 km has been cited as an appropriate buffer to represent the larger area in which wolverine movement and habitat use may be influenced by proximity to roads (Johnson et al. 2005). This ZOI distance was also determined to be appropriate for capturing disturbances from all construction activities (e.g., drilling and blasting), as sound levels from construction activities are predicted to return to baseline levels within 1 km of the edge of the PDA (see Volume 5, Section 13).

Section 18.16.2.2 (Project Effects Pathways) also cited evidence that wolverines are more likely to select den sites more than 1 km away from roads during the denning season of February 15 to May 31 (May et al. 2012; Scrafford et al. 2018; Scrafford and Ray 2022; Aronsson et al. 2023).

Basis for concluding the Project will not create a barrier to wolverine movement

A discussion of the potential for the Project to act as a barrier to wolverine movement and how disturbance to denning females was considered in the Impact Statement (IS) is provided in Volume 6, Section 18.16.2.2 (Project Effects Pathways), as follows:

> "*Although wolverines are anticipated to avoid project infrastructure within the PDA, potentially up to 1 km from it for denning females (May et al. 2012), anticipated peak traffic volumes, which occur during the Construction phase, are not expected to create an impermeable filter to movement. Furthermore, the physical structure of the road, with a height of 1.4 m to 1.7 m and a slope ratio of 3:1, will not restrict wolverine from access or crossing, given the agile nature of the species, as stated by local Inuit Knowledge (Banci and Spicker 2024). As such, new linear features resulting from the Project are not expected to be complete obstructions to daily or seasonal movements.*"

Explanation of how disturbance to denning females was considered in the movement assessment and residual effects conclusions

Evidence that wolverines are more likely to select den sites more than 1 km away from roads during the denning season of February 15 to May 31 (May et al. 2012; Scrafford et al. 2018; Scrafford and Ray 2022; Aronsson et al. 2023) was a key determinant in the selection of the 1 km ZOI to capture the predicted maximum extent of indirect effects of Project activities on wolverine habitat and movement. This was also discussed in Volume 6, Section 18.16.2.2 (Change in Movement, Project Effect Pathways), as described above. Disturbance to denning females was also considered in the characterization of the timing of residual effects on wolverine movement as having a high sensitivity in timing (Volume 6, Section 18.16.2.4, Changes in Movement, Project Residual Effect), as follows:

> "*The timing of changes in movement patterns will overlap with a critical period in the wolverine lifecycle, when females may be giving birth and raising young (i.e., natal and maternal denning from February 15 to May 31; Aronsson et al. 2023). Any change in movement across sea ice due to sensory disturbances at the port will only occur during months when sea ice is frozen. Therefore, the effect is predicted to have high sensitivity in timing.*"

No specific mention of denning females was made in the Mitigation, Management, and Enhancement Measures section of the Change in Movement assessment for wolverine (Volume 6, Section 18.16.2.3). However, those general measures for reducing effects on wolverine movement, in combination with measures from the Change in Habitat section specifically aimed at denning females (Volume 6, Section 18.16.1.3), were predicted to reduce disturbance to wolverine movement, including that of denning females, to non-significant levels, as follows (Volume 6, Section 18.19.3, Summary of Mitigation, Management, and Enhancement Measures):

> "*Construction activities can temporarily disrupt local movements, but by applying applicable measures, such as timing restrictions near denning habitat, speed limits, wildlife monitors, and permeable designs at key habitat features, changes to wolverine movement will be minimized. These measures limit displacement to short-duration, localized avoidance, with no indication of population-level movement restriction. Since movement effects only become significant if wolverines lose access to key resources across broader areas, which mitigation and management measures prevent, residual movement effects are not significant.*"

KAA-30 (IR-30)

Subject

Grizzly Bear Habitat Loss

Issue / Concern

The assessment concludes that habitat effects on grizzly bear are negligible because the total habitat loss represents less than 1% of suitable habitat within the RAA. However, the assessment also identifies eskers and other rugged terrain features as important grizzly bear habitat, including denning habitat.

Comparing habitat loss to the entire RAA hides the importance of habitat features that occur at a much smaller scale and may be disproportionately affected by Project activities.

Information Request

Please provide:

1. *The amount and proportion of grizzly bear habitat loss and alteration within the PDA and LAA, in addition to the RAA.*
2. *The amount of habitat loss or alteration affecting eskers, denning habitat, and other habitat features identified as important for grizzly bears.*
3. *An explanation of how the assessment determined that effects are negligible where habitat loss is permanent and irreversible and may affect habitat features identified as important by Inuit Knowledge.*

Proponent Response

1. The amount of grizzly bear habitat loss and alteration within the PDA, LAA (ZOI portion), and RAA is provided in Table 18.24 in Volume 6, Section 18.12.1.4 (Project Residual Effects) of the IS, along with their percentage value of the baseline amount of suitable grizzly bear habitat in the RAA. Table 18.8 in Volume 6, Section 18.2.2.3 (Overview, Grizzly Bear, Habitat and Diet) shows that there is approximately 10-15% more suitable habitat available in the PDA (88.1% of the total area of the PDA) compared to the LAA (77.6% of the LAA) and the RAA (72.6% of the RAA) at baseline. While a somewhat higher percentage of suitable habitat will be affected by the Project at the PDA and LAA scales, given the large home range sizes of grizzly bear, the appropriate scale at which to examine effects on habitat availability is the RAA. Effects on localized features at a smaller scale, such as den sites, will be mitigated through the implementation of pre-disturbance wildlife sweeps and the application of setbacks and timing windows for activities in proximity to any identified den sites, as per Volume 6, Section 18.12.1.3 (Mitigation, Management, and Enhancement Measures).

2. The relative importance of eskers to grizzly bears was acknowledged in the IS in several places, but primarily in Volume 6, Section 18.2.2.3 (Overview, Grizzly Bear, Habitat and Diet). Eskers were not explicitly considered in the habitat modeling for grizzly bear as they are not a recognized cover type in the Northern Land Cover that formed the base data for the mapping. Therefore, it is not possible to use the model to tease out the amount of habitat loss or alteration affecting eskers. The effects of the Project on eskers were examined in Volume 6, Section 14 (Assessment of Potential Effects on Terrain, Soils, and Permafrost). That assessment found that the Project would result in disturbance to 33.3 ha (or 0.333 km^2) of eskers, amounting to 0.2% of the total area of eskers available in the Terrain, Soils, and Permafrost RAA (defined as a 30 km buffer around the PDA).
3. While the effects of the Project on suitable grizzly bear habitat were considered to be permanent and irreversible on the basis that the Project is permanent infrastructure, the overall effects on grizzly bear habitat were found to be of a negligible manner, affecting <1% of the amount of suitable habitat available to grizzly bear in the RAA (as per the threshold ranges of habitat loss for grizzly bear defined in Table 18.4 Characterization of Residual Effects on Other Wildlife).

KAA-31 (IR-31)

Subject

Moose Movement Across the Road Corridor

Issue / Concern

The assessment says the Project is not expected to create a barrier to moose movement, but it also says moose movement in the Project area is not well understood and that some moose may avoid roads. It is not clear how WKR weighed those points when reaching its conclusion.

Information Request

Please explain the basis for concluding that the Project will not create a barrier to moose movement, including how movement across the road corridor was assessed and whether road avoidance was considered. Please also explain whether any monitoring or follow-up will be done to confirm the conclusion during construction and operation.

Proponent Response

Basis for conclusion that the Project will not create a barrier to moose movement

Although residual effects on moose movement are anticipated, the Project is not anticipated to create an impermeable filter to moose movement (Volume 6, Section 18.8.2.4, Change in Movement, Project Residual Effect). That is, project infrastructure and associated activities may prevent some individuals from travelling through an area. As discussed in Volume 6, Section 18.8.2.2 (Project Effects Pathways), it is not roads or other infrastructure that prompts avoidance by moose, but the amount of human activity associated with it. No IK was available on moose responses to human activities. Western science indicates highly variable responses of moose to human disturbance at an individual level, ranging from no avoidance of roads or developed areas (i.e., habituation) (Belant et al. 2006; Stankowich 2008; Bjorge et al. 2018), to little to no aversion to low-use roads (less than 10 vehicles per day) (Wattles et al. 2018), to complete avoidance of high-traffic roads at great distances, resulting in a barrier to movement (Baskin et al. 2004, Laurian et al. 2012).

The conclusion that the Project will not create a barrier to moose movement was based on the distinction between individual-scale avoidance responses, which may include complete avoidance by some individuals, and population-scale barrier effects, which are not expected with the implementation of the Mitigation, Management, and Enhancement Measures presented in Volume 6, Section 18.8.2.3. At the Project, avoidance by moose is anticipated to be highest at the beginning of the Construction phase because of the higher level of human activity in a region of historically low levels of activity, but is expected to decrease with time because of adaptation to human development and then further decrease because of low traffic levels during the Operations and Maintenance phase.

Follow-up and monitoring to evaluate the Project's effects on moose movement

The Wildlife Monitoring and Mitigation Plan (WMMP) (Appendix 37B) contains measures for monitoring Project effects on other terrestrial wildlife, including moose. Elements of the program of most relevance to assessing the accuracy of the IS predictions of effects on moose movement are remote cameras, active monitoring by Environmental Monitors, and incidental wildlife observations (Appendix 37B, Section 8.2, Project Effects Monitoring). Triggers for adaptive management based on the monitoring outcomes will be included in an updated WMMP and will be determined in consultation with Kitikmeot Inuit Association, Inuit Advisory Group, in which the KAA serves in an advisory role, and Government of Nunavut. Adaptive management measures may include work pauses or temporary shutdown of Project components at designated locations and times that coincide with frequent wildlife crossings.

KAA-32 (IR-32)

Subject

Dust mitigation

Issue / Concern

Dust generated from road construction and vehicle traffic can affect aquatic systems when it settles into nearby waterbodies or is transported via surface water runoff or snow meltwater. Road dust can potentially increase turbidity and sedimentation, degrade or smother spawning habitat, harm fish health, alter food webs, and introduce contaminants.

Information Request

Include dust mitigation strategies, including dust suppression, riparian vegetation, setbacks between roads and waterbodies, erosion control, proper drainage design, construction timing restrictions, monitoring programs, and use of appropriate construction materials.

Proponent Response

Listed in NIRB's Appendix A: Information Requests Not Requiring response at this Stage

KAA-33 (IR-33)

Subject

Water and sediment quality guidelines

Issue / Concern

The assessment applies federal water and sediment quality guidelines but does not clearly show that provincial guidelines were considered where they may be more comprehensive or up to date. Best practice is to use the most stringent and relevant criteria, including provincial benchmarks when they provide additional parameters or newer scientific guidance.

Information Request

Incorporate provincial guidelines alongside federal standards.

Proponent Response

Listed in NIRB's Appendix A: Information Requests Not Requiring response at this Stage

KAA-34 (IR-34)

Subject

Temporal distribution of surface water and sediment quality data

Issue / Concern

Surface water and sediment quality data within the Local Assessment Area (LAA) and Regional Assessment Area (RAA) were compiled from previous studies and existing data sets. No new field sampling was conducted specifically for this assessment. Much of the available data were collected in 2012. However, current conditions may differ from those baseline datasets due to climate change-driven alterations to hydrology, permafrost, slope stability, water temperatures, ice regimes and contaminant pathways.

Information Request

Collect updated water and sediment quality sampling to better reflect present-day conditions.

Proponent Response

Additional baseline water sampling to confirm water quality prior to the start of construction will be collected as part of the surface water and sediment quality monitoring program that will be developed and implemented through the Aquatic Effects Management Plan (Volume 11, Appendix 37D) and confirmed through the Nunavut Water Board (NWB) Type A Water Licence process. While the data used in the Impact Statement is aging, changes in water quality from the data reported in the baseline is not anticipated as there have been no changes to the baseline conditions within the LAA to influence changes in water quality.

KAA-35 (IR-35)

Subject

Wetlands

Issue / Concern

The assessment does not explicitly consider wetlands as a distinct valued component (VC). This omission may underestimate their importance, given their role in regulating hydrology, trapping sediments, filtering contaminants, and maintaining connectivity. These ecological functions are particularly valuable in permafrost environments, where wetlands are often closely linked to shallow groundwater processes and seasonal flow dynamics.

Information Request

Map wetland areas within the Project area and include wetlands as a valued component (VC). Characterizing their extent, function, and sensitivity to strengthen the assessment and reduce uncertainty in predicting hydrological and ecological impacts.

Proponent Response

Wetland extent, function, and sensitivity were assessed in the change in wetland function in the Vegetation VC (Volume 6, Section 15.3.4). In addition, the Water Resources VC (Volume 7, Section 19) and the Fish and Fish Habitat VC (Volume 7, Section 20) consider wetlands.

Project-specific mapping was completed within the Project Development Area (PDA), Local Assessment Area (LAA), and Regional Assessment Area (RAA) using Object-Based Image Analysis segmentation and supervised machine-learning. Two spatial resolutions of mapping were undertaken: landcover within the RAA was mapped using 10 m resolution satellite imagery while landcover within the LAA was mapped using 3 m resolution satellite imagery (Volume 6, Section 15.2.1). Natural uplands, wetlands, and unvegetated cover classes, and human disturbed areas were mapped (Volume 6, Section 15.2.2.2).

Within the Vegetation VC, Volume 6, Section 15.2.2.2, the landcover class Non-tussock sedge was identified as a wetland class and the extent in the LAA, and RAA was quantified, 25,602.0 ha and 1,919.7 ha respectively (Table 15.5). The locations of the wetland class Non-tussock sedge is also shown for the RAA and LAA in Appendix 15A, Map Book A.1 and Map Book A.2. Section 15.2.2.2 of the Vegetation impact statement acknowledges other wetland types may occur in the LAA and RAA; however, these areas could not be mapped with the available imagery and topographic information.

Potential Project effects to wetland function were assessed in Volume 6, Section 15.3.4. Cumulative effects are quantified in Volume 6, Section 15.4.2.3 and Section 15.4.4.3.

Section 15.3.4 identifies Project pathways that may affect wetlands through:

> "*changes to soil conditions," "changes to water quantity from partially intersected wetlands and changes to drainage patterns," "dust deposition," and the "introduction and proliferation of non-native and invasive plant species.*" (Volume 6, Section 15.3.4)

The assessment further states:

> "*Project construction has the potential to affect the hydrological, biogeochemical, and habitat functions of wetlands through the removal or alteration of wetland vegetation, partial infilling of wetlands, and alteration of surface and sub-surface water flows. These changes may result in altered wetland nutrient levels and downstream export, decomposition and carbon accumulation rates, water infiltration and storage, plant diversity, and wildlife habitat.*" (Volume 6, Section 15.3.4)

The number of mapped wetlands intersected by the PDA was quantified (Table 15.13), including the number and area partially and fully intersected. The PDA will affect 910 wetlands with 124.8 ha removed. Potential changes to wetland vegetation were qualitatively assessed using available scientific literature and observed plant composition from project surveys of the LAA (Volume 6, Section 15.3.4).

Drainage conveyance culvert locations are being reviewed to reduce potential water blockage and associated wetland effects; however, some effects are unavoidable.

Assessing effects to wetlands as a stand-alone VC would not provide further detail on wetland number, extent, or function or reduce uncertainty in the assessment.

KAA-36 (IR-36)

Subject

Arctic char

Issue / Concern

The assessment acknowledges the presence of both anadromous and freshwater populations of Arctic char; however, it does not demonstrate a sufficient understanding of how these populations specifically use habitats within the Project area. Arctic char exhibit variable life-history strategies that can differ significantly between watersheds, including migration patterns, spawning locations, and seasonal habitat use. This is especially important in Arctic systems, where fish populations often rely on a limited number of critical habitats and may be more vulnerable to disturbance. Without site-specific information on movement timing, migration routes, overwintering areas, and spawning habitat use within the Local and Regional Assessment Areas (LAA and RAA), the assessment may not fully capture how project activities could impact sensitive life stages of Arctic char.

Information Request

Conduct additional site-specific monitoring to support a more robust impact assessment for Arctic char.

Proponent Response

This Information Request is listed in NIRB's Appendix A: Information Requests Not Requiring response at this Stage.

KAA-37 (IR-37)

Subject

A quantitative approach to assess fish health, growth, and survival

Issue / Concern

The Fish and Fish Habitat Protection Policy Statement (DFO 2019) indicates that qualitative assessment methods may be appropriate where the likelihood of impacts to fish productivity is low, or effects are expected to be minor. However, the application of a qualitative approach in this context may not be sufficient given the sensitivity of Arctic ecosystems and sensitivity of species such as Arctic char. Arctic fish populations often rely on a limited number of critical habitats (e.g., spawning and overwintering areas), exhibit slow growth and low productivity, and have limited capacity to recover from disturbance. As a result, even small, localized changes to habitat or water quality can have disproportionately large ecological consequences.

Information Request

Use a quantitative approach to assess fish health, growth, and survival to better capture the magnitude and timing of effects and improve confidence in impact predictions.

Proponent Response

This Information Request is listed in NIRB's Appendix A: Information Requests Not Requiring response at this Stage.

KAA-38 (IR-38)

Subject

Macroinvertebrate Baseline Assessment

Issue / Concern

KAA sees a clear gap in the Impact Statement, as recent macroinvertebrate baseline data is effectively absent. The assessment relies on historical surveys and general scientific literature rather than proponent-sought field data at each water crossing. This is significantly concerning because fish species found at these crossings, such as stickleback and juvenile lake trout, rely on macroinvertebrates as their main food source. Road construction will increase sediment loading into streams, which can fill interstitial spaces and damage the habitat these organisms require for reproduction. Without real baseline data, the assessment cannot properly evaluate this risk or support any conclusions on impacts to fish and fish habitat.

Information Request

KAA insists that a full macroinvertebrate survey program be completed at all crossings prior to breaking ground. Sampling should be done at all affected crossings and evaluate metrics such as species richness and diversity (e.g., Simpson's Index, evenness, richness etc.), along with community composition at a reference site. This will provide a proper baseline and allow KAA to assess the significance of these streams.

Proponent Response

This Information Request is listed in NIRB's Appendix A: Information Requests Not Requiring response at this Stage.

KAA-39 (IR-39)

Subject

Fish Spawning Potential Assessment

Issue / Concern

KAA acknowledges the spawning potential assessment was categorized by none, low, moderate, or high outlined in section 4.2.2; however, this is at best a qualitative assessment and does not ensure that valuable spawning habitat is not being jeopardized, nor does it provide reviewable data to make these inferences.

Lake Trout, a culturally significant species to Kugluktuk, have been observed to spawn in river systems according to both science (Gatch et al., 2021) and local Indigenous Knowledge. To alter their spawning habitat by modifying waterflow dynamics, removing riparian vegetation, or mobilizing sediment into LAA streams is deeply concerning to Kugluktuk.

To accurately assess whether the development of the road will affect spawning habitat, a quantitative baseline assessment of spawning activity must be included in the IS.

Information Request

The Proponent must conduct redd surveys during the fall and juvenile density assessments during early spring to enumerate spawning activity in all LAA streams where crossing are being proposed. Areas where redds are identified or young of the year salmonids are captured would be severely opposed by KAA for road development.

Proponent Response

This Information Request is listed in NIRB's Appendix A: Information Requests Not Requiring response at this Stage.

KAA-40 (IR-40)

Subject

Metal Leaching / Acid Rock Drainage (ML/ARD) assessment

Issue / Concern

The ML/ARD report only does acid base accounting (ABA), but lacks information on risks of contaminant leaching and quantified loadings to the environment, including risks of contaminants from blasting.

Information Request

We request the Proponent to provide quantified information and models on risks of contaminant leaching and loadings from construction materials. This should also include risks from contaminants derived from blasting.

Proponent Response

The ML/ARD Risk Assessment Framework is provided in Volume 7, Section 19.3.3.3:

"An ML/ARD Risk Assessment for the Izok Road alignment (which overlaps entirely with the Water Resources LAA) determined moderate-low and higher-risk road sections are primarily located in the northern portion of the Izok Road alignment, particularly within the Hood River and Kennarctic River watersheds, where both quarries and rock cuts are planned. […] Most of the road (55% 129.3/230 km of all-season road and 3 km of winter road) is considered low risk for ML/ARD, based on low ratings for stressors, pathways, and receptors. However, due to geological variability and low sampling density, additional testing will be conducted near proposed development sites with moderate geological ratings, as part of the Borrow Pits and Quarry Management Plan (see Volume 11)." (Volume 7, Section 19.3.3.3, document page 19-69, PDF page 4045 of 8171)

The Izok Corridor ML/ARD Risk Assessment (Volume 7, Appendix 19B) applies a geochemical and risk characterization framework appropriate for a project in the IS-stage of development for the road alignment. The Volume 7, Section 19 mitigation framework records:

"To limit the interaction of ML/ARD material with oxygen and surface water, an ML/ARD Management Plan will include managing ML/ARD material exposed during construction (e.g., road fill, platforms, borrow sources, etc.). Any rock material sourced for use above the high water mark will be subject to acid rock drainage/metal leaching testing, with only acceptable material used in construction. ML/ARD material that cannot be avoided will be further evaluated by assessing the site-specific conditions including, but not limited to, the geochemical results, the volume of material to be used, the proximity to sensitive receptors, and the grain size of the material. This evaluation will help identify if the material can be mitigated through measures such as site-specific planning, designated use of material, and water management. Designated use of the material may include encapsulating ML/ARD material (if encountered)." (Volume 7, Section 19.3.3.3, document page 19-69, PDF page 4045 of 8171)

The IS recognizes that quantified contaminant leaching loadings depend on site-specific characterization that will be developed as Project design advances and through the regulatory authorization process.

The Volume 11 Borrow Pit and Quarry Management Plan (Attachment H1) records that *"Pre-Development characterization programs will be conducted on each borrow pit or quarry prior to use to identify and characterize these features"* and that *"geochemical characterization information and additional sampling plans (where required)"* will be developed for each site-specific borrow pit or quarry management plan (Volume 11, Attachment H1, Section 2.1, document page 3, PDF page 7989 of 8171).

A sampling program for ML/ARD at locations identified along the Grays Bay Road and within the port PDA was conducted in July 2026, to support further design and construction of the Project. Once analysis of these samples have been completed and reviewed, the potential quarry locations will be updated and refinements to the Borrow Pits and Quarry Management Plan will be made.

Site-specific characterization of contaminant leaching, quantified loadings, and blasting-derived contaminant risks for each borrow pit and quarry will be developed through the Borrow Pits and Quarry Management Plan refinement, and the Aquatic Effects Management Plan refinement, and will be confirmed through the Nunavut Water Board (NWB) Type A Water Licence process and CIRNAC and KIA Quarry and Borrow Pit approvals. This is a standard process that is conducted as quarry locations and suitable material for infrastructure projects are developed, with a focus on environmental considerations for each quarry location. Standard mitigation measures that are effective to avoid, reduce and mitigate for contaminant leaching will be employed, as appropriate for each quarry location based on site-specific conditions. Mitigation and testing will be used to certify that appropriate material is used with consideration of contaminant leaching.

KAA-41 (IR-41)

Subject

ML/ARD assessment

Issue / Concern

The ML/ARD report uses ABA results, which only reflect acid drainage risks, as a foundational metric to gauge and quantify environmental risks from road construction materials, but completely ignores risks of pH-neutral contaminants such as As, Sb, Se, as well as blasting-derived contaminants. The risks from these are independent from ARD and ABA constraints. Table 4-5 (pt.4) shows that such pH-neutral contaminants do present elevated risks.

Information Request

We request the Proponent to provide additional information on quantified risks and loadings from pH-neutral contaminant leaching risks, such as As, Sb, Se and blasting-derived compounds. This should be performed on all materials of interest, not only on those that presented specific ABA results relating to ARD risks.

Proponent Response

Quantified pH-neutral leaching characterization and loading models for As, Sb, Se, and other parameters of interest, and quantified blasting-derived contaminant loadings for all materials at each borrow pit, quarry, and rock cut will be developed as Project design advances, borrow pit and quarry materials are identified, and through the regulatory authorization process, specifically through the site-specific Borrow Pit and Quarry Management Plan characterization, the Explosives Management Plan refinement, and the Nunavut Water Board Type A Water Licence application.

KAA-42 (IR-42)

Subject

ML/ARD assessment

Issue / Concern

The ML/ARD report only discusses materials used for the construction of the road. No information is given on construction materials used for the construction of the aerodrome and seaport facilities.

Information Request

We request the Proponent to provide information on the construction materials planned to be used for the construction of the aerodrome and the seaport, as well as a comprehensive characterization of geochemical risks (i.e., a ML/ARD study that includes ABA as well as models on risks of contaminant leaching and loadings).

Proponent Response

The construction materials for the aerodrome and port facilities are sourced from the same Project borrow pits and quarries as road materials, and are subject to the same ML/ARD assessment and testing framework. As set out in Volume 7, Section 19.3.3.3 (materials used above the high water mark) and Volume 8, Section 21.3.2.3 (materials used below the high water mark), rock material will be subject to ML/ARD testing, with only acceptable material used in construction. Site-specific geochemical characterization for each material source will be developed as Project design advances and through the regulatory authorization process, as described below.

The ML/ARD assessment framework, including the Izok Corridor ML/ARD Risk Assessment (Volume 7, Appendix 19B), contaminant leaching, quantified loadings, and blasting-derived contaminant risks, is addressed in the response to KAA-40 (IR-40); quantified pH-neutral contaminant leaching (e.g., arsenic, antimony, selenium) is addressed in the response to KAA-41 (IR-41). This response addresses the application of that framework to the aerodrome and port construction materials.

Application of the ML/ARD Framework

The ML/ARD assessment framework applies according to whether material is used above or below the high water mark, which together covers all Project components:

The Volume 7, Section 19 mitigation framework records the testing requirement for materials used above the high water mark:

> "*Any rock material sourced for use above the high water mark will be subject to acid rock drainage/metal leaching testing, with only acceptable material used in construction."* (Volume 7, Section 19.3.3.3, Page 19-69)

For materials used below the high water mark, including those used in seaport infrastructure, the Volume 8, Section 21 marine framework records:

> "*Where practical, only material with low acid rock drainage and metal leaching potential will be used for the Project. Any rock material sourced for use below the high water mark will be subject to acid rock drainage/metal leaching testing, with only acceptable material used in construction*." (Volume 8, Section 21.3.2.3, Page 21-45)

Borrow Pit and Quarry Management Plan Applicability

The Volume 11 Borrow Pit and Quarry Management Plan (Appendix 37H, Attachment H1) sets out the per-feature pre-development characterization framework: "Pre-Development characterization programs will be conducted on each borrow pit or quarry prior to use to identify and characterize these features" with "geochemical characterization information and additional sampling plans (where required)" will be developed for each site-specific borrow pit or quarry management plan (Volume 11, Attachment H1, Section 2.1). This framework therefore applies to the aerodrome and port material sources as it does to road material sources.

Consistent with the response to KAA-40 (IR-40), a sampling program for ML/ARD at locations identified along the Grays Bay Road and within the port Project Development Area was conducted in July 2026 to support further design and construction of the Project. Once analysis of these samples has been completed and reviewed, the potential quarry locations will be updated and refinements to the Borrow Pits and Quarry Management Plan will be made.

Site-specific ML/ARD characterization (including ABA, contaminant leaching, and quantified loading models) for the construction materials used for the aerodrome and port facilities will be developed through the Borrow Pit and Quarry Management Plan and the Aquatic Effects Management Plan refinement, and will be confirmed through the Nunavut Water Board (NWB) Type A Water Licence process and CIRNAC and KIA Quarry and Borrow Pit approvals.

Monitoring across the freshwater and marine receiving environments is provided through the Aquatic Effects Management Plan (Volume 11, Appendix 37D), and will incorporate the relevant geochemical monitoring program for each material source as part of the adaptive management framework, with continued engagement with Kitikmiut and other Indigenous groups (Volume 11, Appendix 37D, Section 1.2).

KAA-43 (IR-43)

Subject

Freshwater and Sediment Quality Summary Report

Issue / Concern

The monitoring data provided is limited to the summer open-water season (July and August)

Information Request

We request the Proponent to provide information on water quality during the winter or the spring freshet, which are critical periods for understanding peak flows, sediment transport, and potential seasonal shifts in water chemistry.

Proponent Response

The IS recognizes that the surface water and sediment quality baseline dataset is limited in temporal and seasonal coverage, with data collected in 2012 and 2024 used to characterize existing conditions. Detailed seasonal sampling design for the ongoing water and sediment quality monitoring program — including the inclusion of winter base flow, spring freshet, and open-water sampling — will be developed during the Aquatic Effects Management Plan (AEMP) refinement and in support of the Nunavut Water Board Type A Water Licence application process, with input from Kitikmiut and other Indigenous groups. Additional baseline data collection will be done when monitoring stations are set up prior to construction at the locations identified in the AEMP, setting the basis for comparison of monitoring results to base conditions that are site-specific. Mitigation measures, including those identified already in the IS (e.g., erosion and sediment control measures, construction during frozen conditions), will be employed and are expected to be effective to limit residual effects to water and sediment quality during construction.

The seasonal hydrology baseline in Volume 7, Section 19.2 includes characterization of seasonal runoff distribution and peak flow periods relevant to the KAA's underlying concern about peak flow and sediment transport.

KAA-44 (IR-44)

Subject

Effects to Marine water quality

Issue / Concern

The IS does not identify a snow clearing management plan nor does it consider an effects assessment of snow disposal into Grays Bay. This represents a key deficiency for a port setting project.

It is likely that sizeable snow piles will be plowed and stockpiled adjacent to or dumped directly into port waters. Given the increased foot traffic and heavy machinery that will take place at the port, the snow will inevitably accumulate contaminants, not limited to: road salts, hydrocarbons, inorganic waste, sediment, and heavy metals. When snow is dumped into marine environments or melts in concentrate near the shoreline, these contaminants are rapidly released without treatment.

How increased runoff will dilute or enrich the harbour's salinity is also not adequately assessed, and together these concerns pose adverse risk to local aquatic species.

Information Request

1. *Explain whether snow disposal was assessed and provide the rationale for excluding it from the marine effects assessment.*
2. *The Proponent must conduct an effects assessment on Grays Bay with specific attention to how contaminants may be transported through pathways into the harbour. To support this modelling, the Proponent should review data and impacts from other Canadian port authorities that dispose of snow, in order to understand the temporal dynamics of contaminant release from snow and its potential contribution to harbour pollution.*

Proponent Response

Direct disposal of snow on sea ice or into marine waters is not a proposed Project activity and was therefore not assessed as a direct marine effects pathway. Potential indirect effects associated with snowmelt runoff were considered as part of the broader surface-water runoff pathway assessed in Volume 8, Sections 21.3.2 and 21.3.3. The Impact Statement (IS) addresses runoff- and snowmelt-related effects on marine water quality through the assessment framework set out in Volume 8, Section 21.3.2 and Section 21.3.3.

As stated in Volume 8, Section 21.3.3.4 (Change in Marine Sediment Quality — Mitigation, Management, and Enhancement Measures):

> "*Surface runoff during rainfall and snowmelt events may continue to introduce fine sediments and pollutants into the marine environment; however, these inputs will be managed through engineered drainage systems and erosion control measures.*
>
> *Mitigation measures for the Project will be guided by a Project-specific Environmental Protection Plan, which will be aligned with applicable regulatory frameworks, as outlined in Section 21.1.2.*" (Volume 8, Section 21.3.3.4, document page 21-60, PDF page 5384 of 8171)

The Volume 8, Section 21.3.3.4 mitigation framework records:

> "*To mitigate impacts during both phases, measures such as silt fencing, sediment traps, and engineered drainage systems will be implemented to manage runoff and prevent sedimentation in marine areas.*" (Volume 8, Section 21.3.3.4, document page 21-60, PDF page 5384 of 8171).

Consistent with the Project's objective of preventing contaminants from entering marine waters, snow generated during Port operations is expected to be stored and managed in designated onshore snow storage areas rather than disposed of directly into marine waters. Snow storage areas would be located a minimum of 31 m from the high-water mark, and snowmelt would be managed through applicable onshore water management and disposal measures, as required. Operational controls, runoff management measures, and any requirements for snow storage areas will be developed through refinement of the Port Management Plan, Road Management Plan, Environmental Protection Plan, and associated Water Management Plan.

Site-specific operational details for snow disposal at the Port and along the Road — including snow disposal locations, contaminant monitoring at snow storage areas, snowmelt collection and treatment requirements, and runoff treatment requirements — will be developed through the Port Management Plan, Road Management Plan, and Environmental Protection Plan refinement and confirmed through the Nunavut Water Board (NWB) Type A Water Licence process and applicable federal regulatory authorizations under the Canada Shipping Act, 2001 and the Fisheries Act. The Aquatic Effects Management Plan (Volume 11, Appendix 37D) is the monitoring instrument applicable to marine water quality effects, with commitment to threshold-triggered adaptive management and "continued engagement with Kitikmiut and other Indigenous groups, as part of the adaptive management plan" (Volume 11, Appendix 37D, Section 1.2, document page 2, PDF page 7874 of 8171).
The management plans are submitted in draft form with the IS and will be refined through subsequent regulatory processes.

KAA-45 (IR-45)

Subject

Marine Mammals in the RAA

Issue / Concern

The IS does not provide a sufficient assessment of marine mammals that occur within the RAA, as it does not account for species becoming present due to climate change.

Existing baseline information on marine mammals relies heavily on two regional surveys (LGL in 2012 and Stantec in 2025) and broad, historical ecological characterization. This approach is inconsistent with the current ecological variability of Arctic marine systems, where whale occurrence has been non-localized and changing temporally. For example, the Government of Canada notes that observations of orcas, humpbacks, minkes, and dolphins are becoming frequent in Nunavut coastal areas due to rising water temperature (PKC, 2025). These species must be identified and assessed in the IS.

Information Request

Provide the rationale for concluding baseline information is sufficient despite the absence of multi-year monitoring and the increasing occurrence of climate-driven marine mammal species.

KAA strongly urges the implementation of a targeted, multi-year marine mammal baseline program to quantify whale presence, distribution, and habitat use throughout the entire RAA, with particular emphasis on open-water seasons. This program should integrate year-round aerial and vessel-based surveys, passive acoustic monitoring, and real-time Inuit Knowledge on species observations. The omission of these cryptically observed species from the IS does not adequately reflect the full risk of vessel-related collision impacts.

Proponent Response

WKR acknowledges Kugluktuk Angoniatit Association's concern regarding the marine mammal baseline presented as part of the IS. WKR respectfully submits the following response to address those concerns.

Baseline conditions were characterized using a weight-of-evidence approach integrating Inuit, Indigenous, and Community Knowledge, regional scientific information, and Project-specific field studies (including 2025 aerial and vessel surveys and acoustic monitoring). Available evidence indicates that marine mammal species, including bowhead whale, beluga, narwhal, and polar bear, as well as other potential extralimital species such as killer whale, humpback whale, minke whale, and delphinid species, occur infrequently or at low densities within the LAA, with observations generally occurring in low numbers within the broader RAA or outside the RAA altogether. Marine mammal species known to occur within the LAA and RAA are summarized in Table 23.6 (Volume 8, Section 23). Species identified through Indigenous knowledge, scientific literature, and Project-specific field studies were considered in the assessment, including species known to occur within the Project area and infrequently observed extralimital species.

The assessment conservatively assumes species presence, using the most likely occurring cetacean species (i.e., bowhead whale, narwhal, and beluga) and the most common seal species (i.e., ringed seal) as assessment proxies. The assessment also acknowledges uncertainty related to detection and climate-driven variability. As discussed in Volume 8, Section 23.3.7, climate change has the potential to influence marine mammal distributions, habitat use, and seasonal occurrence patterns through changes in sea ice and environmental conditions. These changes may alter the timing, frequency, and distribution of marine mammal occurrence within the region and contribute to increased observations of species that have historically been uncommon within the Project area. The assessment therefore considered uncertainty associated with future changes in marine mammal occurrence and distribution when evaluating Project-related effects.

Potential interactions were assessed in the context of Project-related vessel traffic and cumulative effects, including reasonably foreseeable future development and associated increases in marine shipping within the RAA. Given the low density of cetacean species, their limited and episodic use of the LAA, and the relatively low level of regional vessel activity, the incremental contribution of the Project and reasonably foreseeable shipping to overall exposure is expected to be limited, and the probability of interaction (including vessel strike risk) remains low. Potential effects associated with vessel traffic, underwater noise, sensory disturbance, and injury were assessed in Volume 8, Sections 23.3.3 and 23.3.4 and were considered within the cumulative effects assessment presented in Volume 8, Section 23.5.

The Project plans to incorporate standard mitigation measures (e.g., vessel speed restrictions and marine mammal observation protocols) and marine mammal monitoring and adaptive management commitments, including Inuit-informed monitoring and the application of visual and acoustic methods. These measures will be implemented through Project-specific marine mammal monitoring and follow-up programs described in Volume 8, Section 23.6. Monitoring results will be used to verify assessment predictions, evaluate the effectiveness of mitigation measures, and inform adaptive management responses where warranted. The objective of these monitoring and adaptive management measures is to minimize Project-related effects on marine mammals while improving understanding of marine mammal presence, distribution, and potential interactions with Project activities over time.

KAA-46 (IR-46)

Subject

Marine Mammals in the RAA

Issue / Concern

The acoustic baseline is limited to a single hydrophone deployment solely within the LAA (for just 1 month), providing insufficient spatial coverage. The dataset produced no confirmed whale detections and only one seal detection, indicating the results are not sufficient to characterize marine mammal presence or habitat use. No passive acoustic monitoring was conducted in the RAA, despite vessel traffic and associated risks extending both easterly and westerly of the LAA. KAA believes this to be a significant gap, as cetaceans are more likely to occur in offshore, deeper-water habitats within the RAA, and utilize the LAA intermittently. As the port would increase vessel traffic regardless, it's defensible and necessary to assess the larger RAA radius for marine mammal detections.

Information Request

Explain how one month of acoustic data is sufficient to characterize marine mammal use throughout the RAA.

The Proponent must implement a multi-year passive acoustic monitoring program with hydrophone deployments in both the LAA and RAA. Amundsen Gulf would be a reasonable representation of regional whale and seal habitat, and would help define how these species could be using the LAA/RAA for feeding, habitat, or migratory purposes.

Proponent Response

The 2025 acoustic monitoring program was completed during the open-water field season and represents one component of the broader marine mammal baseline characterization, which also incorporated Inuit, Indigenous, and Community Knowledge, regional scientific information, and Project-specific aerial and vessel surveys. The duration of acoustic monitoring was constrained by the limited seasonal window available for field deployment and retrieval activities in the Project area.

The acoustic data were not relied upon in isolation to characterize marine mammal use throughout the RAA. Rather, they were used as part of a weight-of-evidence approach to supplement other available information sources and to support the assessment of marine mammal occurrence within the assessment areas. The assessment acknowledges uncertainties related to spatial and temporal variability in species occurrence and conservatively assumes marine mammal presence.

WKR recognizes that longer-term acoustic monitoring would further improve understanding of marine mammal use of the Project area. As a result, WKR is committing to collecting one full year of baseline data prior to any construction of the permanent marine infrastructure. WKR is exploring opportunities to undertake this additional acoustic monitoring to further refine baseline understanding and support adaptive management and follow-up monitoring programs.

KAA-47 (IR-47)

Subject

Invasive Species through ballast water

Issue / Concern

The IS does not address the risk of invasive species introduction through vessel ballast water, which is a significant omission. Marine vessels routinely transport invasive organisms such as tunicates, mussels, and green crab in ballast tanks, and without evaluation or mitigation measures through a management plan, these species can be released into receiving waters. This presents a direct pathway for these species to disrupt fish nurseries and sensitive benthic habitats. The absence of this analysis overlooks a well-documented vector of ecological impact and leaves a critical gap in understanding and managing project-related risks.

Information Request

1. *Explain how invasive species risks associated with ballast water were considered and why they were excluded from the assessment.*
2. *The Proponent must complete an effects assessment as part of the IS, addressing invasive species and their potential impacts on the natural benthic ecosystem.*
3. *The Proponent must also prepare a management plan for invasive species to be included in Volume 11 of the IS documentation.*

Proponent Response

The Impact Statement (IS) included consideration of the potential effects of ballast water discharge, including potential introduction of invasive species, on marine water quality in Volume 8, Section 21.3.2, and on marine fish habitat in Volume 8, Section 22.3.2. Ballast water management is discussed in Volume 8, Section 22.3.2.4 (Marine Fish and Fish Habitat), including discussion of the relevant federal regulations in place to prevent the accidental introduction of aquatic invasive species.

Under the *Canada Shipping Act (2001)*, overseen by Transport Canada, all vessels (Canadian or international) operating in Canadian waters must adhere to the *Ballast Water Regulations.* These regulations aim to prevent the introduction of aquatic invasive species during international voyages, as well as during short-distance regional voyages within Canada. The *Ballast Water Regulations* require all vessels to: 1) develop and put in place an approved ballast water management plan; 2) follow standards that limit the number of organisms released; 3) be regularly surveyed and inspected by an authorized organization; 4) keep records; and 5) carry a valid certificate that allows inspectors to confirm that the vessel complies with the convention. Additionally, updates to these regulations in 2021 now require that vessels be equipped with modern ballast water management systems that include treatment of ballast water while onboard a vessel, going beyond the previous standard of only requiring mid-ocean exchanges during voyages.

The *Ballast Water Regulations* are designed to protect marine ecosystems by preventing the introduction and spread of aquatic invasive species and reducing pollution from ships. These regulations are aligned with the International Maritime Organization's (IMO 2004) Ballast Water Management Convention.

Compliance with these federal regulatory frameworks is required for both Project vessels and third-party vessels calling at the Grays Bay Port. Vessel compliance will be established with vessel operators and will be documented in the Port Management Plan.

Given mandatory compliance with the Ballast Water Regulations and associated treatment requirements applicable to all vessels calling at the Port, invasive species introduction through ballast water was not identified as a residual Project effect pathway requiring separate effects characterization in the Impact Statement.

KAA-48 (IR-48)

Subject

Governance and Decision-Making

Issue / Concern

The IS states that potential adverse effects on cultural practices, laws, governance systems, and decision-making abilities may occur as a result of changes to resource availability, access and perceptions of land and resource quantity.

However the assessment concludes that these effects are not significant, primarily due to the continued role of KIA.

Information Request

KAA requests the Proponent explain how significance determination was evaluated for other groups other than KIA, including KAA.

Proponent Response

WKR acknowledges the valuable role Inuit play in decision-making for development projects across Nunavut, which can occur through various organizations.

Project development and governance will support the objectives of the Nunavut Agreement, particularly the primary role of Inuit in decision-making regarding their lands and waters (e.g., KIA, HTOs, NIRB), provision of meaningful economic benefits directly to Inuit (e.g. through Inuit ownership of the Project, employment and business opportunities for Inuit), and improvements to the overall well-being of Inuit (e.g., through provision of new economic opportunities, balanced with effective mitigation and management measures).

On the subject of governance and decision-making, the Impact Statement (IS) concluded in Volume 9, Section 24.5.1 that: "with the application of mitigation, management, and enhancement measures described in Sections 24.3.3 to 24.3.6, the Project will not result in a long-term change in [Traditional Land, Marine and Resource Use (TLMRU)] such that TLMRU would be critically reduced or eliminated within the VC RAAs that overlap Kitikmiut and other potentially affected Indigenous groups' respective preferred and asserted TLMRU areas" and therefore "the residual Project effects on TMLRU are predicted to be not significant". The assessment framework is set out in Volume 9, Section 24 (Traditional Land, Marine, and Resource Use), and was supported by engagement with Inuit, including the Kugluktuk Hunters and Trappers Organization.

Of note, Inuit Advisory Group (IAG) workshops also focused on the identification of effects that were considered acceptable or unacceptable to members. Through the discussion, a holistic suite of considerations to be integrated into the Project's social, environmental, and economic plans emerged. Feedback received with respect to priorities when considering unacceptable changes as a result of the Project can be found in relevant Significance Definition subsections for each Valued Component; Section 24.1.6 lists the feedback specific to the TMLRU significance definition.

The significance determination for potential adverse effects on cultural practices, laws, governance systems, and decision-making abilities was not based solely on the anticipated continued role of the Kitikmeot Inuit Association (KIA). Rather, the determination considered the broader significance framework established in Section 24.1.6, including the perspectives and knowledge of engaged parties, including Kitikmiut and other potentially affected Indigenous groups, effects characterization, mitigation measures, and the assessment of whether TLMRU would be critically reduced or eliminated within the assessment areas. Additionally, the determination of the significance of residual effects was considered for residual effects on Kitikmiut and other potentially affected Indigenous groups. While Section 24.5.1 notes that the KIA is expected to continue playing a valued and important role in development and decision-making processes through its management responsibilities and involvement in the Project, this consideration formed but one component of the evaluation of decision-making effects and was not the sole basis for the significance conclusion applicable to other potentially affected groups.

As described in Section 24.5.1, the significance determination was informed by "information obtained through Project-specific engagement, the Project-specific Inuit Knowledge report, compiled from the [Naonaiyaotit Traditional Knowledge Project] database, Inuit Advisory Group (IAG) workshops, literature review, and community-based primary research. Significance determinations for related biophysical and human environment VC assessments, the ecological and socio-economic context of the VC RAAs that overlap with the Kitikmeot Region and the territories, harvesting areas, and areas of interest ... of potentially affected Indigenous groups, past project experience, and professional judgment are also considered." (Section 24.5.1, p. 24-173). The assessment recognizes that potential adverse effects on cultural practices, laws, governance systems, cultural transference, and decision-making abilities may occur for Kitikmiut and other potentially affected Indigenous groups, including through changes in resource availability and access, perceptions of land, marine, and resource health and quality, and time available for participation in TLMRU activities.

Furthermore, the IAG and other stakeholders have advised WKR on potential environmental and socio-economic impacts or concerns related to the Project, planned mitigation approaches, and aspects of the environmental assessment, including, but not limited to, significance determination and the integration/use of Inuit Knowledge, and will continue to advise WKR on potential environmental and socio-economic impacts or concerns related to the Project through monitoring and engagement over the duration of the Project (Section 24.4.5).

Ongoing engagement activities with WKR will continue through Project-related engagement processes and implementation of mitigation, management, and monitoring commitments.

KAA-49 (IR-49)

Subject

Drug toxicity mitigation

Issue / Concern

A strict prohibition on possession of alcohol or illicit drugs on company property is likely to incentivize possession and distribution of stronger, more easily concealed substances (e.g. high-purity methamphetamine, fentanyl, moonshine)

Information Request

1. *The Proponent must provide mitigation strategies for the strong potential that unregulated, high-potency substances will circulate on premises and into surrounding regions.*
2. *The Proponent must examine alternatives to strict prohibition that could help alleviate the dangers (including toxicity and organized criminal elements) of a fully unregulated market.*

Proponent Response

WKR acknowledges that strict prohibition alone of alcohol and illicit drugs may have unintended consequences. Broader policy alternatives to prohibition are developed at different levels of governments and are outside WKR's direct authority; however, for the Project, WKR will maintain a No Drug and Alcohol Policy because of workplace safety requirements, the Project's remote camp setting, and potential community interactions (e.g., when local workers return back to their home communities).

In developing the final Project policy and related procedures, WKR will examine complementary harm-reduction, worker-support, screening, access-control, emergency response, and engagement measures to reduce risks awhile maintaining a no drug and alcohol approach on Project premises, at work camps, and during Project-related transit. These measures may include worker education, confidential employee assistance supports, confidential employee reporting 'hotline', culturally appropriate Inuit employee supports where available, non-punitive help-seeking pathways, onsite emergency response procedures, luggage screening, controlled site and road access, coordination with appropriate authorities and health partners, onsite emergency response procedures, and ongoing engagement with the Government of Nunavut (GN), and/or Inuit Organizations, RCMP, and other affected parties.

Together, the Road Management Plan, Drug and Alcohol Policy, and luggage screening policy are intended to reduce opportunities for unregulated substances to circulate on Project premises or move into surrounding regions by limiting access, controlling worker movement, screening items entering the site, increasing monitoring, and establishing a documented process for identifying and responding to unauthorized substance transport. The effectiveness of these measures will be considered through the design and development of the Socio-economic Monitoring Plan (SEMP).

The operational design of the No Drug and Alcohol Policy, the SEMP and the luggage screening policy will be developed in advance of construction and prior to implementation. WKR is committed to ongoing engagement with the GN, and/or Inuit Organizations, RCMP, and other affected parties during advancement of project design.

KAA-50 (IR-50)

Subject

Substance use in the workplace

Issue / Concern

Discussion of the impacts of the rotational work, time away from friends and family, intense labour, long commutes, homesickness and accommodation facility living on mental health, work-related stress levels and coping mechanisms (e.g., substance use), but no mitigations provided in case of onsite substance use adverse effects.

Information Request

1. *The Proponent must provide, examine and report on resources related to minimizing risks to workers who experience acute drug toxicity onsite from substance use.*
2. *The Proponent must examine and provide potential overdose response protocols (e.g. Naloxone On Site, Tailgate Toolkit) for mitigating risk of death from acute drug toxicity.*

Proponent Response

While the Project will create meaningful economic opportunities for Inuit, WKR also recognizes the potential for new stresses to be created for workers, families, and communities. For this reason, WKR has developed a comprehensive suite of mitigation measures to address these issues.

In the information request, KAA refers to Volume 9, Section 26.3.5.1 which discusses Project effect pathways for change in mental health, emotional health and coping mechanisms. Mitigation, Management, and Enhancement Measures for mental health, emotional health and coping mechanisms are described in Volume 9, Section 26.3.5.2 and further described in project residual effects in Section 26.3.5.3. Section 26.3.5.2 states (Volume 9) “WKR will implement the following mitigation, management, and enhancement measures during Project Construction and Operations and Maintenance phases to reduce potential adverse effects on mental health, emotional health, and coping mechanisms in the LAA:

- WKR will develop and implement a Health and Medical Services Plan which will include a workplace health promotion program... including an Employee and Family Assistance Program (EFAP) and an Inuit Employee Assistance Program (IEAP) where appropriate resources exist.
- WKR will develop and implement an education program to inform workers of the range of health services available onsite.
- WKR will develop and implement a No Drug and Alcohol Policy. The Drug and Alcohol Policy will apply to all personnel and contractors on-Site, at work camps, and during transit through communities.

- WKR is committed to ongoing engagement with the Government of Nunavut and/or Inuit Organizations and other affected parties during advancement of project design and planning.
- WKR will develop and implement a Socio-Economic Monitoring Program. The Socio-Economic Monitoring Program will include annual monitoring reports. Reports will be submitted to Nunavut Impact Review Board, as required. "

As further described in Volume 1, Appendix B, Commitment 355 states that an Occupational Health and Safety Plan will be established and implemented, and Commitment 52 states the Health and Medical Services Plan will be part of the Occupational Health and Safety Plan.

These measures will be implemented to reduce the potential for use of illicit substances onsite and risks to workers who may experience acute drug toxicity onsite from such substance use.

The request to include specific overdose response protocols, naloxone availability, harm-reduction toolkits, and acute drug toxicity response procedures is not addressed at the level of operational detail in the current IS as filed. Through further development of the Health and Medical Services Plan and Occupational Health and Safety Plan, and through ongoing engagement with the Government of Nunavut and/or Inuit Organizations and other affected parties, WKR is committed to the development of operational details to provide potential overdose response protocols and acute drug toxicity response procedures such as provision of naloxone onsite and harm reduction toolkits to mitigate effects of potential acute drug toxicity on-site.

KAA-51 (IR-51)

Subject

Injury care (as pertaining to substance use)

Issue / Concern

Discussion of the legislation surrounding workplace injuries, but no details provided on care of injured workers. This is especially important in the context of increasingly lethal unregulated drug supplies.

Information Request

1. *The Proponent must provide, examine and report on resources related to minimizing risks to workers prescribed painkillers for workplace injuries, particularly concerning flexibility around prescription windows, after which individuals often transition to the unregulated market.*
2. *The Proponent must provide resources explaining how persistent workplace injuries will be managed alongside fitness for work policy, particularly if pain management of injuries continues into resumption of work (e.g. alternative work options).*

Proponent Response

The Project's framework for worker injury prevention, treatment, rehabilitation, and return to work is established through applicable territorial workplace health and safety and workers' compensation requirements, including the Workers' Compensation Act, Workers' Compensation General Regulations, Safety Act, Occupational Health and Safety Regulations, and Mine Health and Safety Act, as administered by the Workers' Safety and Compensation Commission. The Workers' Safety and Compensation Commission identifies early and safe return to work as a collaborative process involving the injured worker, employer, health care provider, and the Commission, including identification of suitable work and adjustment of return-to-work plans as required.

WKR will develop and implement the Health and Medical Services Plan (HMSP), which will include prevention and management measures for injuries, infection, and disease; onsite medical and first-aid services; medical emergency response, including evacuation where required; and workplace health promotion programming, including employee assistance supports (Volume 9, Section 26.3.3.2).

In developing the final HMSP and related injury-management procedures, WKR will consider applicable opioid-related risk measures for pain management. Onsite health care professionals are unlikely to have prescribing authority within their professional scope of practice or under applicable licensing requirements. Accordingly, guidance specific to opioid prescribing, prescription duration, or prescription refills would apply only where prescribing is undertaken by an authorized regulated health professional and would not be directly applicable to onsite personnel whose role is limited to first aid, assessment, referral, monitoring, or coordination of care.

Where an injured worker requires ongoing pain management during recovery or upon resumption of work, WKR will address fitness for work in accordance with applicable legislation, medical direction, functional abilities information, and return-to-work requirements. WKR will work with Human Resources, the injured worker, treating health care provider, employer representatives, and the Workers' Safety and Compensation Commission, as applicable, to identify modified duties, graduated return to work, temporary restrictions, alternative work assignments, or other suitable accommodations that can be implemented safely if necessary.

The IS describes the proposed health management approach at a conceptual level; an HMSP has not yet been developed. Operational details related to prescription medication management, referral pathways, and fitness-for-work procedures will be developed prior to construction through the HMSP and associated occupational health, safety, and human resources procedures.

KAA-52 (IR-52)

Subject

Country Foods

Issue / Concern

Disruption of the intergenerational transmission of Inuit Knowledge, language, and skills are attributed to substance use and suicide, but resources examining the inverse patterns should also be explored.
If substance use or harm to mental health are driven by lack of access to quality country foods and other cultural practices, this influences mitigation strategies.

Information Request

The Proponent must provide, examine and report on resources that probe the impacts of disruptions to cultural practices (including traditional harvesting) on substance use, mental health, and suicide.

Proponent Response

WKR acknowledges harvesting and consumption of country foods are integral to Inuit culture and require protection. WKR has investigated this issue in detail in the IS and has developed comprehensive mitigation and management measures to enable these practices along side the Project.

Volume 9, Section 25 (Food Security and Food Sovereignty) addresses the importance of country food access and traditional food acquisition to community wellness, food security, and cultural continuity. Section 25, specifically Sections 25.2.2.2 and 25.2.2.3, recognizes that disruption of traditional food acquisition patterns can have cascading effects on mental health, emotional health, and family and community dynamics.

Volume 9, Section 26 (Community Health and Well-being), specifically Section 26.3.5 (Change in Mental Health, Emotional Health, and Coping Mechanisms), addresses the bi-directional relationship between cultural practices, community wellness, and substance use / mental health outcomes.

For instance, Section 25.2.2.3 (Volume 9, Section 25.2.2.3, pg, 25-27) states: “Disruption of the intergenerational transmission of Inuit Knowledge, language, and skills have contributed to decreased participation in harvesting among youth in Kitikmeot communities (Man Chan et al. 2006; Desautels et al. 2023; Panikkar and Lemmond 2020). This disruption is influenced by the legacy of colonization, changes in dietary preferences and cultural practices of youth, and changes in way-of-life of Inuit and may be compounded by substance abuse and suicide among youth (Panikkar and Lemmond 2020).”

Section 26.2.2.4 (Volume 9, Section 26.2.2.4, pg 26-29) states “In particular, Kugluktuk residents report high rates of suicide, potentially linked to poverty, newfound wealth, overcrowded housing, erosion of cultural practices, and low education levels (NIRB 2004; Prno et al. 2011). However, suicide is known to be a complex issue with many diverse drivers.”

Section 26.3.5.1 (Volume 9, Section 26.3.5. pg 26-52) states “Changes in mental and emotional health and coping mechanisms are also known potential contributors to suicide and self-injury rates. However, there are many factors that contribute to suicide and suicide factors specifically for Indigenous youth including consequences of colonialism, discrimination, community disruption and the loss of culture and language (Konefal 2021).”

The IS describes mitigation, management and enhancement measures to address both potential for cultural practice disruptions and mental health issues and substance use, including:

- a Culture Program that will include provision of occasional country food to personnel at camps and is intended to create a more inclusive work environment while supporting local food traditions and aiding to build cultural respect among non-Inuit personnel (Volume 9, Section 25.3.3.2).
- a Health and Medical Services Plan (HMSP) which will include a workplace health promotion program (Volume 9, Section 26.3.3.2).
- a workplace health promotion program, including an Employee and Family Assistance Program (EFAP) and an Inuit Employee Assistance Program (IEAP) where appropriate resources exist (Volume 9, Section 26.3.3.2).
- an education program to inform workers of the range of health services available onsite (Volume 9, Section 26.3.3.2).
- opportunities for on-site Inuit workers to engage with community Elders to provide a connection point with home communities and for traditional counselling (Volume 9, Section 26.3.5.2).
- a No Drug and Alcohol Policy that will apply to all personnel and contractors on-Site, at work camps, and during transit through communities (Volume 9, Section 26.3.5.2).
- a Socio-economic Monitoring Plan (SEMP) that includes annual monitoring reports (Volume 9, Section 25.3.3.2).

The operational design of the aforementioned measures will be developed in advance of Project construction. WKR is available, as part of ongoing engagement with the Kugluktuk Angoniatit Association to discuss the Project's monitoring and management plans, including matters relating to community health and well-being.

KAA-53 (IR-53)

Subject

Gender-based violence and policing by RCMP

Issue / Concern

The Proponent explains that policing by the RCMP has a negative impact on gender-based violence, from the perspective of Inuit women, but mitigations around harms of policing and criminalization are not provided. Rather, multiple new layers of potential criminalization are introduced around drugs and alcohol (e.g., 8.3.1; 9.5.1.2; 27.3.1; 28,3.2).

Information Request

1. The Proponent must provide resources delineating the causal relationship between policing and gender-based violence and provide mitigation strategies for these mechanisms to minimize harms on women, girls, and 2SLGBTQQIA people in the RAA.
2. The Proponent must establish the alignment of Project Policies concerning police response with MMIWG2S Call For Justice 5.4-5.7 (policing reform).

Proponent Response

The IS acknowledges the documented harm pathway between policing practices and gender-based violence affecting Inuit women. As stated in Volume 9, Appendix 25A, Section 9.6.3.2:

> "*Systemic racism plays a role in gender-based violence; an ITK report about the National Inquiry on Missing and Murdered Indigenous Women and Girls emphasizes how social and economic inequities compound gender-based violence*" (ITK 2021c).

WKR remains committed to ensuring a safe, healthy, and productive worksite. However, WKR respectfully submits that community policing and response is well beyond its ability to influence or regulate. We also acknowledge the many historic and contemporary factors that influence this issue, and the work being done by policing and other organizations to address this topic.

> "*Gendered violence in Nunavut is associated with colonialism and intergenerational trauma. Colonialism led to rapid transformation of Inuit social structure reducing the traditional economy, forcing people into permanent settlements, and removing children from their families (ITK 2021c). Inuit women suggest that policing by the RCMP had, and continues to have, a negative impact on gender-based violence, from the perspective of Inuit women (Pauktuutit 2020). Gender-based violence has been associated with racialized policing in Nunavut and resource extraction industries (Pauktuutit 2016, 2020). As social and economic issues as well as intergenerational trauma fester, violence against Inuit women continues; Inuit women state that decolonization and restoring self-determined Inuit governance is an important path forward (Pauktuutit 2020).*" (Volume 9, Appendix 25A, Section 9.6.3.2)

Missing and Murdered Indigenous Women, Girls and Two-Spirit (MMIWG2S) Calls for Justice 5.4 - 5.7 (National Inquiry into Missing and Murdered Indigenous Women and Girls 2019) address reforms to policing practices intended to reduce harm to Indigenous women, girls, and 2SLGBTQQIA+ people. These Calls for Justice are directed primarily to federal and provincial governments and policing institutions. Several of these Calls for Justice relate to policing reform and funding, which are outside WKR's direct authority and control. However, WKR has committed to developing mitigation measures to address Project-related community and personal safety considerations, including gender-based violence prevention, as identified in Volume 9, Section 26 and through the Management Plans in Volume 11. These measures include the development and implementation of the following:

- Cultural awareness and sensitivity training for all long-term Project personnel and contractors.
- An Employee Code of Conduct that includes workplace requirements related to non-discrimination, bullying, harassment, and associated training.
- Anti-harassment and workplace violence policies, procedures, and training.
- Provision of security personnel and access control at the Project site.
- A Community Engagement Plan that includes measures to receive, document, and address community suggestions, concerns, and complaints.
- A Socio-economic Monitoring Plan (SEMP), including annual monitoring reports.

WKR's measures align with Calls for Justice 5.4–5.7 by supporting Project-level prevention and response measures within WKR's control, while recognizing that legislative policing reform, police funding, and civilian police oversight remain the responsibility of governments and policing institutions. Specifically, the measures support safer Project conduct, culturally informed worker training, incident prevention, site security, community engagement, and socio-economic monitoring, which can help reduce potential Project-related contributors to gender-based violence and support adaptive management where safety concerns are identified.

The specific operational design of these measures remains at the conceptual stage in the IS and will be further developed and implemented prior to construction, as applicable. WKR will engage with appropriate authorities and relevant organizations in the development of these plans, including those with responsibilities or expertise related to community safety, emergency response, health and social supports, and Indigenous-led approaches to gender-based violence prevention and response.

Reference

National Inquiry into Missing and Murdered Indigenous Women and Girls. 2019. Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls, Volume 1b: Calls for Justice. Ottawa, ON: National Inquiry into Missing and Murdered Indigenous Women and Girls.

KAA-54 (IR-54)

Subject

No subject.

Issue / Concern

As explained in the MMIWG2S Final Report, demand for sex work increases significantly during construction and operation of a Project, and these impacts can place women, girls and 2SLGBTQQIA people at increased risk of sexual violence as well as human trafficking. These risks are not mitigated in the Project plan, and sex workers (who experience both gendered violence and criminalization) are not discussed.

Information Request

1. *In accordance with MMIWG2S Call for Justice 4.3, the Proponent must declare and delineate its support for "programs and services for Indigenous girls, and 2SLGBTQQIA people in the sex industry to promote their safety and security."*
2. *Further, the Proponent must provide a policy implementation roadmap explaining how its Policies will support safety and protection of people in the sex industry.*

Proponent Response

WKR acknowledges the valuable work completed by the National Inquiry into Missing and Murdered Indigenous Women and Girls and the many Calls for Justice it produced. This includes Call for Justice 4.3 (National Inquiry into Missing and Murdered Indigenous Women and Girls 2019) directed at governments, specifically, to support programs and services for Indigenous women, girls, and 2SLGBTQQIA people in the sex industry to promote their safety and security. We also acknowledge the potential risks that can emerge for this population in certain work environments and contexts if proper measures aren't established to protect them. WKR takes the health and safety of all its employees and host communities seriously. For this reason, measures to address the following will be detailed in future versions of its management plans and/or policies, where appropriate:

- Zero tolerance (e.g., WKR has zero tolerance for any form of harassment, discrimination, violence, abuse, and/or illegal activity conducted by individuals in its employ).
- Awareness raising (e.g., informational posters at the Project site may be used to increase awareness of this potential issue and options to address it).
- Reporting and support options (e.g., resources will be identified for individuals to report purported incidents, should they occur, and/or secure appropriate support).
- Personal safety plans (e.g., if risks are identified, WKR will support any employee who wishes to have a Personal Safety Plan developed to better ensure their health and safety)

Reference

National Inquiry into Missing and Murdered Indigenous Women and Girls. 2019. *Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls*, Volume 1b: Calls for Justice. Ottawa, ON: National Inquiry into Missing and Murdered Indigenous Women and Girls.

KAA-55 (IR-55)

Subject

People with disabilities

Issue / Concern

The Proponent explains that People with disabilities may experience greater adverse effects due to pre-existing barriers to inclusion in the Project and limited social safety nets (Table 27.3).

Information Request

The Proponent must provide resources on best practices for mitigating adverse effects on people with disabilities, and provide a roadmap for offsetting those effects.

Proponent Response

Persons with disabilities are considered within the GBA+ framework assessed in Volume 9, Appendix 25A, Sections 3.5 (Table 3.5) and 8.8, and in Volume 9, Sections 24.3.6.3, 26.3.3.4, 27.2.1.4 (Table 27.3), and 27.3.7.4 of the IS.

Volume 11, Appendix 37J (Inuit Human Resources and Business Development Plan) identifies measures relevant to inclusion and accessibility, including measures applicable to persons with disabilities. These include:

- Gender, Equity, and Diversity Policies, including measures to increase Project employment among under-represented populations, including persons with disabilities.
- Anti-Harassment and Discrimination Policy.
- Employee Code of Conduct.
- Cultural Awareness Training.
- Employee and Family Assistance Program (EFAP), which provides confidential support services for employees and eligible family members.
- Inuit Employee Assistance Program (IEAP), which provides culturally appropriate support for Inuit employees.

The Health and Medical Services Plan (HMSP) framework, referenced through Volume 1, Appendix B, Commitment 52, addresses workforce health and wellness and is relevant to accessibility considerations.

The specific operational design of the Inuit Human Resources and Business Development Strategy remains at the conceptual stage in the IS and will be further developed prior to construction, including through stakeholder engagement on plan design. This strategy will act as a roadmap to address the potential for disproportionate effects on persons with disabilities by drawing on industry best practices for workforce inclusion and accessibility such as resources from Nunavummi Disabilities Makinnasuaqtiit Society and from the Canadian Association for Supported Employment. Applicable legislation, including the Canadian Human Rights Act, the Employment Equity Act, and applicable accessibility standards, will be considered in the further development of the Inuit Human Resources and Business Development Strategy.

KAA-56 (IR-56)

Subject

Communicable disease care

Issue / Concern

Interaction of workers through transit and camp settings may enable transmission of communicable diseases, but few mitigations are in place for this. Northern communities already experience considerable lack of frontline health care access for managing TB outbreaks and STI dissemination.

Information Request

The Proponent must provide resources highlighting effective mitigation strategies in use elsewhere for reducing communicable diseases, and provide a list of best practices and available tools for managing disease transmission.

Proponent Response

Volume 9, Section 26.3.4 assesses potential change in rates of communicable diseases and acknowledges that Project activities have the potential to affect rates of communicable diseases (e.g., sexually transmitted infections, viral, or bacterial diseases), primarily through increased movement of people and camp-based work environments, and an associated increase in the interactions between people. As described in Section 26.3.4.2, to reduce potential adverse effects on rates of communicable diseases, WKR will implement the following measures (Volume 9, page 26-50):

- WKR will develop and implement an education program to inform workers of the range of health services available onsite.
- WKR will develop and implement a Health and Medical Services Plan which includes prevention, management, and outbreak response measures for injuries, infection, and disease.
- WKR will develop and implement a Travel Policy, including plans for accommodation, meals, use of community health and medical services, and other needs for personnel during travel delays.
- WKR will develop and implement a Socio-Economic Monitoring Program (SEMP). The SEMP will include annual monitoring reports. Reports will be submitted to the Nunavut Impact Review Board, as required.

Additionally, non-resident Project workers will use commercial airlines to mobilize to Yellowknife and will stay there in the short term (e.g., one night) and transit to and from Project Site using charter aircraft. Therefore, it is assumed that non-resident workers will not transit through Kitikmeot communities (Volume 9, section 26.3.1.1). This assumption further reduces concerns associated with communicable disease transmission.

WKR will also implement best practices and available tools for preventing and managing communicable disease outbreaks. Relevant external resources include Northern Health's *Communicable Disease Management Guide: Best Practices for Industrial Work Settings*, which provides guidance for communicable disease management planning in industrial settings and the Government of Nunavut's *Communicable Disease and Surveillance Manual*, which sets out protocols for public health investigation, management, and reporting of communicable diseases and outbreaks in Nunavut. These external guidance documents will be used to inform the final design of WKR's communicable disease protocols under the Health and Medical Services Plan, Occupational Health and Safety Plan, and related response procedures. In particular, the guidance will support development of practical measures for prevention, early identification, reporting, isolation or quarantine, cleaning and disinfection, worker education, communication with public health authorities, and outbreak response in camp-based and transit settings. The protocols will be adapted to the Project context, including the remote work camp environment, worker travel arrangements, and the need to coordinate with the Government of Nunavut Department of Health, the Kitikmeot Regional Health Centre, and other applicable regional health partners. As described in Section 26.3.4.3 of the IS: "Communicable disease outbreak prevention measures include protocols for declaring outbreaks, communication with the Government of Nunavut's Department of Health and Social Services, isolation or quarantine measures, cleaning and disinfecting measures and community notifications. The workplace health promotion program will support workers' wellness by encouraging healthy behaviours and awareness of health resources and communicable disease transmission." (Volume 9, page 26-51).

The specific operational detail of communicable disease prevention and management — including best practices, screening protocols, and tools for communicable disease prevention and outbreak response— is at the conceptual stage and will be further developed through the final plans including the Health and Medical Services Plan, Occupational Health and Safety Plan and the Risk Management and Emergency Response Plan. These plans will be developed through ongoing engagement with the Government of Nunavut and/or Inuit Organizations and other affected parties during advancement of project design and planning.

KAA-57 (IR-57)

Subject

Cumulative impacts of transient workforces

Issue / Concern

The Proponent describes that transient workforces for other projects in the RAA will only act cumulatively with the Project if they overlap temporally, and some possibilities are listed for this, but the main mitigation to govern workers' behavior is a proposed Travel Policy that, it is hoped, other project proponents will also implement.

Information Request

1. *The Proponent must provide a plan and timeline for drafting the Travel Policy, including worker behaviours it intends to address, an ongoing evaluation plan (i.e. whether the Policy is working) and the adjustments that will be made if the Policy is found to be failing its purpose.*
2. *The Proponent must provide resources describing practices implemented in other Projects that helped mitigate harmful behavior in project areas by transient workers.*

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

The Travel Policy will be further developed as part of an integrated mitigation suite addressing the residual and cumulative effects of transient workforces on community and personal safety. The integrated suite is set out in Volume 9, Section 26 and operationalized through Volume 11, Appendix 37J (Inuit Human Resources and Business Development Plan), Section 3.1.1, and includes the Travel Policy, the No Drug and Alcohol Policy, a luggage screening policy, the Anti-harassment and Discrimination Policy, the Employee Code of Conduct, Cultural Awareness Training, the Employee and Family Assistance Program (EFAP), and the Inuit Employee Assistance Program (IEAP), supported by the Risk Management and Emergency Response Plan (Attachment H4 to Appendix 37H), the Health and Medical Services Plan (HMSP), and the Socio-economic Monitoring Plan (SEMP). Operational design of the Travel Policy — including specific worker behaviours addressed, evaluation methodology, and adjustment mechanisms — is at conceptual stage at the IS submission stage and is committed for development prior to implementation.

Ongoing Evaluation Through the Socio-economic Monitoring Plan

Ongoing Evaluation of policy effectiveness — including the policies governing transient workforce behaviour — is established through the SEMP. The SEMP includes monitoring of socio-economic indicators relevant to community personal and community safety, including workforce-related incidents and policy compliance metrics. The SEMP commitment to adaptive management provides the mechanism for adjustments where monitoring indicates that policies are not achieving their intended outcomes (Volume 11, Appendix 37K, Section 4).

Further detail on the SEMP framework, including indicator design and reporting framework, is provided in the response to KAA-6 (IR-06).

Resources Reflecting Practice in Other Projects

The Project's policy framework draws on industry practice for the mitigation of transient workforce effects, including practices applied at other northern and remote industrial projects. As set out in Volume 9, Section 26.3.1, in accordance with guidance from the Inuit Advisory Group (2025a), WKR adapted best practices from previously approved Arctic developments (e.g., Mackenzie Valley Highway, Back River, Meadowbank, Mary River and Inuvik Tuktoyaktuk Highway) — developed with Inuit, Indigenous, and Community Knowledge — forming the basis of mitigation, management and enhancement measures presented in this IS as appropriate.

The Proponent has reviewed practices implemented at comparable projects in the Regional Assessment Area (RAA) that are intended to mitigate harmful behaviour by transient workers and promote community and personal safety. One example is the B2Gold Corp. Back River Project, which has implemented workplace violence and harassment training for employees and maintains a zero-tolerance policy for workplace harassment. These measures are intended to reduce discrimination, racism, harassment, and workplace violence in a remote camp environment. Results from a 2024 survey of Inuit employees at the Back River Project indicate that 85% of respondents agreed or strongly agreed that they felt safe working at the project, and 58% agreed or strongly agreed that Inuit and Inuit culture are respected at the project site (Jason Prno Consulting Services Ltd. 2025).

The Back River Project Inuit Human Resources Plan, available on the NIRB public registry, provides additional information regarding workforce management practices, training, workplace conduct expectations, and initiatives intended to support a respectful and inclusive workplace environment. Consistent with these practices, WKR will develop and implement an Employee Code of Conduct, anti-harassment and workplace violence policies and training, a Travel Policy governing worker conduct while travelling through communities, and a Drug and Alcohol Policy with associated screening procedures. These measures are intended to reduce the potential for harmful behaviour by transient workers and contribute to the protection of community and personal safety in the RAA.

KAA-58 (IR-58)

Subject

Project Capital Cost

Issue / Concern

The Proponent has stated that the total capital expenditure is estimated at $1.2 billion dollars. This estimate seems very low given the technical complexity of infrastructure development in the Kitikmeot. The return on investment is dependent on a reasonably well constrained up front capital cost which is not provided.

Information Request

Provide a detailed breakdown of the capital cost estimate for the Project, with a clear division of cost breakdown for the port and the road separately. Include details on the extent to which different variables affect cost estimated (e.g., inflation, fuel, scheduling, sequencing, construction methods)

Proponent Response

The Project's current construction cost estimate of $1.2 billion is set out in Volume 9, Section 27.3.6.3 (Economic Benefits) and informs the employment and economy effects assessment in Volume 9, Section 27. The cost estimate reflects the Project at approximately 10% or conceptual engineering design stage.

The conceptual construction cost estimate can be further broken down as approximately 2/3 or $800 million related to road construction, and approximately 1/3 or $400 million related to port construction. This estimate is based on a first-principles cost estimate prepared by a national construction firm with significant experience in Nunavut heavy civil construction, subsequently reviewed by WKR's financial and engineering advisors to account for uncertainties, inflation, and contingencies.

The details of the cost estimate are commercially confidential, as WKR is currently engaged in a public Request for Qualifications / Request for Proposals process to select a construction contractor on a Progressive Design-Build basis.

The selected construction contractor will work with WKR and its owner's advisors to advance the project to design to a 60% or feasibility level of design development by 2028, at which time WKR will deliver a definitive feasibility study to the Government of Canada and WKR's other investors, which will outline the capital costs, operating costs, and financing plan for the project. Upon review of this feasibility study, WKR, together with its public and private funders, will take a Final Investment Decision (FID) on the Project.

KAA-59 (IR-59)

Subject

No subject.

Issue / Concern

While the Impact Statement emphasizes potential economic opportunities, KAA is concerned that the Project may also contribute to significant adverse socio-economic effects including increased pressure on housing, social services, policing, substance use, family stress, inequitable distribution of benefits, and disruption of traditional land-based activities.

KAA is concerned that the assessment appears to assume economic benefits will outweigh negative impacts without sufficient supporting analysis.

Information Request

1) *Please provide details regarding all adverse socio-economic effects identified by WKR for Kugluktuk.*
2) *Please explain what assumptions were used regarding:*
   - *A) population influx;*
   - *B) rotational workforce effects*
   - *C) housing pressures*
   - *D) policing and public safety demands;*
   - *E) impacts to traditional lifestyles;*
   - *F) inequality in distribution of Project benefits.*
3) *Please explain what mitigation measures and funding commitments are proposed to address adverse social impacts in Kugluktuk.*
4) *Please explain whether WKR intends to negotiate community wellness, cultural support, or social infrastructure funding agreements with KAA and other local Kugluktuk organizations.*
5) *Please explain how WKR assessed the risk that increased industrialization and wage employment may reduce time spent on harvesting, language use, cultural activities, and intergenerational knowledge transfer.*

Proponent Response

The Project's assessment of adverse socio-economic effects on Kugluktuk and other Kitikmeot communities is set out across the Human Environment Valued Components (VCs) in Volume 9, Sections 24 through 30. The IS identifies both positive and adverse residual effects across each VC, applies a Gender Based Analysis Plus (GBA Plus) framework to identify disproportionate effects on sub-populations, and applies mitigation, management, and enhancement measures. The integrated assessment of adverse and positive residual effects is presented in Volume 10, Section 31 (Holistic Assessment).

Adverse residual effects are characterized at the VC level for magnitude and significance. Operational design of the specific mitigation, funding, and benefit arrangements is at conceptual stage at the IS submission and is committed for development prior to implementation through the Inuit Impact and Benefit Agreement, final Management Plans, and ongoing engagement.

1) **Adverse Socio-Economic Effects Identified for Kugluktuk**

Adverse residual effects identified across the Human Environment Valued Components for Kugluktuk and other Kitikmeot communities include the following.

Employment and Economy (Volume 9, Section 27). Volume 9, Section 27 characterizes residual effects as both positive and adverse. As stated in Section 27:

> "*With the implementation of mitigation, enhancement, and management measures, residual effects of the Project on employment and economy are anticipated to be both positive and adverse. Positive residual effects are not characterized further (e.g., for significance). Table 27.25 summarizes project residual effects on Employment & Economy.*" (Volume 9, Section 27)

Table 27.25 characterizes residual effects on employment, and education and training as both positive and adverse ("P*, A"), alongside positive residual effects on economic development and opportunities, contracting and business opportunities, and community resupply resilience.

Community Health and Well-being (Volume 9, Section 26). Volume 9, Section 26 characterizes adverse residual effects on mental and emotional health, family and community dynamics, community and personal safety, and access to health infrastructure and services. As summarized in Volume 9, Volume Summary:

> "*Adverse residual effects are anticipated to be moderate in magnitude as changes to mental and emotional health and coping mechanisms may affect both individuals employed on the Project and their families, thereby extending to the household level. Residual effects may occur as multiple irregular events. Changes to mental and emotional health related to working conditions will likely be reversible following the end of employment on the Project; however, substance use-related effects may continue due to their addictive nature.*" (Volume 9, Volume Summary)

Cumulative adverse effects on community and personal safety associated with male-dominated industrial workforces are explicitly identified. As stated in Volume 9, Section 26:

> "*Past, present, and reasonably foreseeable projects and activities that involve remote work camps (e.g., mines, mineral exploration projects, infrastructure construction projects) and FIFO rotational shiftwork may adversely affect personal safety through discrimination, racism, and harassment of workers at project sites, including work camps. Men+ are more likely to obtain employment on mining and construction projects in the RAA (MIHR 2024). For example, 12.8% of the workforce on the B2Gold Corp. Back River project in 2024 were female. Women+, including Indigenous women, and 2SLGBTQQIA+ populations may experience greater harassment, gender-based violence, and physical violence in a male-dominated workforce*." (Volume 9, Section 26)

Infrastructure and Services (Volume 9, Section 28). Volume 9, Section 28 characterizes adverse residual effects on community infrastructure and services, accommodation and housing availability, and transportation infrastructure, alongside positive residual effects on community resupply through the Grays Bay Port. Disproportionate effects on Kitikmeot communities by proximity are documented:

> "*The Project may affect Inuit in the Kitikmeot communities disproportionately depending on community location. During community-based research, community members identified that increased infrastructure in the RAA and the potential transport of goods and materials from the Grays Bay Port to the Kitikmeot communities may benefit Cambridge Bay and Kugluktuk more than the communities in the eastern part of the Kitikmeot Region because of their proximity to the Project. For example, a staff member of the Kitikmeot Inuit Association felt the Project would improve community resupply for all Kitikmeot communities except Kugaaruk due to its location and the challenges of transporting goods and materials by land and sea from the Port to this community (Kitikmeot Inuit Association, Kugaaruk, personal communication, October 29, 2024).*" (Volume 9, Section 28)

Traditional Land, Marine, and Resource Use (Volume 9, Section 24). Adverse residual effects on Inuit harvesting, travel, and use of areas of cultural importance are addressed in Volume 9, Section 24. Specific harvesting, habitation, cultural, and travel areas in the vicinity of the Project are identified through engagement, NTKP, IAG workshops, and community-based primary research (further addressed in the response to IR-05).

Food Security and Food Sovereignty (Volume 9, Section 25). Volume 9, Section 25 addresses effects on food availability, access, utilization, and stability, including effects associated with potential disruption to traditional food harvesting and the influence of wage employment on traditional food acquisition patterns.

Significance Determination — Employment and Economy. The Project's Significance Determination for Employment and Economy is set out in Volume 1, Executive Summary:

> "*With the implementation of mitigation, enhancement, and management measures, residual adverse effects of the Project on employment and economic conditions in the LAA and RAA are predicted to be not significant because they do not create a measurable adverse change from current conditions and trends that cannot be managed or mitigated, and, the Project will not result in a reduction in annual GDP growth at the territory level. Adverse cumulative effects on employment and economic conditions in the LAA and RAA are predicted to be not significant because, while the Project, in combination with past, current, reasonably foreseeable, and reasonably foreseeable induced developments, is expected to result in a measurable adverse change from existing conditions and trends, these effects are anticipated to be effectively managed through adjustments to programs, policies, and plans, as well as through the implementation of additional mitigation measures.*" (Volume 1, Executive Summary)

Significance Determinations for the other Human Environment VCs are presented in Volume 1, Executive Summary and Volume 9, Volume Summary.

2) **Assumptions Used in the Assessment**

The assessment uses Statistics Canada's Interprovincial Input-Output Model for economic effect estimation (further addressed in the response to IR-58 regarding the underlying capital cost estimate). The assessment draws on the Inuit Human Resources and Business Development Plan workforce composition framework, the labour market assessment in Volume 9, Section 27.2, and the People and Communities Baseline Report in Appendix 25A. Specific assumptions used in respect of each of the topics identified in the IR are addressed as follows.

Population influx assumptions. The Project's workforce is anticipated to consist primarily of rotational FIFO workers rather than residents relocated to Kugluktuk or other Kitikmeot communities. Volume 9, Section 28 (Infrastructure and Services) characterizes population influx effects as managed through accommodation at work camps rather than community-based residency.

Rotational workforce effects assumptions. Volume 9, Section 26 documents the rotational workforce effects framework, including effects on mental health, family stress, substance use, and coping mechanisms. As stated in Section 26:

> "*The movement of out-of-region workers and in-migration could result in increased transportation of drugs and alcohol to communities in the RAA, including on overflights that transport project workforces. Income associated with employment on past, present, reasonably foreseeable, and induced projects and activities may result in increased rates of alcohol and drug use. Additionally, cumulative changes in mental health, emotional health and coping mechanisms (Section 26.4.4) and cumulative changes in family and community stability and cohesion (Section 26.4.5) may result in increased substance use by some individuals to cope with these changes. Increased substance use could increase rates of crime and violence, including gender-based violence, in communities in the RAA.*" (Volume 9, Section 26)

Housing pressures assumptions. Volume 9, Section 28 assumes Project workforce will be accommodated at work camps rather than in Kitikmeot community housing

Policing and public safety demands assumptions. Workplace incidents are assumed to be managed on site through the Project HSSE Plan and camp-based security and response procedures (Volume 9, Section 28)

Impacts to traditional lifestyles assumptions. Volume 9, Sections 24, 25, and 26 collectively assume integration of Inuit Knowledge and engagement-derived assumptions about traditional land use, harvesting, and cultural activities. Specific quantitative trade-off analysis is at a conceptual stage.

Inequality in distribution of benefits assumptions. Volume 9, Section 28 documents disproportionate community effects by proximity (as quoted in Sub-Part 1 above). Volume 9, Section 26 GBA Plus framework identifies disproportionate effects on sub-populations:

> "*As described in Section 26.3.5.4, men are likely to be the primary recipients of Project-related employment, which could result in disproportionate rates of mental health issues and substance use rates by men. Project-employed Men may have additional pressure related to financially supporting their households. Women, single-parent households or extended families with shared or complex caregiving roles may experience disproportionate effects related to emotional and logistical stress; for example, some individuals may be required to take on more household responsibilities while their partner/family member is away for extended periods of time.*"
> (Volume 9, Section 26)

3) **Mitigation Measures and Funding Commitments**

The Project's mitigation framework responding to adverse socio-economic effects is integrated across Volume 9, Sections 24 through 30 and operationalized through the Volume 11 Management Plans. The mitigation framework includes:

- Personnel policy framework (Volume 11, Appendix 37J, Section 3.1.1) — Drug and Alcohol Policy, Anti-harassment and Discrimination Policy, Travel Policy, Employee Code of Conduct, Cultural Awareness Training, EFAP, IEAP. Status and operational design of these policies is addressed in the responses to IR-49, IR-50, IR-51, IR-54, and IR-57.
- Inuit employment and procurement framework (Volume 11, Appendix 37J) — preferential hiring, training, and Inuit business preference (further addressed in IR-06).
- Health and Medical Services framework (Volume 1, Appendix B, Commitment 22; Volume 11 supporting plans) — onsite medical capacity and emergency response (further addressed in IR-49 and IR-50).

- Socio-economic Monitoring Plan (Volume 11, Appendix 37K) — ongoing monitoring of socio-economic indicators with adaptive management commitment (further addressed in IR-06 and IR-10).
- Engagement framework (Volume 3, Section 6) — ongoing engagement with KAA, KIA, and Kitikmeot communities, and through the proposed Inuit Environmental Advisory Committee (IEAC) (further addressed in IR-10).

Specific funding commitments to community wellness, cultural support, or social infrastructure are addressed below in the context of formal benefit agreement negotiations (Sub-Part 4).

4) **Formal Benefit Agreements with KAA and Local Kugluktuk Organizations**

The principal mechanism for formal benefit arrangements with Inuit organizations for the Project is the agreement negotiated between WKR and the Kitikmeot Inuit Association under the Nunavut Agreement (further addressed in the response to KAA-6 [IR-06]). WKR has offered to establish a formal benefit agreement with the Kitikmeot Inuit Association. WKR recognizes that the interests and priorities of potentially affected communities and organizations, including KAA, will be important considerations. Any future arrangements will need to be considered within the framework of the Nunavut Agreement, including the respective roles and responsibilities of KIA, HTOs and other relevant parties. The nature of any involvement by KAA or other organizations in benefit agreement discussions or related monitoring will require further consideration by KIA and WKR as the relevant issues and interests become better understood.

KAA's specific interests will continue to be addressed through the proposed Inuit Environmental Advisory Committee (IEAC; further addressed in the response to KAA-10 [IR-10]) and through direct ongoing engagement with KAA. Whether and how those interests are reflected in the IIBA framework, or addressed through a separate mechanism with KAA, is a matter to be developed through ongoing engagement.

5) **Risk Assessment of Reduced Time on Harvesting, Language Use, Cultural Activities, and Intergenerational Knowledge Transfer**

The risk that increased industrialization and wage employment may reduce time spent on harvesting, language use, cultural activities, and intergenerational knowledge transfer is addressed in the Project's assessment through three interconnected Valued Components.

Volume 9, Section 24 (Traditional Land, Marine, and Resource Use) assesses changes in TLMRU including harvesting activities, areas of cultural importance, and intergenerational knowledge transfer associated with on-the-land activities. As stated in Section 24:

> "*As reported by Kitikmiut and other potentially affected Indigenous groups, there are important habitat and harvesting areas, habitation areas, and cultural sites and areas in the vicinity of the Project. This analysis considers and incorporates the findings of VC assessments relevant to TLMRU, as noted in Section 24.3.1. These assessments were considered and integrated alongside feedback received through Project-specific engagement, the NTKP report, IAG*

workshops, community-based primary research, and through a public literature review of past concerns and recommendations raised by Kitikmiut and other potentially affected Indigenous groups for past projects." (Volume 9, Section 24)

Volume 9, Section 25 (Food Security and Food Sovereignty) addresses effects on traditional food acquisition patterns, including the influence of wage employment on time available for traditional harvesting and on the cultural and food sovereignty dimensions of the traditional food system (further addressed in the response to IR-05).

Volume 9, Section 26 (Community Health and Well-being) addresses effects on mental, emotional, and cultural well-being, including the family and community dynamics dimension of intergenerational knowledge transfer (Section 26.3.7) and the cumulative effects pathway through which wage employment may affect cultural continuity (Section 26.4.5).

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

KAA-60 (IR-60)

Subject

Future Shipping and Marine Cumulative Effects

Issue / Concern

KAA is concerned that cumulative marine effects may be underestimated because future shipping associated with induced development remains uncertain.

Information Request

1. *Please provide the maximum reasonably foreseeable annual shipping scenario considered in the cumulative effects assessment.*
2. *Please explain how cumulative effects from future vessel traffic on marine mammals, harvesting activities, and travel safety were assessed.*
3. *Please explain how cumulative marine effects would be managed if shipping volumes substantially exceed current projections. For example, if the Arctic shipping season is extended.*
4. *Please identify all vessel classes included in the marine traffic estimates.*
5. *Please explain whether supporting marine traffic associated with mining operations was included.*
6. *Please provide estimated annual traffic by vessel type.*

Proponent Response

1. The Cumulative Effects Assessment (CEA) did not assess a "maximum reasonably foreseeable annual shipping scenario". The CEA did assess a reasonably foreseeable induced (RFI) scenario. That scenario is described in: Volume 10, Section 32 Cumulative Effects Assessment Overview; as shipping and other details in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, including Section 9A2.4.2 Operations (Cumulative Effects Case); and, in Volume 8, Section 23 Assessment of Potential Effects on Marine Mammals, including Section 23.4 Assessment of Cumulative Effects.

   Further summary and details are provided in Attachment KAA-60, Part 1 Cumulative Effects Assessment Supplement. This includes a new High Use Development Scenario (HUDS). The HUDS describes the GBRP Project operating at maximum design capacity at the port, and includes details on port operation, shipping and truck traffic. The potential effects of the HUDS are not assessed.

2. Potential cumulative effects from future vessel traffic on marine mammals were assessed in Volume 8, Section 23 Assessment of Potential Effects on Marine Mammals, including Section 23.4 Assessment of Cumulative Effects. Potential cumulative effects from future vessel traffic on harvesting activities, including travel safety, were assessed in Volume 9, Section 24 Assessment of Potential Effects on Traditional Land, Marine and Resource Use, including Section 24.4 Assessment of Cumulative Effects; and, Volume 10, Section 29 Assessment of Potential Effects on Non-Traditional Land, Marine and Resource Use.

3. Volume 8, Section 23 Assessment of Potential Effects on Marine Mammals, including, including Section 23.4.2.2 Mitigation, Management, and Enhancement Measures for Cumulative Effects, describes measures to manage marine cumulative effects. These include measures identified in Section 23.3.2.3 Mitigation, Management, and Enhancement Measures for managing marine effects by the Project. These measures are based on marine shipping volumes in support of ongoing operational maintenance of the Project, and for estimated Reasonably Foreseeable Induced (RFI) marine shipping. WKR is not aware, beyond general characterization, of available specific details of additional marine shipping. WKR also notes that the Project's port is intended to only operate during the ice-free shipping season. As such, the Project would not be supporting marine activities during an extension of the shipping season.

4. See response to KAA-60, Part 1.

5. Potential numbers and types of bulk ore carriers were identified and assessed. See response to KAA-60, Part 1 regarding such details. WKR notes that the proposed GBRP Project does not include mines. Mines were only considered in the Reasonably Foreseeable Induced (RFI) CEA scenario as projects led by other proponents.

6. See response to KAA-60, Part 1.

KAA-61 (IR-61)

Subject

Reasonably Foreseeable Development

Issue / Concern

The Project is intended to facilitate future mining and industrial development. It is unclear whether the cumulative effects assessment captures the full extent of reasonably foreseeable development enabled by the Project.

Information Request

1. *Please identify all reasonably foreseeable future developments included in the cumulative effects assessment.*
2. *Please explain the criteria used to determine whether a future development was included or excluded.*
3. *Please provide the rationale for concluding that excluded developments would not materially influence cumulative effects predictions.*

Proponent Response

1. Reasonably foreseeable future developments included in the cumulative effects assessment are identified in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, Table 9A1.

2. Criteria used to determine whether a future development was included or excluded are provided in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, and, Volume 10, Section 32 Cumulative Effects Assessment Overview.

3. Physical activities (developments) that did not meet the rationale as described in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, and, Volume 10, Section 32 Cumulative Effects Assessment Overview were excluded. Primary factors relevant to exclusion included no temporal overlap and/or spatial separation precludes measurable or tangible cause-effect interaction.

KAA-62 (IR-62)

Subject

Reasonably Foreseeable Induced Development Scenario

Issue / Concern

The cumulative effects assessment relies on a Reasonably Foreseeable Induced (RFI) Development Scenario that includes the Izok, High Lake, and Hackett River projects. However, the basis for selecting these developments, excluding other potential future developments, and deriving associated traffic projections is not clearly explained. The assessment also does not appear to evaluate alternative development scenarios or the uncertainty associated with future industrial growth enabled by the Project.

Information Request

1. *Please describe the methodology and screening criteria used to identify developments included in the RFI scenario.*
2. *Please identify all mining and exploration projects considered and explain why projects not included in the RFI scenario were excluded.*
3. *Please explain why only a single induced development scenario was assessed and whether alternative development scenarios (e.g., low, high, or full build-out scenarios) were considered.*
4. *Please provide the assumptions, calculations, and supporting data used to estimate future marine traffic, aircraft traffic, and road traffic associated with the RFI scenario.*
5. *Please describe how uncertainty associated with future mine development, production rates, transportation requirements, and Project-enabled industrial growth was incorporated into the cumulative effects assessment.*

Proponent Response

1. See response to KAA-61, Part 2.

2. Mining and exploration projects considered in the cumulative effects assessment are identified in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, Table 9A1. See response to KAA-61, Part 3 for rationale of exclusion of projects.

3. A single future induced scenario (versus multiple such scenarios) was assessed because: 1) NIRB Guidelines (Guidelines for the Preparation of an Impact Statement for West Kitikmeot Resources Corp's Grays Bay Road and Port Proposal, NIRB File No. 24XN038, January 30, 2026) do not require assessment of multiple future induced scenarios, 2) NIRB assessment guidance does not require assessment of multiple future induced scenarios, 3) conventional practice and guidelines in Nunavut and other regulatory jurisdictions in Canada (serving as precedence examples in absence of NIRB direction) do not demonstrate use of or require assessment of multiple future induced scenarios, or of any induced scenario (farthest required temporal extent of the future is reasonably

foreseeable), 4) minimal relevant information and of adequate description is available on induced future physical activities, 5) high uncertainty of what if any induced physical activities may occur. For these reasons and based on the discussion in Volume 10, Section 32 Cumulative Effects Assessment Overview, a single induced scenario was conceptualized. WKR believes that this scenario, which is based on available information for publicly disclosed projects and insight into northern mining history and possible futures is adequately representative for the purposes of the CEA and regulatory decision making. Assessment of multiple future scenarios however is appropriate in regional or strategic assessments.

4. Characterization of descriptive details of induced physical activities was based on: 1) publicly available information (e.g., regulatory project registries, proponent project websites), 2) WKR's knowledge and insight of northern Canada mining history, mining potential in the Slave Geological Province, and current and potential future market conditions; and, 3) WKR's knowledge of mine engineering design, construction and operations in the region and elsewhere. Sections referenced in the response to KAA-61, Part 2 provides further information.

5. Uncertainty is inherent, often to substantial degree, regarding characterization in CEAs of potential future induced physical activities and conditions. Uncertainty is discussed: for the IS in general, Volume 4, Section 9 Effects Assessment Methodology, Section 9.4.4 Prediction Confidence and Certainty; for the VC assessments (Volumes 5-9, Sections 11-30), Section X.6 Prediction Confidence and Uncertainty ("X" being VC chapter), and, in general context of considerations in the CEAs, Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, and, Volume 10, Section 32 Cumulative Effects Assessment Overview.

KAA-63 (IR-63)

Subject

Induced Development Traffic Assumptions

Issue / Concern

The projected shipping, aircraft, and road traffic associated with the RFI scenario are presented without sufficient supporting information regarding mine production assumptions, transportation requirements, or logistics planning. It is unclear whether these projections represent average, maximum, or conservative estimates.

Information Request

1. *Please provide the mine production assumptions used to estimate induced marine, air, and road traffic volumes.*
2. *Please provide the assumptions and calculations used to estimate:*
   A) approximately 30 concentrate vessels annually
   B) approximately 35 aircraft movements annually;
   C) approximately 7 to 60 concentrate truck movements annually.
3. *Please identify whether supporting traffic associated with fuel delivery, construction, resupply, contractors, exploration activities, and emergency response was included in the traffic estimates.*
4. *Please explain whether the traffic estimates represent average, peak, or maximum reasonably foreseeable operating conditions.*

Proponent Response

1. See Appendix A, Cumulative Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package.

2. The following provides responses for each Part.

   A) See Addendum Appendix A, Cumulative Effects Assessment Supplement

   B) Each mining user is expected to require one medium passenger aircraft bi-weekly for crew changes and resupply, or about two flights a month, or about 24 flights a year. As such, during overlapping operations by two mining users (for the two owners of the RFI mines) there could be 48 flights a year or about 35-36 a year on average. Some additional smaller aircraft may also be used on a more limited basis.

   C) The range of 7 to 60 trucks operating annually does not represent the number of truck movements, rather it is the assumed number of vehicles operating annually. Please see Addendum Appendix A, Cumulative Effects Assessment Supplement.

3. The estimated road traffic is specific to concentrate truck movements only as they represent the majority (likely 90% or greater) of potential traffic associated with base metal mining. Given typical variability from year to year of mine operations and the underlying uncertainty associated with long-term forecasting, this basis provides a robust view of the potential range of traffic.

4. The traffic numbers referenced in the IS included a mix of average, peak, and maximum reasonably foreseeable operating conditions. See responses to KAA-63 part 1, 2 and 3 for further information.

KAA-64 (IR-64)

Subject

Exploration and Future Development Assumptions

Issue / Concern

The RFI scenario appears focused on future mine operations but does not clearly describe how Project-induced exploration activity and subsequent development opportunities were incorporated into the cumulative effects assessment.

Information Request

1. *Please explain how increased mineral exploration activity enabled by the Project was incorporated into the cumulative effects assessment.*
2. *Please provide the assumptions used regarding future exploration camps, drilling programs, seasonal access, and associated transportation activity.*
3. *Please explain why exploration-related effects were not assessed separately from future mine development activities.*
4. *Please explain how the cumulative effects assessment accounts for future discoveries and development opportunities that may arise as a result of Project infrastructure.*

Proponent Response

1. Exploration projects considered in the cumulative effects assessment are identified in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, Table 9A1.
   See response to KAA-61, Part 3 for rationale of exclusion of projects. The nature and degree of implication of such projects to Valued Components (VCs), if any, are reflected as appropriate and relevant in the VC assessments. Generally, exploration projects typically represent relatively temporary and minor physical activities that also may be of substantial distance from GBRP and often with uncertainty regarding descriptive details and timing; as such, posing minimal effects that typically also do not represent measurable interacting (cumulative) effects with GBRP.

2. Descriptive details of exploration based physical activities were based on publicly available information (e.g., regulatory project registries, proponent project websites and WKR's knowledge and insight of northern Canada mining.

3. Exploration-related effects were assessed separately from potential future mine development activities, where they were identified to occur and interacted with the effects associated with GBRP.

4. See response to KAA-60, Part 1.

KAA-65 (IR-65)

Subject

Cumulative Effects Assessment - Significance Determinations

Issue / Concern

The basis for determining that cumulative effects are not significant is not clearly described.

Information Request

1. *Please identify the criteria, thresholds, and indicators used to determine cumulative effects significance.*
2. *Please explain how uncertainty was incorporated into significance determinations.*
3. *Please identify any cumulative effects predictions that relied primarily on professional judgement rather than quantitative analysis.*

Proponent Response

1. A general description of the basis of significance evaluation is provided in Volume 4, Section 9 Effects Assessment Methodology, Section 9.4.1.4 Significance Determination. For each VC assessment (Volumes 5-9, Sections 11-30) a description of the general basis of significance evaluation is provided in Section X.1.6 Significance Definition ("X" being VC chapter), and, to whatever degree further considerations are relevant, Section X.5 Significance of Effects, including Section X.5.2 Significance of Cumulative Effects. Such considerations include factors similar to and unique to each Valued Component (VC) given the nature of the VC, the context of environmental conditions, and whatever established criteria are available.

2. See response to KAA-62, Part 5.

3. No particular cumulative effects predictions relied primarily on professional judgement rather than quantitative analysis. An assessment of potential project effects, directly by the project ("project residual effects") or cumulatively, typically constitutes a mix of approaches, including qualitative (based primarily on non-numerical analysis), semi-quantitative (partially dependent on some numerical analysis) and quantitative (based on numerical analysis). All approaches also and always to various degrees rely on the experience and knowledge of the subject matter specialist, those qualities generally referred to as "professional judgement", especially in the context of deriving conclusions based on the analysis. Quantitative analysis is conducted if numerical methods are available, relevant and useful. Otherwise, qualitative or semi-quantitative analysis (e.g., using some numerical results from other assessments or research) are done.

KAA-66 (IR-66)

Subject

Accidents and Malfunctions - Spill Scenarios

Issue / Concern

The basis for selecting accident and spill scenarios for assessment is unclear.

Information Request

1. *Please provide the criteria used to identify and screen accident and malfunction scenarios.*
2. *Please explain why the selected scenarios are representative of reasonably foreseeable worst-case events.*
3. *Please identify any high-consequence scenarios that were considered but not assessed.*

Proponent Response

1. The NIRB Impact Statement Guidelines required the Impact Statement to "provide an assessment of accident and malfunction scenarios… that have a reasonable probability of occurring".

   As noted in Volume 10, Section 34 the selection and screening of accident and malfunction scenarios was "Based on the design and proposed use of the Project, Inuit, Indigenous, and Community Knowledge and perspectives, professional judgment, and experience with comparable northern projects." The scenarios selected represent credible scenarios based on an understanding of numerous factors, including:

   - the Project design and operations (which are well understood from other Ports across the country),
   - standard construction practices,
   - specific challenges of construction and operating infrastructure in the Arctic project components and infrastructure i.e. marine vessels, aircraft, vehicles and the associated risks
   - accident and malfunction scenarios identified in the applications of other similar major project developments i.e., mines, road construction, infrastructure etc.

2. The selected scenarios are considered representative of reasonably foreseeable worst-case events because they are based on credible potential events related to Project specific activities. For example, the operation of aircraft is well understood. A reasonably foreseeable worst-case scenario for aircraft operation would be an incident resulting in the aircraft crashing. Given that the Project includes an airstrip it is reasonable to conclude that a worst-case scenario would be an aircraft crash resulting in the loss of life.

Additionally, the assessment of each potential accident/malfunction focused on the worst-case scenario of that particular event. For example, in the case of a hazardous materials spill to the aquatic environment, Volume 10, Section 34.7.1 identifies that that worst case scenario would be that related to a large spill of fuel into a major watercourse under unfrozen conditions. The volume of the potential fuel spill was estimated based on Project specific details such as the volumes of fuel stored, how the fuel is transported (truck capacity) and stored and frequency of transportation.

3. The scope of the assessment does not include third-party (e.g., resource companies, federal and territorial governments, local communities, community members and defence agencies) accident and malfunction scenarios during the construction and operations and maintenance of the Project, nor construction and operations and maintenance of potential future third-party components. Third parties will be responsible for the assessment of risks related to their activities. The third-party that causes an accident or malfunction is ultimately accountable to respond, report, and facilitate remediation, but WKR's Project infrastructure will serve as an important staging point for emergency response in the event of a third-party accident or malfunction.

KAA-67 (IR-67)

Subject

Accidents and Malfunctions - Spill Response Effectiveness

Issue / Concern

The effectiveness of proposed spill response measures is not clearly quantified.

Information Request

1. *Please identify the key assumptions used in the accident and malfunction assessment.*
2. *Please explain how environmental conditions, response times, and seasonal factors were incorporated into consequence modelling*
3. *Please provide the assumptions used regarding spill detection, mobilization, containment, and recovery.*
4. *Please explain how spill response effectiveness was incorporated into residual effects predictions.*
5. *Please identify any accident scenarios where full recovery or containment was not assumed.*

Proponent Response

1. **Key Assumptions Used in the Accident and Malfunction Assessment**

   The risk assessment methodology used in the accident and malfunction assessment is provided in Volume 10, Section 34.3.2.

   The assessment considers both the consequences of an event and the effectiveness of mitigation and response measures when characterizing residual risk (Volume 10, Section 34.3.2). The risk assessment system serves as a structured approach to evaluate accident and malfunction scenarios, specifically focusing on their potential consequences to VCs. This system allows both the magnitude and duration of effects to VCs to be taken into account when defining consequences. This final risk ranking incorporates consideration of the mitigation measures that have been implemented for each identified effect. As such, the assessment reflects not only the inherent risks but also the effectiveness of controls in place. Volume 10, Section 34.6.1 details the mitigation measures and Management Plans proposed. The Management Plans (see Volume 11) will be developed to help reduce the risk, and mitigate the potential effects, of accidents or malfunctions should they occur. All management plans will be developed with input from Inuit and other Indigenous governments and organizations, users, and information obtained through consultation with regulators.

2. **How Environmental Conditions, Response Times, and Seasonal Factors Were Incorporated**

   Environmental conditions, response times and seasonal factors are considered throughout Volume 10, Section 34. Accidents and Malfunctions, and specifically in Volume 10, Section 34.6.3.

3. **Assumptions Regarding Spill Detection, Mobilization, Containment, and Recovery**

   As noted in Volume 10, Section 34.6.1 spill prevention and response measures will be implemented through the Spill Contingency Plan (Volume 11, Appendix 37H, Attachment H5) which includes requirements for secondary containment, spill response procedures, training, equipment inspection, spill response equipment, and cleanup measures. Further details will be developed as the Spill Contingency Plan and Environmental Protection Plan are advanced from their current draft, conceptual form, and confirmed through the regulatory processes that follow the NIRB Project Certificate, including the Nunavut Water Board Type A Water Licence process.

   For the purposes of the assessment of accidents and malfunctions it was assumed;

   > "*If a spill at the Project sites occurs, the spill would be immediately contained and cleaned up using onsite spill kits and appropriate absorbent materials. Post clean up verification will ensure that all hazardous materials have been removed.*" (Volume 10, Section 34.6.2, document page 34-18, PDF page 7710 of 8171)

   > "*In the event of a large spill, prioritization of site resources would be sent to the spill area for response.*" (Volume 10, Section 34.6.2, document page 34-18, PDF page 7710 of 8171)

   Although the assessment assumed detection, containment and recovery of a spill it did also recognize the potential for significant residual effects in the event that complete containment and recovery was not achievable, see response below to part 5 of this Information Request.

4. **How Spill Response Effectiveness Was Incorporated into Residual Effects Predictions**

   Please see response to Part 3 and Part 5 of this Information Request.

5. **Accident Scenarios Where Full Recovery or Containment Was Not Assumed**

   The assessment identifies several scenarios where significant residual effects may occur despite mitigation and response measures, including scenarios associated with a Terrestrial and Aquatic Hazardous Materials Spill (Section 34.7.1) and a Marine Hazardous Materials Spill (Section 34.7.2).

   The assessment therefore does not assume that all accident and malfunction scenarios would result in complete containment, recovery, or insignificant residual effects. Residual significant effects remain possible for certain low-likelihood, high-consequence events.

KAA-68 (IR-68)

Subject

Climate Change, Monitoring, and Management

Issue / Concern

The assessment concludes that permafrost degradation, terrain instability, erosion, flooding and other environmental conditions are not expected to affect Project infrastructure.

However, the management plans indicate that monitoring, thresholds, and management measures will be developed in the future.

Information Request

Please Provide:

1. *The indicators that will be monitored to assess climate related impacts*
2. *Thresholds and triggers that would result in management action*
3. *Corrective measures that would be implemented if monitoring identifies climate related impacts to Project infrastructure*

Proponent Response

Mitigation and management measures considered in the engineering design to manage terrain instability and permafrost degradation are presented in Volume 6, Section 14.5.3 and Volume 10, Section 35.3.2. An Erosion and Sediment Control Plan (ESCP) will be developed (prior to final project design), which will include standards, best management practices, and mitigation measures to prevent or reduce potential changes in terrain stability and permafrost conditions. The IS establishes a framework for management and monitoring plans including monitoring indicators, thresholds and triggers that would result in action, and corrective and mitigation measures to be implemented. The ESCP and project-specific indicators, thresholds, and measures will be developed during the detailed design stage (Project is currently at approximately 10% [conceptual] engineering design stage), which will be available post certificate, prior to construction. Mitigation measures to be included in the ESCP are outlined in Volume 6, Section 14.3.4.3 and the objectives of the monitoring plans are outlined in Section 14.7. Monitoring plans to be included in the ESCP will include information on sampling, observation, and measurement schedules, procedures, mitigation measures and proposed criteria or thresholds to trigger the mitigation measures, and reporting requirements (outlined in Volume 11).

KAA-69 (IR-69)

Subject

Watercourse Crossings

Issue / Concern

The Project includes approximately 58 major watercourse crossings and 164 minor drainage structures. While the Impact Statement indicates that crossings will be designed to accommodate fish passage and comply with Fisheries Act requirements, insufficient information has been provided regarding the location, sensitivity, design, and long-term performance of these crossings. Additional information is required for KAA to assess potential effects on fish habitat, harvesting activities, travel routes, and aquatic ecosystems.

Information Request

The Proponent must provide:

1. *A complete inventory and mapping of all proposed watercourse crossings, including crossing type, waterbody name, and identification of fish-bearing watercourses.*
2. *Information regarding fish species known or expected to occur at each crossing location and identification of crossings considered sensitive from a fish habitat perspective.*
3. *A description of how crossing designs accommodate fish passage and protect aquatic habitat.*
4. *A description of how climate change, permafrost degradation, erosion, and changing hydrological conditions have been incorporated into crossing design and long-term maintenance planning.*
5. *Details regarding monitoring, inspection, maintenance, and adaptive management measures proposed for watercourse crossings throughout Project operations.*

Proponent Response

The Impact Statement (IS) addresses the requested information for watercourse crossings through the Project design considerations set out in Volume 2, Section 2.1.1 (Biophysical and Socio-Economic Environments and Ecosystem Integrity), the Freshwater Fish and Fish Habitat baseline and assessment in Volume 7, Section 20 and Appendix 20A (Fish and Fish Habitat Baseline Report), the Water Resources assessment in Volume 7, Section 19, the Climate Change Risk Assessment in Volume 5, Section 12, and the monitoring and adaptive management plans in Volume 11 including the Road Management Plan (Appendix 37A), Environmental Protection Plan (Appendix 37H) with Attachment H2 (Erosion and Sediment Control Plan), and Aquatic Effects Management Plan (Appendix 37D), and the regulatory authorization process.

In regard to the specific requested information WKR has provided the following information:

1. **A complete inventory and mapping of all proposed watercourse crossings, including crossing type, waterbody name, and identification of fish-bearing watercourses.**

   The crossing inventory and mapping is documented in Volume 2 (Project Description) and Volume 7, Appendix 20A (Fish and Fish Habitat Baseline Report), which includes site-specific characterization of watercourses within the Local Assessment Area. Specifically, Appendix B within Appendix 20A (Volume 7) provides mapbooks showing the proposed watercourse crossings and Appendix A.1 within Appendix 20A (Volume 7) provides the master watercourse crossing table which includes crossing type, crossing ID (waterbody name) and identification of whether a crossing is considered to be fish bearing, and fish species captured.

2. **Information regarding fish species known or expected to occur at each crossing location and identification of crossings considered sensitive from a fish habitat perspective.**

   Appendix A.1 within Appendix 20A (Volume 7) provides the master watercourse crossing table, which includes identification of whether a crossing is considered to be fish bearing, and fish species captured. Habitat potential is characterized for spawning, rearing, migratory, and overwintering life history functions per Volume 7, Appendix 20A Tables 4.16 (large permanent crossings), 4.18 (small permanent crossings), and 4.19 (ephemeral, intermittent and boulder field crossings). Sensitive life history periods for species of importance are documented within Volume 7, Section 20, Table 20.8 (Sensitive Life History Periods of Species of Importance) and Appendix D (Species of Importance Periodicity Charts) within Appendix 20A. Sensitive crossings from a fish habitat perspective are identified through the qualitative spawning potential assessment at each watercourse combined with the expected species present at that location. Sensitivity also depends on the planned crossing method with methods involving no in water footprint resulting in low potential effects to fish habitat, regardless of the quality of fish habitat present.

3. **A description of how crossing designs accommodate fish passage and protect aquatic habitat.**

   Design requirements for fish passage and aquatic habitat protection are outlined in Volume 2, Section 2.1.1 (Biophysical and Socio-Economic Environments and Ecosystem Integrity). Crossing structures and access infrastructure will be designed in accordance with regulatory and best practices that recognize and apply fish passage and hydraulic geometric design parameters from Fisheries and Oceans Canada (DFO). Watercourse crossings will be designed and constructed to maintain water flow, drainage patterns, and fish passage and include considerations at various flow levels. Engineered sizing of crossing structures will be based on field collected data for each crossing location, which will also include identification of any sensitive in-water and riparian habitat features which require protections. Key guidance from DFO will be incorporated into designs including measures outlined in the applicable DFO codes of practice and standards.

On non-fish bearing crossings drainage structures will be installed at frequent intervals along the road alignment to retain flow connectivity and flow capacity across the road for both seasonal and storm-related flow. This will serve to reduce impacts on the natural drainage system, including overland flow patterns and erosion. Drainage in surrounding areas will be assessed to confirm proper flow management and to reduce disruptions to the natural water flow regimes.

4. **A description of how climate change, permafrost degradation, erosion, and changing hydrological conditions have been incorporated into crossing design and long-term maintenance planning.**

Potential changes to hydrological conditions have been incorporated into both the design and maintenance/monitoring plans for the Project. Volume 2, Section 2.1.2 (Climate Change and Sustainability) outlines the Project design framework for incorporating climate change adaptation and permafrost protection, which includes incorporating adaptation strategies and recommendations developed in the Climate Change Risk Assessment (CCRA; Volume 5 Section 12.5 and Appendix 12b). Adaptation strategies were developed for each Project component (e.g., road, airstrip, laydown/storage areas) with focus on the high risks identified in the CCRA. A detailed list of adaptation strategy recommendations are provided in Volume 5, Appendix 12b Section 7.3, organized by Project component.

Mitigation measures and lessons learned from northern infrastructure projects, including the Inuvik-Tuktoyatuk Highway, were considered within the design and planning of the Project, including considerations around the preservation of permafrost.

Measures related to erosion and hydrology are outlined in Volume 7, Section 19 (Water Resources), including Section 19.3.7 (Effects of Climate Change on Water Resources), which incorporates design measures such as culvert sizing to adapt to anticipated potential changes as a result of climate change effects on permafrost.

The Project design is currently at approximately 10%, and as detailed engineering design progresses, WKR will continue to engage about the design of physical structures (e.g., dimensions, materials, etc.) including post certificate and prior to construction when design is completed. These designs will incorporate criteria to allow for continued function under various climate change scenarios, permafrost conditions, prevent erosion, and changes to the hydrological function of the environment. Specific guidance and mitigations which will be applied to prevent or reduce mobilization of sediments and contaminants into waterbodies from runoff, altered drainage patterns, and erosion include the implementation of the Erosion and Sediment Control Plan, which includes mitigation measures from (but not limited to):

- Northern Land Use Guidelines: Roads and Trails (GNWT 2010);
- Measures to Protect Fish and Fish Habitat (DFO 2025);
- DFO Codes of Practice and Standards
- Guidance adopted from other northern jurisdictions (e.g., the GNWT Department of Transportation - Erosion and Sediment Control Manual) (GNWT 2013).

5. **Details regarding monitoring, inspection, maintenance, and adaptive management measures proposed for watercourse crossings throughout Project operations.**

    - The Project includes several management plans that are relevant to monitoring, inspection maintenance and adaptive management of watercourse crossings.
    - Volume 11 Road Management Plan (Appendix 37A) provides the operational framework for road maintenance including watercourse crossings. This plan will include monitoring locations, inspection frequencies, maintenance triggers, and adaptive management responses.
    - Volume 11 Environmental Protection Plan (Appendix 37H) and its Attachment H2 (Erosion and Sediment Control Plan) provide the operational framework for erosion and sediment control at crossings.
    - Volume 11 Aquatic Effects Management Plan (AEMP) (Appendix 37D) provides the monitoring framework applicable to Project effects on freshwater fish and fish habitat and water resources, including watercourse crossings. AEMPs include monitoring requirements for predicted effects to aquatics resources and are typically developed in detail during the permitting phase of the Project through engagement and collaboration with regulatory agencies and interested parties (e.g., Kitikmiut and other Indigenous groups). Adaptive management is a key component of AEMP plans with measures developed and refined on an ongoing basis throughout the life of the monitoring plan.

    These management plans were submitted in draft form with the IS and will be refined through subsequent regulatory processes, with continued engagement with Kitikmiut and other Indigenous groups as part of the adaptive management framework. WKR is committed to updating the plans before each of the following milestones (as required): Prior to the technical meeting/pre-hearing conference; After the Pre-Hearing Conference Report is issued and before the final hearing; and Final version(s) after the final hearing is completed, if necessary.

    Additionally, the Project will follow DFO Fisheries Act requirements (i.e., mitigation, monitoring, and adaptive management requirements outlined in an authorization and/or avoid and mitigate letters).

KAA-70 (IR-70)

Subject

Pit/Quarry Development, Aggregate Extraction, and Rehabilitation

Issue / Concern

The Project includes the development and operation of approximately 40 temporary and permanent quarries and borrow sources. The Impact Statement provides limited information regarding the location, scale, operation, environmental management, and rehabilitation of these sites. Additional information is required to understand potential impacts on wildlife, harvesting activities, land use, water resources, and long-term landscape disturbance.

Information Request

The Proponent must provide:

1. *A map and inventory of all proposed quarry and borrow sites, including estimated extraction volumes, duration of use, and intended purpose.*
2. *A description of the criteria used to select quarry locations, including consideration of wildlife habitat, harvesting areas, water resources, and Inuit Knowledge.*
3. *Details regarding blasting activities, including anticipated frequency, seasonal timing, wildlife mitigation measures, and communication protocols with affected communities and Hunters and Trappers Organizations.*
4. *A description of environmental management measures related to dust, erosion, sedimentation, water use, and surface water protection at quarry sites.*
5. *A description of progressive rehabilitation measures and final closure objectives for temporary and permanent quarry sites.*

Proponent Response

The response aligns with each numbered sub-part in the information request.

1. **Quarry and Borrow Pit Inventory**

   The IS is based on conceptual (approximately 10%) engineering design, therefore details requested by KAA on Borrow pits and Quarries are currently not available at this time. The following information provide the criteria used to select appropriate sites for use during construction or operations.

   "*Borrow pits and quarries are selected based on their material, geotechnical and geochemical characteristics, logistical requirements, and consideration of environmental and archaeological impacts. Pre-Development characterization programs will be conducted on each borrow pit or quarry prior to use to identify and characterize these features. If a quarry is deemed suitable for*

construction purposes quarry information and any quarry-specific management, mitigation or monitoring requirements will be included in the site-specific borrow pit or quarry management plan. Details for each plan will/may include:

- *quarry maps indicating minimum setbacks and any relevant features*
- *estimates of the resources to be extracted*
- *geochemical characterization information and additional sampling plans (where required)*
- *identification of any archaeological of fish habitat buffer zones*
- *quarry-specific waste management facilities (where applicable)*
- *quarry-specific water management facilities and any erosion control measures (if required).*" (Volume 11, Appendix 37H, Attachment H1 — BPQMP, Section 2.1, document page 3, PDF page 7989 of 8171)

The Borrow Pit and Quarry Management Plan (BPQMP) is submitted in draft form with the IS and will be refined as Project design advances, with each site-specific quarry plan developed prior to use of the individual quarry. WKR committed in the IS to updating the plans before each of the following milestones (as required):

- Prior to the technical meeting/pre-hearing conference;
- After the Pre-Hearing Conference Report is issued and before the final hearing; and
- Final version(s) after the final hearing is completed, if necessary.

2. **Site Selection Criteria**

WKR commits to applying criteria, including consideration of wildlife habitat, harvesting areas, water resources and Inuit Knowledge for selecting appropriate quarry locations in addition to those criteria listed in Volume 2, Section 2.6.2.4 and summarized in this response:

"*Final borrow and quarry locations will be selected based on:*

- *Geotechnical and geochemical characteristics*
- *Archaeological and environmental constraints*
- *Proximity to the road*
- *Ease of access; Input from local land users*
- *Amount of available material.*"

Site-specific Inuit, Indigenous, and Community Knowledge integration into individual quarry selection will be developed through ongoing engagement with Kitikmiut, other Indigenous groups, and other potentially affected parties during the advancement of Project design, planning, and monitoring, throughout the life of the Project (Volume 3, Section 6.3.6, Table 6.4).

3. **Wildlife Mitigation Measures and Communication Protocols**

Wildlife mitigation measures applicable to blasting are committed to, as included in the Wildlife Mitigation and Monitoring Plan (WMMP; Volume 11, Appendix 37B), including the wildlife sweep and no-disturbance buffer framework, and timing considerations. As Project design advances, these measures may be refined, adjusted, or supplemented with additional measures, informed by Project-specific indicators, thresholds, monitoring results, and adaptive management practices.

4. **Dust, Erosion, and Water Environmental Management Measures**

As stated in the BPQMP, Section 3.2 (Erosion and Sediment Control):

> "*Quarries will be operated in a manner consistent with the Northern Land Use Guidelines: Pits and Quarries (INAC 2010), including:*
>
> - *Organic material and overburden stockpiles will be located at least 31 m from waterbodies, and will be sloped and rounded to reduce wind erosion.*
> - *Snowmelt and runoff from rainfall events will be controlled to prevent excessive rilling and gullying.*
> - *A buffer of at least 31 m of undisturbed land will be maintained between quarry and waterbodies, where practical.*
> - *If necessary, silt curtains and/or straw logs will be used to control suspended sediments or reduce water runoff seepage from the quarry.*
> - *Constructing a berm or swale at the top of the slopes to direct water away from or around the pit.*
> - *No vegetation will be stripped outside of the approved areas.*
> - *Directing runoff to the bottom of the slope through a drainpipe or ditch.*
> - *Progressive restoration and revegetation will also take place as the quarry is depleted to stabilize soils.*
> - *Pit slopes and stockpiles will be kept at less than 2:1 slope during times of the year when the quarry is not in operation.*" (Volume 11, Appendix 37H, Attachment H1 — BPQMP, Section 3.2, document page 5, PDF page 7991 of 8171)

The Volume 11 Erosion and Sediment Control Plan (Attachment H2 to the Environmental Protection Plan [Volume 11, Appendix 37H]) provides the project-wide operational framework for erosion and sediment control.

Dust: Dust suppression at quarry sites will be implemented, as stated in Volume 7, Section 19:

> "*Dust suppression will be conducted as necessary to reduce dust and sediment from entering watercourses or waterbodies. The application of dust suppressant(s) will adhere to Government of Nunavut's guidance (GN 2014, 2024). Reduced speed limits may be temporarily posted during periods of drier conditions to reduce fugitive dust generation.*" (Volume 7, Section 19.3.3.3, document page 19-70, PDF page 4046 of 8171)

Dust suppression will be conducted *"using water and non-toxic chemicals"* (Volume 6, Section 18.1.1, Table 18.1). The Volume 11 Air Quality Monitoring and BPQMP provide the operational framework for dust suppression implementation and monitoring objectives for borrow and quarry pits.

Water use: As per Volume 2, Section 2.6.2.4:

> "*Both potable and non-potable water will be required for several uses during construction of the Project, necessitating a wide variety of water sources and locations throughout the PDA. An estimation of water that will be required during construction for both potable and industrial uses (e.g., winter road construction, dust control, material compaction) will be confirmed prior to application from the Nunavut Water Board for the Water Licence in consultation with the various construction contractors, water will be withdrawn from approved water sources. The water will be stored in tanks and transported by waterline or truck, as required.*" (Volume 2, Section 2.6.2.4, document page, 2-45, PDF page 1124 of 8171)

Site-specific water use at each quarry will be authorized through the Nunavut Water Board Type A Water Licence.

Surface water protection. Mitigation measures that will be implemented to prevent or reduce mobilization of sediments and contaminants into waterbodies from runoff, altered drainage patterns, and erosion, including from quarries and borrow pits, include:

- Measures to mitigate effects on surface water quality in Volume 7, Section 19.3.3.3
- Siting criteria and erosion and sediment control measures in the BPQMP, Section 3.2
- The Erosion and Sediment Control Plan (Volume 11, Attachment H2 to Appendix 37H).
- The Aquatics Effects Management Plan (Volume 11, Appendix 37D) threshold-triggered adaptive management

5. **Progressive Reclamation Measures and Final Closure Objectives for Temporary and Permanent Quarry Sites**

As described in Volume 2, Sections 2.6.2 and 2.6.3, some quarries will only be required during construction (temporary quarries) and others will be required to remain active into operations (permanent quarries). Reclamation methods of temporary quarries will be identified in the Progressive Reclamation Plan (Volume 11, Appendix 37F). Quarries will be reclaimed in accordance with applicable regulatory requirements and based on input from Inuit and other land users and other stakeholders. As stated in Section 4.1 of the BPQMP (Volume 11, Appendix 37H, Attachment H1):

> "*The objective of the closure and reclamation of all borrow pits or quarries is to return the disturbed area to a stable, usable condition that does not pose a risk to human or wildlife safety. The quarry will undergo progressive reclamation as the borrow materials are depleted, and stockpiled overburden will be replaced to promote revegetation. Process for closure and reclamation will be developed based on site-specific conditions and updated to reflect the planned process prior to the start of any borrow pit or quarry operations. This will include how the management of waste (hazardous and non-hazardous), equipment and excess material.*

> *A project specific Spill Contingency Plan will be developed for the Project and will outline the management of unauthorized discharges during construction and operations and maintenance phases of the Project, including during borrow pit and quarry operations*." (Volume 11, Appendix 37H, Attachment H1 — BPQMP, Section 4.1, document page 7, PDF page 7993 of 8171)

The BPQMP, Section 4.2 records environmental protection during closure:

> "*The site recontouring during closure and reclamation will be designed and completed to limit erosion and sedimentation. Procedures will be developed to leave the site in a stable condition, as per permit conditions*." (Volume 11, Appendix 37H, Attachment H1 — BPQMP, Section 4.2, document page 7, PDF page 7993 of 8171)

All mitigation, management, and enhancement measures presented in the IS are generally considered the most effective means of avoiding, reducing, or eliminating adverse effects and support the significance determinations outlined in the assessment. These measures are informed by proven approaches successfully implemented on current and past projects across Nunavut and the Northwest Territories. As Project design advances, these measures may be refined, adjusted, or supplemented with additional measures, informed by Project-specific indicators, thresholds, monitoring results, and adaptive management practices. Any such refinements are anticipated to further reduce potential effects and would therefore reinforce, and not alter, the significance determinations presented in the IS.

Kitikmeot Inuit Association

West Kitikmeot Resources Corp. (WKR), thanks the Kitikmeot Inuit Association (KIA) for its Information Requests (IRs) dated June 19, 2026 (NIRB Document 260619-24XN038-KitIA Comments Re Impact Statement-IR1E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the KIA's IRs are provided below.

WKR looks forward to continuing to work with KIA, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

KIA-IR1 (IR-71)

Subject

Climate and Meteorology

Issue / Concern

Section 8.1.2.2 of the concordance table (Appendix A) requires that the report include 'Discussion on the climate parameters that may change due to emissions from the proposed project [greenhouse gas, and criteria contaminants such as SO2, NOx, CO, Volatile Organic Compounds, O3, etc.]'. However, this requirement is not fully met. There is minor, indirect discussion of how atmospheric components influence climate in the Climate Profile (Appendix 12A). Contaminants are assessed with respect to air quality; however, the referenced sections do not explicitly analyze or discuss how project-related criteria air contaminants (e.g., NOx, SO_2, VOCs) may influence climate parameters.

Information Request

Provide explicit discussion linking criteria air contaminants (NOx, SO2, VOCs, etc.) to climate parameters or justify exclusion.

Proponent Response

The identified combustion gases ozone, and VOCs) can influence climate through changes in atmospheric composition, leading to changes in the atmosphere's radiative forcing (often expressed as global warming potentials (GWPs). Over time and in large quantities, combustion gases, ozone, and VOCs in the atmosphere may lead to changes in climate parameters such as temperature or precipitation (von Schneidemesser et al. 2015). The effect, however, is primarily driven by the influence from GHGs such as carbon dioxide, methane, and nitrous oxide.

GHG emissions from the Project will contribute, albeit in a small way, to global atmospheric concentrations of carbon dioxide, methane, and nitrous oxide, which is linked to climate change including change in climate parameters. However, the magnitude of the effect on climate change from the Project's GHG emissions cannot be determined. While climate change is influencing some regions more rapidly and at larger magnitudes than other regions, climate change is driven by global GHG emissions and this is reflected in the projected changes in climate parameters (e.g. projections presented in Appendix 12A).

Reference

von Schneidemesser, Erika, Paul S. Monks, James D. Allan, Lori Bruhwiler, Piers Forster, David Fowler, Axel Lauer, William T. Morgan, Pauli Paasonen, Mattia Righi, Katerina Sindelarova, Mark A. Sutton. 2015. Chemistry and the Linkages Between Air Quality and Climate Change. Chemical Reviews, volume 115, issue 10, May 27, 2015.

KIA-IR2 (IR-72)

Subject

Terrestrial Environment - Baseline Information

Issue / Concern

Section 8.1.4.1 of the concordance table (Appendix A) requires that the report include 'Description of the bedrock lithology, morphology, surficial geology (including soils and sediment and their thermal and ground ice conditions), and landform at proposed borrow and quarry sites, roads, infrastructure, and other areas where earthworks are proposed'. However, this requirement is not fully met. Section 14 and Appendix 14 provide descriptions and maps of regional geology and surficial geology; however, it does not identify site-specific information for proposed quarry or borrow areas.

Information Request

Provide mapped and described geology for potential or proposed quarry/borrow sites or clarify project stage.

Proponent Response

The detailed description of the bedrock lithology, morphology, surficial geology (including soils and sediment and their thermal and ground ice conditions), and landform at proposed borrow and quarry sites, roads has not been completed yet. These activities will be completed as part of site-specific geotechnical investigations and subsequent regulatory permitting processes in advance of construction.

The IS is based on conceptual (approximately 10%) engineering design.

"Borrow sites and quarries will be permitted pursuant to the Territorial Lands Act, as managed by CIRNAC and Kitikmeot Inuit Association. Final borrow and quarry locations will be selected based on:

- Geotechnical and geochemical characteristics
- Archaeological and environmental constraints
- Proximity to the road
- Ease of access
- Input from local land users
- Amount of available material" (Volume 2, Section 2.6.2.4, document page 2-47, PDF page 1126 of 8171)

The Borrow Pit and Quarry Management Plan (Draft) submitted with the IS (Volume 11, Appendix 37H, Environmental Protection Plan) sets out the pre-development characterization that will be completed for each borrow pit or quarry:

> " Pre-Development characterization programs will be conducted on each borrow pit or quarry prior to use to identify and characterize these features." (Volume 11, Appendix 37H, Borrow Pit and Quarry Management Plan [Draft], Section 2.1, document page 3, PDF page 7989 of 8171)

Site-specific information will be incorporated into a site-specific borrow pit or quarry management plan for each feature, including:

> "…quarry maps indicating minimum setbacks and any relevant features; estimates of the resources to be extracted; geochemical characterization information and additional sampling plans (where required); identification of any archaeological or fish habitat buffer zones; quarry-specific waste management facilities (where applicable); quarry-specific water management facilities and any erosion control measures (if required)." (Volume 11, Appendix 37H, Borrow Pit and Quarry Management Plan [Draft], Section 2.1, document page 3, PDF page 7989 of 8171)

The pre-development characterization and the site-specific management plans will be developed in advance of the regulatory authorizations identified in Volume 2 — including Quarry Concession Permits issued by the Kitikmeot Inuit Association on Inuit Owned Lands and Quarry Permits and Land Use Permits issued by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) on Crown Land under the Territorial Lands Act.

KIA-IR3 (IR-73)

Subject

Terrestrial Environment - Impact Assessment

Issue / Concern

Section 8.1.4.2 of the concordance table (Appendix A) requires that the report include 'Potential impacts on the abundance and distribution of unique or valuable landforms (e.g., wetlands, eskers and fragile landscapes) from the proposed project'. However, this requirement is not fully met. Section 14.3.2 quantifies the spatial impacts on eskers; however, it does not identify the expected magnitude and locations of other impacted fragile landscapes or wetlands.

Information Request

Provide additional detailed and spatially explicit analysis of potential impacts on wetlands, eskers, and fragile landscapes. Provide clarification regarding fragility in the context of the Arctic environment and climate change.

Proponent Response

The IS identifies that:

> "*Within the LAA, eskers and wetlands are considered unique landforms. The Baseline Report (Appendix 14A) provides description of their ecological functions and distribution in the PDA and LAA.*" (Volume 6, Section 14.2.2.3, document page 14-20, PDF page 2559 of 8171)

As identified in the Information Request, Section 14.3.2 quantifies the spatial impacts on eskers.

With respect to wetlands, the substantive characterization of effects on wetland function — including spatially explicit quantification — is addressed in Volume 6, Section 15.3.4 (Change in Wetland Function). The direct wetland landcover intersection is quantified in Section 15.3.4:

> "*A total of 124.6 ha of Non-tussock Sedge, a wetland landcover class, is intersected by the PDA (6.5% of existing conditions in the LAA). Additional effects on wetlands are expected outside of the Non-tussock Sedge landcover class; however, these cannot be quantified as they are grouped in other landcover classes based on vegetation signature and are not discretely mapped.*" (Volume 6, Section 15.3.4, document page 15-65, PDF page 2662 of 8171)

Wetland-by-wetland spatial quantification is provided in Volume 6, Table 15.13 (Summary of Project Wetland Losses within the LAA, Page 15-65):

> "*Project effects on wetlands will be a combination of full removal and partial removal. A total of 910 mapped wetlands are intersected by the PDA and full removal is expected for 541 wetlands (6.4% of existing mapped wetlands in the LAA), equalling a loss of 74.0 ha. The functions of wetlands fully removed by the Project will be lost. For areas with partial wetland removal, the proportion of the wetland retained will influence potential indirect project effects. A total of 369 wetlands are partially intersected by the PDA (4.4% of existing mapped wetlands in the LAA). The average percentage of wetlands partially intersected by the PDA is 35.5%, with a standard deviation of 28.2.*" (Volume 6, Section 15.3.4, document page 15-65, PDF page 2662 of 8171)

The Project Residual Effect on wetland function is characterized in Volume 6, Section 15.3.4:

> "*Project residual effects will be adverse in nature as the Project will result in the reduction of wetland function through direct loss of wetlands during project construction and indirect effects during Operations and Maintenance. Indirect effects on wetlands in the LAA may occur due to dust deposition, establishment of non-native and invasive plant species, and changes to permafrost and drainage. Effects will be long-term, with multiple irregular events in frequency due to the operations and maintenance of the Project, with residual effects persisting for the life of the Project…Other project infrastructure (e.g., road, port, aerodrome) will remain in-place following completion of construction, resulting in a long-term irreversible loss of wetland area. Effects are predicted to be low in magnitude as wetlands and their associated functions will continue to be present in the LAA and RAA. Effects are expected to be predominantly limited to wetlands intersected by the PDA or close to the PDA, although effects may extend into the LAA where large wetlands are intersected. Culverts will be installed at locations where project infrastructure will intersect drainages and wetlands to maintain hydrological connectivity. Dust deposition and the potential for non-native and invasive plant species introduction adjacent to the PDA will be ongoing. Due to seasonal changes in water flow, effects on wetland function have moderate seasonal timing sensitivity.*" (Volume 6, Section 15.3.4, document page 15-67, PDF page 2664 of 8171)

Additional types of fragile landscape that were assessed include thaw sensitive landscapes. The distribution of dominant geomorphological processes within the Project area — including processes that confer thaw sensitivity (e.g., permafrost processes, ice-wedge polygons, thermokarst) — is spatially characterized (surface area in hectares and percentage of total PDA and total LAA) in Volume 6, Appendix 14A. The distribution is presented for the LAA in Appendix 14A Table 4.6, along the Road PDA in Appendix 14A Table 4.7, and within the Aerodrome PDA, Jericho Station PDA, and Port PDA (Landside Infrastructure) in Appendix 14A Table 4.8:

> "*Distribution of Dominant Geomorphological Processes within the LAA: Seepage, Solifluction (S) 9,481.9 ha (19.0%); Permafrost Processes (X) 2,595.6 ha (5.2%); Ice-wedge Polygons (Xw) 1,920.1 ha (3.9%); Gullied (V) 674.6 ha (1.4%); Thermokarst (K) 547.9 ha (1.1%); Mass Movement (A) 33.3 ha (0.1%).*" (Volume 6, Appendix 14A, Table 4.6, document page 36, PDF page 3215 of 8171)

The Project may affect thaw-sensitive terrain through localized permafrost degradation. Ground disturbance and road construction on ice-rich permafrost may result in active layer thickening and the local thaw of ground ice. Associated effects on terrain conditions include changes to surface drainage, ground moisture conditions, as well as differential settlement and subsidence resulting from ground ice loss (Volume 6, Sections 14.3.2.2, 14.3.4.2). These changes may reduce terrain stability within the Project footprint and immediate terrain where ground thermal and hydrological conditions are altered. Mitigation, management, and enhancement measures identified in Volume 6, Sections 14.3.2.3 and 14.3.4.3 are intended to avoid or reduce such ground disturbance.

Climate change context for unique or valuable landforms

The effects of climate change on terrain, soils, and permafrost — including the parameters relevant to landform sensitivity in the Arctic — are addressed in Volume 6, Section 14.3.7. Effects of climate change on vegetation, including wetlands, are addressed in Volume 6, Section 15.3.7. Assessment for terrain, soils, and permafrost, and wetlands is also supported by the Climate Change Risk Assessment (CCRA) in Volume 5, Appendix 12B and the Climate Profile in Volume 5, Appendix 12A. The CCRA characterizes the probability and projected change in fourteen climate hazards relevant to the Project area, including permafrost thaw, freeze-thaw cycles, extreme rainfall, spring melt and spring freshet/riverine flooding, and tundra fire, under the SSP5-8.5 and SSP2-4.5 emissions scenarios (Volume 5, Appendix 12B). Continuous permafrost underlies 90% to 100% of the area (Volume 5, Appendix 12A, Section 5).

KIA-IR4 (IR-74)

Subject

Terrestrial Environment - Impact Assessment

Issue / Concern

Section 8.1.4.2 of the concordance table (Appendix A) requires that the report include 'Potential impacts on physical and thermal stability of terrain (including that due to thaw of ice-rich permafrost) in the vicinity of project facilities and infrastructure. Discussion should focus on the potential for impacts arising from surface disturbances due to construction and operation of the proposed all-weather access road, port and Jericho station (e.g., overburden stripping, cuts/fills, excavation of the facility and infrastructure'. However, this requirement is not fully met. Section 14.3.4 describes general effects of terrain disturbance; however, it does not clearly link specific construction activities (e.g., excavation, embankment construction) to their potential impacts on terrain stability.

Information Request

Provide more detailed assessment of how specific construction activities affect terrain stability, specifically in the context of changed surface water regimes.

Proponent Response

The IS identifies the construction activities that interact with terrain, soils, and permafrost in Volume 6, Section 14.1.3:

"Changes to terrain conditions or soil properties may occur due to clearing activities, setup and operation of access roads and camps, excavation of borrow materials, quarrying, excavation of road cuts, and construction of the embankment. All of these activities require travel across the ground, either along the Road Project Development Area (PDA), along access roads within the PDA, or working in areas of open cut in borrow sources or quarries; therefore, presenting a potential effect pathway on terrain, soils, and permafrost." (Volume 6, Section 14.1.3, page 14-6; PDF page 2545 of 8171)

The Concordance Table (Appendix A) records the concordance to *Final Impact Statement Guidelines* Section 8.1.4.2 (vi) *"Potential impacts on physical and thermal stability of terrain (including that due to thaw of ice-rich permafrost) in the vicinity of project facilities and infrastructure"* at Volume 6, Section 14.3.4 Change in Terrain Stability, page 14-34.

Infrastructure-specific linkage of construction conditions to terrain stability effect pathways

Volume 6, Section 14.3.4 provides an infrastructure-specific characterization in Table 14.9 (Summary conditions at the Port [landside facilities], Aerodrome and Jericho Station PDA), which links the terrain description at each major infrastructure location to the specific effect pathways, including changes in surface water drainage, that result from project surface disturbance. Selected verbatim entries from Table 14.9:

> ***Aerodrome runway (Grays Bay):*** *"Topography is mainly marked by a flat plain with gully erosion and by a gentle slope with seepage on the eastern end…The runway is on ice wedge polygon network (extremely ice-rich). The eastern part, outside the runway, is marked by seepage and slow mass movement, with seasonal runoff. Thermokarst is active in this area, indicating unstable permafrost, prone to thaw."* Effect pathways listed include: *"Slope instability on existing gullies and riverbanks (e.g., gullying, landslide, active layer detachment); Gullies would currently be stable due to permafrost, but are likely to undergo landslides with degradation of permafrost (which is expected to happen to some extent with the airstrip construction and climate change); Sensitive permafrost prone to ground settlement if perturbated; High potential of thermokarst; The proposed area is very active in terms of permafrost and hydrological processes and will require permafrost mitigation design; Changes in water drainage patterns that would enhance permafrost degradation."* (Volume 6, Section 14.3.4.2, Table 14.9, page 14-37; PDF page 2576 of 8171)
>
> ***Port PDA (Laydown areas; Bulk fuel storage; Recycling and waste facilities) – Grays Bay:*** *"Drainage is poor to moderate, with seepage and runoff drainage patterns at the surface. Permafrost is potentially ice rich."* Effect pathways listed include: *"Frost shattering and rock fall; Sensitive permafrost (in marine deposits) prone to ground settlement if perturbated; Changes in water drainage patterns."* (Volume 6, Section 14.3.4.2, Table 14.9, page 14-38; PDF page 2577 of 8171)
>
> ***Jericho Station PDA:*** *"Topography is mainly a flat terrain, with depressions. About half of the area is already disturbed terrain and half is composed of thick glaciofluvial deposits…Their surface is marked by ice-wedge polygons and gullies. Drainage is poor to moderate. Permafrost is potentially ice rich."* Effect pathways listed include: *"Sensitive permafrost prone to ground settlement if perturbated; Changes in water drainage patterns; Slope instability on existing gullies and riverbanks (e.g., gullying, landslide, active layer detachment)."* (Volume 6, Section 14.3.4.2 Table 14.9, page 14-38; PDF page 2577 of 8171)

The distribution of geomorphological processes — including the indicators of sensitive ground conditions at each infrastructure location — is presented in Volume 6, Section 14.3.4 Tables 14.7 (Aerodrome PDA, Jericho Station PDA, and Port PDA Landside Infrastructure) and 14.8 (Road PDA).

Linkage of specific construction activities to terrain stability mitigation

Volume 6, Section 14.3.4.3 establishes the linkage between specific construction activities (clearing, cuts and fills, embankment construction, excavation, quarry dewatering) and the terrain stability effect pathways to be addressed. Verbatim:

> *"To promote the stability of cuts and fills on slopes, fill material will be compacted, and the tops of cut slopes will be rounded where required; The slope of the cut or fill will have a horizontal to vertical ratio accounting for the geotechnical properties of the materials where required."* (Volume 6, Section 14.3.4.3, page 14-38; PDF page 2577 of 8171)
>
> *"Runoff control measures will be applied to protect permafrost soil, including but not limited to:*
>
> - *Diversion of water entering the site.*
> - *Modification of slope surfaces.*
> - *Reduction of slope gradients.*
> - *Controlling flow velocity.*
> - *Providing adequate or increased drainage.*
> - *Diverting water flows away from exposed soil areas.*
> - *Positive drainage will be maintained within quarry floors.*
> - *Quarry dewatering will be conducted in a manner that discharge will not directly enter waterbodies, watercourses, or lead to soil erosion.*
>
> *Drainage culverts will be constructed and maintained along the roadway to facilitate water movement and maintain drainage patterns; Drainage culverts, road cuts, or embankments will be placed in accordance with a good understanding of surface and subsurface flow paths."* (Volume 6, Section 14.3.4.3, page 14-39; PDF page 2578 of 8171)
>
> *"When sensitive terrain is not avoidable, mitigation measures and design will include ground thermal regime management and limit heat transfer to the ground as follows:*
>
> - *Road embankment will be thicker and made of coarse materials, with sand and gravel to provide insulation, to limit heat transfer to the ground and to limit ice formation in the embankment.*
> - *Buildings foundations will follow general guidelines for construction in permafrost terrain (CSA Group 2019).*
>
> *If ice-rich permafrost is identified during excavation activities, suitable measures will be taken to protect permafrost and ground ice."* (Volume 6, Section 14.3.4.3, page 14-40; PDF page 2579 of 8171)

Embankment construction approach and failure modes

The IS records the assumed construction approach for the road embankment and the failure modes associated with construction on permafrost terrain in Volume 6, Section 14.6:

> *"It is assumed that the construction of the road embankment will be conducted with a 'fill approach' with minimal disturbance to the substrate rather than a 'cut and fill' approach, except for specific unavoidable situations (e.g., road cuts at a steep valley approach that would require reducing grades). This key assumption is important to the evaluation of potential effects on landform and terrain conditions, soil properties, and terrain stability as the road cuts create ground disturbances and instabilities. The potential failure modes associated with highway construction and operations and maintenance on permafrost terrain are expected to be closely related to the local distribution of ground ice. Such failure modes may include, but are not limited to, differential thaw settlement, loss of ground strength, and localized slumping."* (Volume 6, Section 14.6, page 14-51, PDF page 2590 of 8171)

Surface water regime cross-reference

The assessment of how the Project may alter surface water regimes — including stormwater runoff, drainage pattern changes, and watercourse crossings — is addressed in Volume 7, Section 19 (Water Resources). The Volume 7 surface water assessment informs the Volume 6, Section 14.3.4 characterization of terrain stability through the interaction between drainage patterns, ponding/impoundment, and permafrost thermal regime, as captured in the effect pathways listed in Table 14.9 (*"Changes in water drainage patterns"*).

KIA-IR5 (IR-75)

Subject

Terrestrial Environment - Impact Assessment

Issue / Concern

Section 8.1.4.2 of the concordance table (Appendix A) requires that the report include 'Assessment and prediction of permafrost behaviour (degradation and its rate) beneath relevant infrastructure and areas (e.g., all-weather road, storage areas, fuel tank farms, quarries). Long-term predictions of the thermal regime around relevant infrastructure the proposed project facilities should be conducted with the consideration of climate change. Numerical modelling should be employed for both short term and long-term predictions of permafrost evolution including predictions of artesian inflow into any relevant the proposed project facilities if thawing of permafrost is envisioned Assessment and prediction of permafrost behaviour (degradation and its rate)'. However, this requirement is not fully met. Section 14.3.4 qualitatively describes potential permafrost degradation but does not include numerical modelling or quantitative predictions of permafrost behaviour beneath infrastructure. Additionally, predictions are not specific for each project component location (e.g. do the predicted behaviours change for Lupin compared to the Grays Bay Port).

Information Request

Provide modelling or justification for exclusion of numerical permafrost predictions. Of particular interest is nears surface changes in permafrost conditions and how suprapermafrost taliks form their how they interaction with surface water regimes, changes in vegetation and infrastructure.

Proponent Response

Numerical modelling beneath individual infrastructure is not yet available. The IS is based on conceptual (approximately 10%) engineering design. The data inputs required for site-specific numerical permafrost modelling — ground ice content, thermal conductivity profiles, water content profiles, and three-dimensional subsurface stratigraphy — are obtained through geotechnical field investigation.

Potential gaps in the availability of site-specific subsurface information will be addressed as part of future geotechnical field investigation and follow-up highway design activities to be undertaken within the alignment routing corridor

Once the field investigations are completed, site-specific predictions of permafrost behaviour beneath each project component will be developed, in accordance with CSA Group 2019 *Technical guide: infrastructure in permafrost: a guideline for climate change adaptation* (CSA PLUS 4011:19), as referenced in Volume 6, Section 14.3.4.3.

KIA-IR6 (IR-76)

Subject

Terrestrial Environment - Impact Assessment

Issue / Concern

Section 8.1.4.2 of the concordance table (Appendix A) requires that the report include 'Discussion of the potential for the occurrence, frequency, and distribution of terrain hazards, including ground instability (e.g. slope instability) and snow drifts and banks, as a result of construction activities (e.g., cut/fill, extraction of construction materials)'. However, this requirement is not fully met. The assessment identifies types and spatial distribution of terrain hazards; however, it does not evaluate the frequency of occurrence. Additionally, snow drift and snowbank formation processes are not addressed in a geotechnical context.

Information Request

Include assessment of hazard frequency and discuss snow drift/bank formation impacts. Discuss how hazards (frequence / magnitude) may change over the design life in response to climate change.

Proponent Response

Terrain Hazard Frequency Evaluation in the IS

The residual effects characterization for Change in Terrain Stability is recorded in Volume 6, Section 14.3.5, Table 14.10. The frequency of hazard occurrence leading to change in terrain stability can be considered continuous, as most hazards are characterized by gradual development and are closely linked to permafrost processes and/or degradation. Examples include solifluction, thaw settlement, and thermokarst formation, all of which typically progress incrementally over time and may lead to landscape change.

Change in Terrain Hazards Over Design Life Under Climate Change

Volume 6, Section 14.3.7 (Effects of Climate Change on Terrain, Soils, and Permafrost) characterizes how terrain hazards are expected to change over the Project's design life under continued climate change:

> "*Terrain hazards, especially permafrost degradation, are anticipated to be exacerbated by the effects of climate change. The progressive increase in mean annual temperatures is expected to accelerate permafrost thaw…Along a transportation corridor like the Project, permafrost degradation could lead to the increased occurrence of soil instability and ground movements (e.g., heaving, thawing, slumping, sinkholes, potholes, and settlement issues).*" (Volume 6, Section 14.3.7, page 14-42; PDF page 2581 of 8171)

The probability and projected change in the climate hazards considered for the Project — including permafrost thaw, freeze-thaw cycles, extreme rainfall (sustained), spring melt and spring freshet/riverine flooding, and whiteout conditions — are quantified in Volume 5, Appendix 12B (Climate Change Risk Assessment), with probability scores assigned at the baseline (1991–2020), 2030s (2021–2050), 2050s (2041–2070), and 2080s (2071–2100) time horizons under both the SSP2-4.5 and SSP5-8.5 emissions scenarios.

Snow Drift and Snow Bank Formation Impacts

Volume 6, Section 14.3.4 records snow accumulation along road embankment as an effect pathway associated with changes in Terrain Stability:

> *"Road embankment favours snow accumulation along it and favours snow accumulation at a distance that can reach up to several tens of metres from the road (Hammar et al. 2023; Schneider von Deimling et al. 2021)."*

The associated measurable parameters for evaluating this effect pathway include measurable indicators such as active layer thickness, ground temperature, ground surface elevation and visual observations of thaw settlement, ponding, vegetation change, or thermokarst development, evaluated through field observations and comparison of historical and up-to-date aerial photography and satellite imagery. Furthermore, Volume 6, Section 14.7 identifies the monitoring objective of detecting areas where snow accumulation may contribute to permafrost degradation.

While the potential influence of snow accumulation on permafrost conditions has been recognized and incorporated into the assessment and monitoring framework, a detailed evaluation of snow drift and snow bank formation cannot be completed at this stage of the Project. The Impact Statement is based on a preliminary engineering design (approximately 10% design level), and key parameters controlling snow accumulation patterns have not yet been defined. Snow drift development is strongly influenced by factors such as embankment height and geometry, road alignment and profile, surrounding topography, vegetation conditions, and local wind regimes. In addition, site-specific data is required to characterize snow transport and accumulation processes, including snow depth, wind speed, and wind direction. Consequently, potential snow drift and snow bank formation, along with their implications for permafrost conditions, will be assessed in greater detail during the detailed design phase, when final road design and geotechnical information become available.

KIA-IR7 (IR-77)

Subject

Geological Features, Surficial and Bedrock Geology and Geochemistry Baseline Information

Issue / Concern

Section 8.1.5.1 of the concordance table (Appendix A) requires the report to include 'Physical thermal, mechanical and geotechnical characteristics of surficial material and bedrock (and if appropriate structural geology) where applicable to major infrastructure areas or where earthworks are proposed in the Project.', However, no information on the salinity along the proposed corridor and at the port is provided, information that is critical for the design and long-term terrain behaviour.

Information Request

Include an assessment on salinity along the corridor or justify why this is not required at this stage.

Proponent Response

The IS is based on conceptual (approximately 10%) engineering design. Site-specific characterization of soil salinity (chloride content, electrical conductivity profiles, exchangeable sodium) is a geotechnical design parameter that is obtained through future geotechnical field investigation and laboratory analysis programs scoped to support detailed engineering design.

The specific level of detail requested — site-specific assessment of soil salinity along the proposed corridor and at the port — is dependent on geotechnical field investigation and laboratory analysis programs scoped to support detailed engineering design. Where required by detailed design for individual infrastructure components (e.g., where marine deposits intersect foundation, embankment, or buried utility footprints), soil salinity characterization will be developed through the geotechnical investigation framework described in Volume 6, Section 14.6, and applied in accordance with CSA Group 2019 and TAC 2010.

KIA-IR8 (IR-78)

Subject

Geological Features, Surficial and Bedrock Geology and Geochemistry Baseline Information

Issue / Concern

Section 8.1.5.1 of the concordance table (Appendix A) requires that the report include 'Description of the geotechnical properties of bedrock and soil units, including ice content and thermal conditions of permafrost soils and rocks, as relating to slope stability, and bearing capacity of facility foundations'. However, this requirement is not fully met. Section 14.2 and Appendix 14A provide general descriptions of geology but do not include key geotechnical properties such as bearing capacity or detailed parameter values for soil and bedrock units. It is indicated that this information may be provided at a later design stage, resulting in a current information gap.

Information Request

Provide geotechnical parameters (e.g., bearing capacity; creep properties) or confirm when and how this information will be available and measured.

Proponent Response

The IS characterizes the geotechnical setting of the Project at a level appropriate to support the impact assessment, consistent with the conceptual (approximately 10%) design stage. More specifically, the IS:

- Identifies and maps surficial materials and bedrock units along the corridor and at the major infrastructure components (Volume 6, Section 14.2.2 and Appendix 14A, Sections 4.1, 4.3, and 4.4)
- Characterizes permafrost distribution, ground ice conditions, and ground thermal regime (Volume 6, Appendix 14A, Sections 4.2.2 through 4.2.6)
- Identifies thaw-sensitive (ice-rich) vs. thaw-stable (ice-poor) permafrost by surficial material type (Volume 6, Section 14.2.2)
- Characterizes infrastructure-specific terrain conditions in Volume 6, Section 14.3.4, Table 14.9, including borehole data for the Port PDA

The specific level of detail requested — quantitative geotechnical parameter values (e.g., bearing capacity, creep properties, thermal conductivity, ice content profiles) for each soil and bedrock unit at each infrastructure component — is dependent on geotechnical field investigation and laboratory analysis programs scoped to support detailed engineering design. As stated in Volume 6, Section 14.6:

> " This information will be incorporated into the final design to minimize potential effects on permafrost. It is expected that the ESCP will be developed prior to the final project design." (Volume 6, Section 14.6, document page 14-52, PDF page 2591 of 8171)

Site-specific geotechnical parameters will be developed through the active geotechnical investigation framework documented in Volume 6, Section 14.8 (Tetra Tech 2025; BGC 2006; BGC 2013; Paragon 2012) and applied in accordance with CSA Group 2019 and TAC 2010.

KIA-IR9 (IR-79)

Subject

Geological Features, Surficial and Bedrock Geology and Geochemistry Baseline Information

Issue / Concern

Section 8.1.5.1 of the concordance table (Appendix A) requires that the report include 'Description of the geotechnical properties of bedrock and soil units, including ice content and thermal conditions of permafrost soils and rocks, as relating to slope stability, and bearing capacity of facility foundations'. However, this requirement is not fully met. Section 14.2 and Appendix 14A provide general descriptions of geology but do not include key geotechnical properties such as bearing capacity or detailed parameter values for soil and bedrock units. It is indicated that this information may be provided at a later design stage, resulting in a current information gap.

Information Request

Provide geotechnical parameters (e.g., bearing capacity; creep properties) or confirm when and how this information will be available and measured.

Proponent Response

This IR is a duplicate of KIA IR-8 (IR-78) and the answer has been provided in KIA IR-8 (IR-78) response.

KIA-IR10 (IR-80)

Subject

Geological Features, Surficial and Bedrock Geology and Geochemistry Baseline Information

Issue / Concern

Section 8.1.5.1 of the concordance table (Appendix A) requires that the report include 'Acquisition of the in-situ stress either with in-situ investigation or from other sources with reasonable confidence'. However, this requirement is not fully met. The comment provided in the Concordance Table indicates that in situ stress evaluations have not been prepared due to the nature of the project (i.e. it is linear infrastructure and will be constructed above ground). However, given the presence of multiple infrastructure components that will require subsurface construction components (e.g. water crossing foundations), in situ stress evaluations are required for understanding of subsurface conditions critical to design.

Information Request

Provide available data or justify exclusion based on project type and stage.

Proponent Response

A Project-wide in-situ stress evaluation has not been prepared at the Impact Statement (IS) stage. As stated in Volume 10, Section 35.5 (Page 35-13):

> "Weakness zones and faults are important features in relation to rock excavation and can present problems and collapses, particularly in rock tunnelling activities. Effects from unfavorable geological conditions (such as weak zones or faults) are not considered a significant issue based on the design and nature of the Project (e.g., above ground roads and infrastructure). Weakness zones and faults may be encountered in project quarries and borrow pits, however, effects on project infrastructure are not anticipated." (Volume 10, Section 35.5, Page 35-13)

The Project does not include rock tunnelling, deep underground openings, or other components for which characterization of in-situ stress would govern design. As described in Volume 10, Section 35.3 (Page 35-8), the Project area "lies within the Canadian Shield and is characterized by undulating bedrock and glacial deposits," with continuous permafrost across the Regional Assessment Area (Volume 10, Section 35.3, Page 35-8). The principal geotechnical design drivers for above-ground linear infrastructure in this setting are thermal regime, ground ice content, settlement and creep behaviour, and frost heave, which are characterized in Volume 6, Section 14.2 and Appendix 14A, Section 4.

Certain Project components will involve excavation into surficial materials and bedrock, including watercourse crossing foundations, quarries and borrow pits, road cuts, and building foundations. The IS commits to acquiring the relevant geotechnical parameters for these components through site-specific investigations during detailed design as stated in Volume 10, Section 35.3.2 (Page 35-9):

For watercourse crossings, Volume 11, Appendix 37H (Environmental Protection Plan), Section 3.12 states that crossing structures "will be designed based on hydrotechnical, fisheries, environmental, navigational, and geotechnical considerations at each location." (Volume 11, Appendix 37H, Section 3.12) For quarries and borrow pits, Volume 11, Appendix 37H Attachment H1 (Borrow Pit and Quarry Management Plan), Sections 2.1 and 2.2 commit to Pre-Development characterization programs at each pit or quarry prior to use, including geotechnical investigations to be refined as plans progress. (Volume 11, Appendix 37H Attachment H1, Sections 2.1 and 2.2)

In-situ stress information, where required to support design of specific subsurface components, will be acquired through site-specific geotechnical investigations completed prior to detailed design and the initiation of construction.

KIA-IR11 (IR-81)

Subject

Geological Features, Surficial and Bedrock Geology and Geochemistry Impact Assessment

Issue / Concern

Section 8.1.5.2 of the concordance table (Appendix A) requires that the report include 'Risk assessment and predictions, including proposed management measures'. However, this requirement is not fully met. Section 14.3.4 identifies potential risks and associated management measures; however, it does not present a structured or quantitative risk assessment. This limits the ability to evaluate likelihood and consequence of identified risks.

Information Request

Provide the proposed risk assessment framework and additional risk assessment where appropriate.

Proponent Response

The Impact Statement (IS) applies the residual effects characterization framework defined in Volume 6, Section 14.1.5, Table 14.3 (Page 14-12) to identify, characterize, and evaluate potential effects on terrain stability assessed in Section 14.3.4.

Section 14.3.4.1 (page 14-34) provides details on the assessment technique, noting that potential effects on terrain stability, including ice-rich permafrost conditions, were qualitatively assessed, based on available shared knowledge by Kitikmiut, other Indigenous groups, and other potentially affected communities, data obtained as part of the description of baseline conditions and professional judgment.

As the design does not yet incorporate site-specific geotechnical information, potential failure model analysis or other quantitative assessment methods were not included. The assessment of effects was therefore based on best available information, which includes similar assessments conducted for other projects in permafrost environment (e.g., Cumberland 2005; MMG 2012; Rescan 2007, 2013). Additional geotechnical information to inform the design will be collected in further surveys, prior to construction.

A structured risk assessment framework has been applied for climate-related hazards that interact with terrain stability through the Climate Change Risk Assessment (CCRA) presented in Volume 5, Appendix 12B and summarized in Volume 5, Section 12.5.

> "The CCRA included adaptive strategy recommendations to address the high-risk climate hazard-asset interactions identified in the CCRA and improve the resilience of the Project." (Volume 10, Section 35.1, Page 35-2)

Mitigation measures relevant to terrain stability are summarized in Section 14.3.4.3 and the broader Mitigation, Management, and Enhancement Measures summary in Section 14.5.3 (Page 14-51). (Volume 6, Section 14.5.3, Page 14-51) Geohazard-specific risk management measures (geotechnical investigations to inform design; siting on bedrock where feasible; thicker coarse-material embankments to limit heat transfer to ground; cut/fill slope geometry accounting for geotechnical properties; avoidance of ice-rich terrain where possible) are documented in Volume 10, Section 35.3.2 (Pages 35-9 and 35-10).

A structured, quantitative geohazard risk assessment (i.e., one that explicitly characterizes likelihood and consequence using a defined risk matrix) is dependent on site-specific geotechnical characterization and design parameters that will be developed during the detailed design phase. As stated in Volume 10, Section 35.3.2 (Page 35-9):

> "Geotechnical investigations will be conducted to inform design and minimize potential effects of geohazards on the Project." (Volume 10, Section 35.3.2, Page 35-9)

Site-specific geohazard risk assessments, where required to support design of individual components (e.g., watercourse crossings, road cuts at steep valley approaches, port and Jericho Station foundations, and quarry/borrow pit excavations), will be completed prior to detailed design and the initiation of construction.

KIA-IR12 (IR-82)

Subject

Hydrological Features and Hydrogeology Baseline Information

Issue / Concern

Section 8.1.6.1 of the concordance table (Appendix A) requires that the report include 'Description of relevant hydrological regimes, drainage basins, watershed boundaries and site water balance in the Regional Study Area'. However, this requirement is not fully met. Section 19.2 provides a detailed description of hydrological regimes, drainage basins, and watershed boundaries within the Regional Study Area. However, while components of a water balance (e.g., runoff, seasonal flow patterns, and hydrological processes) are described, a comprehensive site water balance is not explicitly presented for the port site.

Information Request

Provide a water balance for the port site or justification for omission.

Proponent Response

The regional hydrological regime for the Project is described in Volume 7, Section 19.2.2.2 and Volume 7, Appendix 19A (Grays Bay Road and Port Project Hydrology Baseline Report). The characterization identifies the five primary watersheds intersected by the Project (Volume 7, Section 19.2.2.2):

- Burnside River (24,630 km^2)
- Hood River (10,280 km^2)
- James River (3,930 km^2)
- Kennarctic River (1,390 km^2), and
- An unnamed watershed that discharges to the Arctic Ocean (23.3 km^2).

Hydrological processes (i.e., snowpack, meteorological conditions, flow routing, and storage deficit) for the PDA, including the Port, are described in Volume 7, Section 19.2.2.2 and Appendix 19A.

A water balance specifically for the Port site that integrates Project-driven inflows and outflows with the regional hydrologic baseline is dependent on water source and discharge locations, treatment technology selections, and operational withdrawal and discharge volumes that will be finalized during the detailed design phase and confirmed through the Nunavut Water Board (NWB) Type A Water Licence process, post project certificate, prior to construction start.

A Project-wide water balance will similarly rely on design inputs as indicated for the Port and will also benefit from updated baseline characterization information collected prior to the start of construction and as part of ongoing monitoring programs for the Project.

KIA-IR13 (IR-83)

Subject

Hydrological Features and Hydrogeology Baseline Information

Issue / Concern

Section 8.1.6.1 of the concordance table (Appendix A) requires that the report 'Describe permafrost and talik distribution at shorelines and beneath waterbodies such as proposed water crossings'. However, this requirement is not fully met. Section 8.1.6.1 of the concordance table requires that the report "Describe permafrost and talik distribution at shorelines and beneath waterbodies such as proposed water crossings;" and references Section 19.2 of the report for the required information. The report includes information on permafrost and talik distribution; however, this information is not located within Section 19.2, as identified in the concordance table. This results in inconsistency and reduced traceability of information.

Information Request

Update concordance table to correct section references. Further, describe how different types of taliks have changed and are anticipated to change with time.

Proponent Response

The cross-reference to Section 19.2 in the concordance table (Volume 1, Appendix A) for concordance row 8.1.6.1, "Describe permafrost and talik distribution at shorelines and beneath waterbodies such as proposed water crossings," is supplemented by the following information. Permafrost and talik distribution at shorelines and beneath waterbodies is presented in the following locations in the Impact Statement:

- Volume 5, Appendix 12B (summarized in Volume 5, Section 12.5) Anticipated changes in permafrost and talik conditions over the design life of the Project are addressed through the Climate Change Risk Assessment (CCRA) which includes "Permafrost thaw" as one of the climate hazards considered. The CCRA includes adaptive strategy recommendations to address the high-risk climate hazard-asset interactions identified.
- Volume 6, Appendix 14A, Section 4.2.3 (Permafrost distribution) and Section 4.2.4 (Taliks), which describe regional permafrost distribution, talik conceptual models within continuous permafrost, and a talik assessment for High Lake, Lake L718, and the Kennarctic River.
- Volume 6, Appendix 14A, Figure 4.4 (Conceptual scheme of talik distribution within discontinuous and continuous permafrost) and the site-specific talik assessment in Figure 4.5 (Talik assessment, High Lake, Lake L718, and Kennarctic River).
- Volume 7, Section 19.2.2.4 (Groundwater Quality), which describes subsurface permafrost conditions.

- Volume 7, Section 19.3.4.1, Figure 19.5 (Estimated Permafrost Thickness), Figure 19.6 (Measured Active Layer Thickness), Figure 19.7 (Average Annual Ground Temperature), Figure 19.8 (Open Talik Potential of Water Bodies within the RAA), and Figure 19.9 (Crossings and Open Talik Potential Along the Roadway).
- Volume 7, Section 19.3.4.2 and Table 19.17 (Comparison of Talik Model Parameters).

The concordance table will be updated to point to these locations.

Site-specific characterization of talik distribution at proposed watercourse crossings, and refinement of predicted talik evolution under climate change at specific subsurface and shoreline components, are dependent on site-specific geotechnical and thermal investigations that will be completed prior to detailed design, post project certification, prior to the start of construction.

KIA-IR14 (IR-84)

Subject

Hydrological Features and Hydrogeology Baseline Information

Issue / Concern

Section 8.1.6.1 of the concordance table (Appendix A) requires that the report 'Describe potential locations of naturally occurring icings including those at potential water crossings'. However, this requirement is not fully met. Section 8.1.6.1 of the concordance table requires that the report "Describe potential locations of naturally occurring icings including those at potential water crossings" and references Section 19.2 of the report for the required information. The report includes information on potential locations of naturally occurring icings including those at potential water crossings; however, this information is not located within Section 19.2, as identified in the concordance table. This results in inconsistency and reduced traceability of information.

Information Request

Update concordance table to correct section references. Further, describe how icings have changed and are anticipated to change with time.

Proponent Response

Naturally occurring icings (aufeis) are described in the following locations in the Impact Statement:

- Volume 6, Appendix 14A, Section 4.4.1 (Geomorphological Processes Description — Icing subsection), which describes the conceptual basis for icing formation and its distribution among surficial materials, including fluvial deposits, bedrock areas, till veneers, and marine blankets (Volume 6, Appendix 14A, Section 4.4.1).
- Volume 5, Appendix 12A (Climate Profile Technical Data Report — Icing subsection), which describes both freezing-rain-related icing and aufeis-related icing, including regional baseline conditions and climate-driven trends (Volume 5, Appendix 12A).
- Volume 5, Appendix 12B (Climate Change Risk Assessment), which assesses icing and spring melt (including aufeis) as climate hazards for Project assets (Volume 5, Appendix 12B).

The concordance table will be updated to point to these locations.

The specific level of site-specific characterization of icing occurrence at each watercourse crossing is dependent on geotechnical investigations that will be completed during the detailed design phase and incorporated in final design of watercourse crossings.

KIA-IR15 (IR-85)

Subject

Hydrological Features and Hydrogeology Impact Assessment

Issue / Concern

Section 8.1.6.2 of the concordance table (Appendix A) requires that the report include 'Potential impacts to existing watersheds from surface water diversions or withdrawal associated with proposed project components or required by all-weather access road, port, Jericho Station, and winter ice road development and other Project components (e.g., quarries,)'. However, this requirement is not fully met. Section 19.3.2 provides a detailed description of regional watersheds and hydrological conditions and identifies locations where the Project may interact with surface water (e.g., watercourse crossings). However, it does not explicitly assess potential impacts to existing watersheds from surface water diversions or water withdrawals associated with project components such as the all-weather road, port, Jericho Station, winter road, or quarries. As such, this requirement is considered partially met, with notable gaps in the evaluation of project-specific alterations to watershed hydrology.

Information Request

Provide evaluation of impacts from diversions/withdrawals on watershed hydrology.

Proponent Response

The assessment of potential effects on watershed hydrology from surface water diversions and water withdrawals is provided in Volume 7, Section 19.3.2 (Change in Surface Water Quantity), with supporting characterization in Volume 7, Section 20.3 (Alteration of Water Quantity), which addresses freshwater fish habitat effects from the same pathways.

Impacts to existing watersheds will be mitigated through the development and implementation of a WMP to address stormwater and runoff management and any water diversions. An ESCP and EPP will be developed and implemented to limit site erosion and runoff. These plans will be confirmed through the NWB Type A Water Licence process. Watercourse crossings will be designed and constructed to maintain flow, drainage patters, and fish passage.

Water withdrawals are regulated by the NWB and will be subject to approval as part of the NWB Type A Water Licence, which will specify volumes, rates, and locations for withdrawal. Water management procedures for quarries and mobile camps are addressed in Volume 11, Appendix 37H Attachment H1 (Borrow Pit and Quarry Management Plan) and Volume 11, Appendix 37H Attachment H6 (Water Management Plan), as confirmed in Volume 7, Section 19.2.2.1, Table 19.9.

A quantified, withdrawal-by-withdrawal evaluation of changes to streamflow and lake volume in each affected watershed is dependent on water source selection (including final selection between PWI-1 and PWI-2 at the Port), operational withdrawal volumes, and seasonal withdrawal schedules that will be finalized during the detailed design phase. As stated in Volume 7, Section 20.3.2, "The application will include a hydrological assessment and evaluation of environmental flow needs (EFN) and lake volume needs with respect to proposed water use volumes." This hydrological assessment will be submitted as part of the Type A Water Licence application in advance of construction. (Volume 7, Section 20.3.2.4, document page 20-52, PDF page 4131 of 8171).

KIA-IR16 (IR-86)

Subject

Hydrological Features and Hydrogeology Impact Assessment

Issue / Concern

Section 8.1.6.2 of the concordance table (Appendix A) requires that the report include 'Evaluation of stormwater runoff and surface water connectivity throughout the Local Study Area and Regional Study Area, with consideration for potential impacts to receiving waters (e.g., flow rates and flow patterns)'. However, this requirement is not fully met. Section 19.3.2 describes baseline hydrological conditions but does not evaluate project-driven stormwater runoff or changes to surface water connectivity. Additionally, it does not assess potential impacts on receiving waters in terms of flow rates or patterns.

Information Request

Provide analysis of stormwater runoff and changes to surface water connectivity.

Proponent Response

A quantified analysis of project-driven stormwater runoff and modelled changes in surface water connectivity at each watercourse crossing is dependent on detailed culvert sizing, road embankment geometry, ditch and drainage swale design, and stormwater conveyance system configurations that will be finalized during the detailed design phase. Site-specific stormwater runoff and connectivity analyses will be developed through the NWB Type A Water Licence application and the Land Use Permit application in advance of construction. The Water Management Plan (Volume 11, Appendix 37H Attachment H6) and the Erosion and Sediment Control Plan (Volume 11, Appendix 37H Attachment H2) will be refined as the design advances.

KIA-IR17 (IR-87)

Subject

Hydrological Features and Hydrogeology Impact Assessment

Issue / Concern

Section 8.1.6.2 of the concordance table (Appendix A) requires that the report include 'Potential impacts to natural drainage patterns from the construction and operation of proposed from the construction and operation of Project infrastructure'. However, this requirement is not fully met. Section 19.3.2 provides a clear description of baseline drainage patterns and acknowledges that construction and operation of Project infrastructure may alter surface water flow and drainage pathways. General impacts related to road construction, water crossings, and ground disturbance are identified, along with mitigation measures such as culvert design and erosion control. However, the assessment does not provide a detailed or quantitative evaluation of how natural drainage patterns will be altered, nor does it clearly link drainage changes to specific project components.

Information Request

Provide detailed or quantitative assessment linking infrastructure to drainage changes, including impact on snow accumulation and associated snow melt patterns or justify design-stage limitation.

Proponent Response

A detailed quantitative assessment linking each specific infrastructure component (e.g., individual road segments, culverts, embankment heights, ditch geometries) to changes in natural drainage patterns and to snow accumulation and snow melt patterns is dependent on detailed culvert sizing, road embankment geometry, ditch and drainage swale design, and snow storage location selections that will be finalized during the detailed design phase as part of the NWB Type A Water Licence application. The IS is based on approximately 10% (conceptual) engineering design, at which stage the effect pathways, magnitude thresholds, and mitigation framework have been established but quantitative spatially-resolved drainage and snow modelling are not feasible.

Site-specific quantitative drainage analyses will be developed where necessary to inform the NWB Type A Water Licence application and the Land Use Permit application in advance of construction. The Water Management Plan (Volume 11, Appendix 37H Attachment H6), Erosion and Sediment Control Plan (Volume 11, Appendix 37H Attachment H2), and Road Management Plan (Volume 11, Appendix 37A) will be refined as the design advances.

KIA-IR18 (IR-88)

Subject

Hydrological Features and Hydrogeology Impact Assessment

Issue / Concern

Section 8.1.6.2 of the concordance table (Appendix A) requires that the report include 'Potential for ice damming and resultant effects on other resources'. However, this requirement is not fully met. The Impact Statement includes discussion of ice-related processes such as icings (aufeis) and their relationship to permafrost and drainage; however, it does not explicitly address the potential for ice damming within watercourses. No analysis is provided regarding the formation of ice dams, their potential to affect flow conditions, or the associated impacts on infrastructure, hydrology, or other environmental components. Mitigation measures specific to ice damming are also not identified. As such, this requirement is not met.

Information Request

Provide analysis of ice dam formation and associated impacts or justify exclusion.

Proponent Response

Ice dam formation and associated impacts have been addressed in the IS, as stated below.

Volume 7, Section 19.5.3 includes the following commitment:

> "*Culverts and bridges considered major structures or high risk will be sized to handle up to high water events, accounting for ice conditions and the effects of climate change. In the event of ice blockages, steam trucks may be used to maintain the flow.*" (Volume 7, Section 19.5.3, document page 19-95, PDF page 4071 of 8171)

The CCRA also presents adaptive measures applicable to the road system that address the precursor conditions to ice damming, including clearing ice pack and snow from road surfaces "to reduce the potential for damming of melt water," and clearing snow and ice (thawing) from culverts and ditches "to promote a controlled spring runoff and reduce the potential for localized flooding during spring melt" (Volume 5, Appendix 12B).

The specific level of detail requested for a discrete ice dam (ice jam) formation analysis at each watercourse crossing is dependent on site-specific riverine ice thickness measurements, channel geometry surveys, and bridge/culvert hydraulic design configurations that will be finalized during the detailed design phase, post project certification, prior to the start of construction. The Road Management Plan will include effective management of culvert and bridge maintenance mitigation measures that will be employed throughout the operation of the road to effectively manage and prevent ice dam formation.

KIA-IR19 (IR-89)

Subject

Hydrological Features and Hydrogeology Impact Assessment

Issue / Concern

Section 8.1.6.2 of the concordance table (Appendix A) requires that the report include 'Assessment of each water crossing and in-stream work against the Canadian Navigable Waters Act (CNWA) and CNWA Minor Works Order to determine if Transport Canada approval is required, and potential impacts to the navigability and safety of the watercourses'. However, this requirement is not fully met. Appendix 19A or 20C do not explicitly assess crossings against the Canadian Navigable Waters Act (CNWA) or the Minor Works Order. Additionally, they do not determine whether Transport Canada approvals are required, nor evaluate potential impacts to navigability or safety of watercourses. As such, this requirement is not met.

Information Request

Assess crossings against CNWA requirements and identify approval needs.

Proponent Response

WKR acknowledges the Kitikmeot Inuit Association's observation that Volume 7, Appendix 19C (Freshwater and Sediment Quality Data Summary Report) and Volume 7, Appendix 20A (Fish and Fish Habitat Baseline Report) do not contain an assessment of watercourse crossings on a site-specific basis against the *Canadian Navigable Waters Act* (CNWA). These appendices are baseline characterization reports for freshwater quality and fish habitat, respectively, and do not address navigability or regulatory authorization under the CNWA as the information required to fully complete the assessment is not available currently.

The Project anticipates the majority of crossings will be located on smaller watercourses which are not considered to be navigable (approximately 115 minor crossings less than 5 m wide) and therefore, are not anticipated to be subject to the CNWA. Watercourses considered to be potentially navigable will have crossing structures designed to support and maintain navigability. The specific level of detail requested for a crossing-by-crossing assessment against the *Canadian Navigable Waters Act* and the CNWA Minor Works Order is dependent on final crossing design configurations (e.g., exact watercourse width at the crossing location, span lengths, in water footprint, and height of crossing above ordinary high-water mark) and confirmation of navigability at each location, which will be finalized during the detailed design phase. Watercourse crossings, which may not meet the Minor Works criteria will require advanced design including detailed construction methods and timing information, which are not currently available.

Individual watercourse crossing CNWA classifications and Transport Canada Navigation Protection Program submissions will be developed in advance of construction and submitted to Transport Canada through the Navigation Protection Program. This will include identification of which crossings fall within the CNWA Minor Works Order (SOR/2021-170), which constitute Major Works requiring an application to the Minister of Transport, and which constitute "all other works" requiring either an application or notification depending on whether the watercourse is listed in the Schedule to the CNWA. Public notice requirements under the CNWA (including the 30-day notification period) will be met as required. WKR will continue to engage with Kitikmiut and other Indigenous groups through this process and welcomes any feedback or information regarding navigable use of watercourses along the Project route.

KIA-IR20 (IR-90)

Subject

Hydrological Features and Hydrogeology Impact Assessment

Issue / Concern

Section 8.1.6.2 of the concordance table (Appendix A) requires that the report include 'Potential changes to permafrost/talik distribution and subsurface flow in the vicinity of shorelines and water crossing including the potential for frost bulb or icing formation'. However, this requirement is not fully met. Section 14.3.4 provides limited discussion of icing processes but does not address frost bulb formation or provide a detailed assessment of icing risks near infrastructure.

Information Request

Expand assessment of frost bulb formation and icing risk along proposed infrastructure, specifically near water crossings.

Proponent Response

As stated in response to KIA IR-18 and KIA IR-19 (IR-89 and IR-90), site-specific assessments at watercourse crossings will be developed through site-specific geotechnical and thermal investigations completed as necessary based on detailed design and the initiation of construction. These assessments will be completed to inform detailed design of frost bulb formation potential and icing risk, in addition to the already mentioned taliks, ice dam formation, and icing. These site-specific results will support the hydraulic and thermal design of culverts and bridges. The refined Water Management Plan (Volume 11, Appendix 37H Attachment H6) and Road Management Plan (Volume 11, Appendix 37A) will reflect these assessments as the design advances.

KIA-IR21 (IR-91)

Subject

Groundwater and Surface Water Baseline Information

Issue / Concern

Section 8.1.7.1 of the concordance table (Appendix A) requires that the report include 'Description of lake bathymetry and limnology in the Local Study Area'. However, this requirement is not fully met. Appendix 19C Section 3.3 includes minimal description of lake bathymetry, providing only basic depth ranges without explanation of data sources, methods, or broader limnological context.

Information Request

Provide additional data sources, methods, and characterization details.

Proponent Response

Bathymetric data and limnology was not collected for all lakes within the LAA, as disturbance to lakes is not anticipated beyond minor water withdrawal during construction. These types of short term, infrequent withdrawals do not warrant further investigation, as they can be managed through the implementation of DFO's code of practice requirements for water withdrawals. For lakes that have the potential to be affected by the Project, assessment was completed. Bathymetric data was collected at PWI-1 in 2024. Bathymetric data for PWI-2 will be collected prior to construction to support permit applications for water withdrawal, if this location is selected as a water intake source. Methods for bathymetry, water quality, and sediment quality assessments at PWI-1 are outlined in Volume 7, Appendix 19C, Sub-Appendix D Section 2. Additional information related to aquatic habitat at both PWI-1 and PWI-2 are located in Volume 7, Appendix 20A, Section 4.2.1.2 (Potential Water Intake Lakes). In situ measurements, including temperature, pH, conductivity, turbidity, and dissolved oxygen, were collected using a YSI multimeter. Water grab samples were collected from both locations for water quality analysis.

Bathymetric characterization will inform the calculation of lake volume (relative to the 10% withdrawal threshold defined in Volume 7, Section 19.1.5), intake design, and environmental flow needs analysis. Monitoring for water usage will be completed as part of the annual licence requirements under the NWB Water Licence.

KIA-IR22 (IR-92)

Subject

Groundwater and Surface Water Baseline Information

Issue / Concern

Section 8.1.7.1 of the concordance table (Appendix A) requires that the report 'Provide maps and cross sections of the proposed study area indicating the extent of hydrostratigraphic units, permafrost, and lake taliks. Groundwater levels, potentiometric contours and groundwater flow directions should be included'. However, this requirement is not fully met. Section 19.3.4.1 discusses hydrostratigraphic conditions in general terms; however, it does not provide maps or cross-sections showing the spatial extent of hydrostratigraphic units. Additionally, cross sections showing talik likelihood of supporting infrastructure locations (i.e. not linear infrastructure) are not provided.

Information Request

Provide maps/cross-sections of hydrostratigraphy, permafrost, and taliks.

Proponent Response

WKR acknowledges Kitikmeot Inuit Association's request for maps/cross-sections of hydrostratigraphy, permafrost, and taliks. WKR respectfully submits the following response.

Groundwater flow is expected to generally follow topography, flowing from areas of high elevation to low elevation. The water table is typically found within the active layer when the ground is unfrozen in the summer months. Details on the groundwater in the active layer are stated in Volume 7, Section 19.2.2.4:

“During the winter months, the ground will be frozen from the surface to the base of permafrost and little shallow groundwater flow will occur. In the warmer months, the active zone will thaw and allow for shallow groundwater movement. Previous studies have estimated the active zone to range in thickness from 1.5 m to 8 m depth.”

This indicates that groundwater impacts are most likely to occur in the summer months when the ground is unfrozen and that potential impacts will be generally limited to the top 8 m of the subsurface.

Spatial Extent of Hydrogeological Units

In accordance with the amount of information available, generalized descriptions of groundwater zones and their properties were provided in Volume 7, Section 19.3.4.1. The hydrostratigraphy of the Project has been divided into two groundwater zones separated by a largely continuous, impermeable layer of permafrost. As stated in Volume 7, Section 19.2.2.4:

> "The groundwater hydrostratigraphy of the Project can be separated into two groundwater zones:
>
> - Shallow Groundwater – water hosted in the overburden and weathered bedrock within the near surface in the active zone above the permafrost, which undergoes seasonal freeze and thaw cycles
> - Deep Groundwater – water hosted in the fractured bedrock beneath the permafrost.
>
> Taliks (unfrozen portions of ground within the permafrost) provide pathways for groundwater flow between the shallow and deep groundwater zones." (Volume 7, Section 19.2.2.4, document page 19-50, PDF page 4026 of 8171)
>
> "The Project is situated within the Slave Geologic Province of the Canadian shield and has a typical stratigraphy consisting of a thin layer of unconsolidated overburden that ranges up to 25 m in thickness overtop of low porosity crystalline bedrock (Morse et al. 2023). Fractures within the bedrock are the main structures that store and transport groundwater through this otherwise extremely low permeability hydrostratigraphic unit. The upper weathered surface of the bedrock is known to be much more fractured and permeable than deeper portions of the bedrock unit (AECOM 2012).

The Project is classified as an area of continuous permafrost and permafrost is expected to exist across over 90% of the RAA, indicating that the majority of potential project-groundwater interactions are limited to the shallow groundwater zone (Nunami Stantec Limited 2025). Previous studies in the region have found that this permafrost can range from 250 m to over 500 m in thickness as shown in Figure 19.5 (AECOM 2011; BGC 2006)." (Volume 7, Section 19.2.2.4, document page 19-50, PDF page 4026 of 8171).

Spatial Extent of Permafrost

As permafrost is the main barrier between the identified groundwater zones, further efforts were made to map where gaps in this permafrost layer where taliks may exist. The following maps illustrate the spatial extent of data available to support the hydrostratigraphic, permafrost, and talik characterization:

- Volume 7, Section 19.3.4.1, Figure 19.5 (Estimated Permafrost Thickness) — regional permafrost thickness across the RAA, drawn from AECOM (2011) and BGC (2006) (250 m to over 500 m).
- Volume 7, Section 19.3.4.1, Figure 19.6 (Measured Active Layer Thickness) — measured active layer (shallow groundwater zone) thickness.
- Volume 6, Appendix 14A, Appendix B (Geotechnical Boreholes and Ground Temperature Monitoring Sites) and Volume 7, Section 19.3.4.1, Figure 19.7 (Average Annual Ground Temperature) — average annual ground temperature regional distribution.

- Volume 7, Section 19.3.4.1, Figure 19.8 (Open Talik Potential of Water Bodies within the RAA) — spatial distribution of waterbodies with open talik potential.
- Volume 6, Appendix 14A, Figure 4.3 (Regional Permafrost Distribution) — regional permafrost distribution after O'Neill et al. (2020a).
- Volume 6, Appendix 14A, Figure 4.6 (Permafrost Ground Ice Estimation from Ground Ice Map of Canada) — regional ground ice estimation.

Conceptual cross-sections illustrating the hydrostratigraphic relationships between permafrost, taliks, and the shallow/deep groundwater systems are provided in:

- Volume 6, Appendix 14A, Figure 4.4 (Conceptual scheme of talik distribution within discontinuous and continuous permafrost, from Van Huissteden 2020) — conceptual cross-section illustrating talik types (open, closed, through) within continuous permafrost.
- Volume 6, Appendix 14A, Figure 4.5 (Talik Assessment, High Lake, Lake L718 and Kennarctic River) — site-specific talik assessment at three locations.
- Volume 6, Appendix 14A, Figure 4.7 (Theoretical ground thermal regime of cold permafrost, from Lewkowicz et al. 2024) — conceptual cross-section of permafrost thermal regime including active layer, permafrost table, zero annual amplitude, and permafrost base.
- Volume 6, Appendix 14A, Figure 4.8 (Ground thermal regime of permafrost under marine clay deposits at High Lake) — site-specific ground temperature cross-section.
- Volume 7, Section 19.3.4.1, Figure 19.9 (Crossings and Open Talik Potential Along the Roadway) — open talik potential at watercourse crossings along the road alignment.

A desktop assessment using generalized parameters applicable to the entire RAA was used to identify where permafrost may be absent (i.e. open talik). A map showing where open taliks may exist within the RAA is provided (Volume 7, Section 19.3.4.1, Figure 19.8).

Cross Sections Showing Talik Likelihood at Locations of Supporting Infrastructure Locations

A cross section highlighting areas where taliks may be present along the proposed road alignment is provided in Volume 7, Section 19.3.4.1, Figure 19.9. To further address the Port and Aerodrome supporting infrastructure locations, additional cross sections, with the same level of detail as provided in Figure 19.9 have been drafted to illustrate the probability of encountering open taliks in these locations (Addendum Appendix E Figures 19.10 and Figure 19.11). No additional cross sections are provided for Jericho Station as it generally follows the road alignment. Instead, please refer to Figure 19.9 and the inset map in Figure 19.8 for mapping of the talik likelihood for the Jericho Station location.

Additional Detail to be Developed

Due to the scarcity of hydrogeological information available within the study area, it is not feasible to construct accurate or meaningful hydrogeological maps or cross sections with detail beyond that already provided in the IS. The available hydrostratigraphic and thermal information is limited to only a handful of well records from regional projects (such as the High Lake and Izok mines) and surficial geologic mapping. Due to the lack of water wells across most of the territory, there is also a lack of subsurface

hydrostratigraphic information which precludes the mapping of the extent of more local hydrostratigraphic units and potentiometric surface elevations or the assessment of spatial variability of aquifer properties such as porosity, permeability, or groundwater yield.

More detailed mapping of hydrogeological units is dependent on site-specific geotechnical and thermal investigations that will be completed as necessary to acquire data to guide the engineering prior to the detailed design stage, post project certificate, prior to construction. These investigations will support the foundation design at each location in accordance with CSA PLUS 4011:19 and will be developed through the Nunavut Water Board water license application and the Land Use Permit application in advance of construction. Hydraulic conductivity data and groundwater levels collected as part of these assessments will be used to characterize potentiometric contours and groundwater flow directions at investigated locations at that stage and are addressed further in the response to KIA-IR23 (IR-93).

KIA-IR23 (IR-93)

Subject

Groundwater and Surface Water Baseline Information

Issue / Concern

Section 8.1.7.1 of the concordance table (Appendix A) requires that the report 'Provide hydraulic conductivity data for hydrogeologic units in the proposed study area'. However, this requirement is not fully met. Section 19.3.4.1 provides limited hydraulic conductivity estimates for select units (e.g., weathered and fresh bedrock); however, it does not include values for other relevant materials, nor does it present this information in a spatially explicit context (e.g., maps or cross-sections). This limits the completeness of the hydrogeological characterization.

Information Request

Provide conductivity values for all relevant units and supporting spatial context.

Proponent Response

Hydraulic conductivity data gathered for the project is based on studies previously conducted at the Izok and High Lake mines (AECOM 2012). Hydraulic conductivity data provided in the assessment includes:

1. Weathered bedrock — the upper weathered surface of the bedrock, characterized as "much more fractured and permeable than deeper portions of the bedrock unit (AECOM 2012)." Hydraulic conductivity range provided: 6.52 x 10^{-8} to 1.13 x 10^{-5} m/s (average 6.54 x 10^{-7} m/s). (Volume 7, Section 19.2.2.4, document page 19-50, PDF page 4026 of 8171)
2. Fresh bedrock — competent crystalline bedrock of the Slave Geologic Province with low fracture intensity. Hydraulic conductivity range provided: 2.46 x 10^{-10} to 1.9 x 10^{-6} m/s and decreases with depth (Volume 7, Section 19.2.2.4, document page 19-50, PDF page 4026 of 8171). Higher permeability values are likely associated with the presence of fractured systems which have a limited extent.

Two hydraulic conductivities values for overburden material were also measured at the Izok Mine, ranging from 2.96 x 10-4 m/s to 2.51 x 10-4 m/s (AECOM 2012). These values may be representative of some sandy surficial units within the RAA. Additionally, hydraulic conductivity testing of permafrost zones at the Izok and High Lake mines confirmed that permafrost permeability lower than fresh bedrock (<1 x 10^-11 m/s).

This hydraulic conductivity data indicates that both the fresh bedrock and permafrost intervals will act as barriers to groundwater flow and limit groundwater transport, while unfrozen overburden and weathered bedrock units are likely to act as groundwater transport pathways. High hydraulic conductivities will generally be limited to the active zone (up to 8 m depth) where the ground is unfrozen in the summer. Deeper zones of high hydraulic conductivity may be found where taliks are present but will still be limited

to the near surface as surficial deposits and weathered bedrock are only expected to depths of around 25 m (Volume 7, Section 19.2.2.4, document page 19-50, PDF page 4026 of 8171). This conceptual model describing the variability in hydraulic conductivity with depth provides the basis needed to determine that potential impacts to groundwater are generally limited to the shallow groundwater system.

Exceptions to this model where deeper zones of increased hydraulic conductivity may be found could occur along fault zones within open taliks. While maps showing the locations of regional faults correlating to fracture zones have been mapped by the Northwest Territories' Geologic Survey, descriptions indicating if these fractures are open and permeable or cemented and sealed are not available. Further assessment or mitigation measures may be needed at these locations.

Detail to be Developed

Given the largely surficial nature of the project activities and the sparse spatial distribution of hydraulic conductivity data, the lack of maps and cross sections showing the spatial distribution of hydraulic conductivity is appropriate at this stage. The hydraulic conductivity of the active zone is likely to be highly variable both temporally and spatially given the climate and bedrock weathering patterns; however, there is currently insufficient information to spatially map the distribution of hydraulic conductivity with a greater level of detail. To address this lack of detail, it was conservatively assumed that the entire active zone consists of permeable material with a high hydraulic conductivity during the effects assessment.

Hydraulic conductivity data gathered from future investigations may be used to define the spatial distribution of hydraulic conductivity and aquifer units along the PDA, as required. These investigations will be developed through the Nunavut Water Board water licence application and the Land Use Permit application.

KIA-IR24 (IR-94)

Subject

Model Selection

Issue / Concern

Clarification is needed regarding the rationale behind selecting to use the AERMOD modelling system over others, such as CALPUFF. On page 51 in Appendix 11A, useful information about the strengths of AERMOD is provided. However, it does not explain why this model was selected over other models.

Information Request

The KIA requests the following:

- *Please add a short paragraph explaining why AERMOD was selected over other available models, such as CALPUFF, for this project.*

Proponent Response

AERMOD is an approved regulatory dispersion model in British Columbia, Alberta, Ontario, Saskatchewan, Manitoba and Atlantic Canada. As stated in Volume 5, Section 11.3.2.1, in the absence of air quality dispersion modelling guideline from Nunavut, dispersion modelling was undertaken in accordance with the British Columbia Air Quality Dispersion Modelling Guideline (the Guideline; ENVP 2022). AERMOD is listed in the Guideline as a recommended dispersion model for comprehensive air quality assessments.

As stated in Volume 5, Appendix 11A, Section 6.1, AERMOD is a steady-state plume dispersion model that, according to the Guideline, is suitable for use in the following situations, which apply to the Project:

- sources in an industrial complex (single or multiple point, area, line, volume sources)
- situations where a straight-line, steady state model applies (non-complex flow)
- single or multiple buildings with or without building downwash
- gas and particle depositions
- constant or time-varying emissions
- rural or urban areas
- transport distances less than 50 km (depends on terrain)
- concentration estimates for all terrain locations, except in areas located on the lee-side of the topographic features

CALPUFF is a Gaussian puff model suitable to assess projects with additional complexity such as complex terrain, wet and dry deposition, secondary $PM_{2.5}$ formation, visibility, and fogging, icing and odour effects. As these features are not relevant to the Project, CALPUFF was not applied. Updates will be made in the final addenda.

KIA-IR25 (IR-95)

Subject

Storage Tanks

Issue / Concern

Clarification is needed regarding why storage tanks are not considered sources of pollutants.
On page 11-29 it is stated that: "The consideration of potential adverse health effects from exposure to volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons, and diesel particulate matter is described in the Human Health Risk Assessment Report (see Volume 9, Appendix 26A, Section 4.2.1)."
However, in Volume 9 storage tanks are not discussed as potentially a source of VOCs.

Information Request

The KIA requests the following:

- *Please add a short paragraph justifying why storage tanks are not considered a source of VOC emissions.*

Proponent Response

Above-ground fuel storage tanks are a source of VOC emissions due to working losses and breathing/standing losses. Working losses occur when the tank is filled with liquid causing displacement of vapours in the tank head space through the tank vent. No VOC emissions are attributed to tank emptying because the vapours space in the tank increases during emptying and the expected flow would be inwards and not outwards through the tank vent. Standing losses occur when the vapours in the tank head space expand and contracts due to changes in temperature and barometric pressure. VOC emissions due to working losses are not expected at the Port storage area because tanks arrive and are stored full, and no VOC emissions occur when tanks are emptied. VOC emissions from standing/breathing losses are much smaller than VOC emissions from working losses (filling the tank). VOC Emissions from above-ground fuel storage tanks were not quantitatively included in the emissions inventory based on the following considerations:

- Diesel fuel (Number 1 and Number 2 diesel), which will be most of the fuel stored, has a very low vapour pressure (typically less than 1 kPa at 38°C) and correspondingly negligible VOC evaporative emissions due to standing/breathing losses.
- The sub-Arctic ambient temperatures further reduce evaporative VOC losses compared with the standard reference conditions used in storage tank emission factor calculations.

- Evaporative VOC emissions from storage tanks are expected to be lower than combustion-source VOC emissions on a Project-wide basis. The qualitative conclusion in Volume 9, Appendix 26A, Section 4.1.2, that VOC emissions are expected to be low relative to NO_2 and $PM_{2.5}$ and are not expected to contribute meaningfully to inhalation health risk, extends to storage tank VOC emissions.
- The assessment focuses on Air Contaminants of Potential Interest (ACPI), the substances for which territorial (Nunavut), provincial (BC), or national (CAAQS) ambient air quality objectives are established and against which the Project's predicted concentrations are evaluated. Ambient air quality objectives for VOCs as a class are not established under the CAAQS or under the Nunavut and BC objectives.

Updates will be made in the final addenda.

KIA-IR26 (IR-96)

Subject

Emission Rate Calculation

Issue / Concern

Clarification is needed regarding emission rate calculations. It seems that, in some cases, such as aircraft landing and takeoff or vessel emissions, the emission rates are based on emission factors suggested by non-Canadian organizations. However, Canadian resources are available for at least some of these cases: https://www.canada.ca/en/environment-climate-change/services/airpollution/publications/emissions-inventory-report-2025/annex-2.htm

Information Request

The KIA requests the following:

- *For each source and pollutant, please add a sentence explaining why the specific reference was used to calculate emission rates.*

Proponent Response

Emission rates of TSP, PM_{10}, $PM_{2.5}$, NO_2, SO_2 and CO were calculated for the diesel generators, waste incinerators, mobile off-road equipment and on-road vehicles, aircraft landing and take-off, and marine shipping vessels. Fugitive dust emissions were also determined for drilling and blasting, rock crushing, materials handling, bulldozing, grading and unpaved roads. For each source-pollutant combination, the emission factor reference was selected for the specific source category and to provide the source-level resolution required for AERMOD modelling (point, area, line area, and line volume sources). The ECCC APEI Annex 2 references identified by Kitikmeot Inuit Association are valuable for national-scale inventory and trend reporting but do not provide the resolution required for Project-specific dispersion modelling. The selected emission factor references utilized for the Project are based on the same underlying internationally accepted emission estimation methods (e.g., ICAO Engine Emissions Databank for aviation and U.S. EPA AP-42 for fugitive dust) as the emission factors used in the ECCC APEI Annex 2. Regarding marine vessel emissions, the ECC APEI Annex 2 marine vessel emissions are sourced directly from the Marine Emission Inventory Tool (MEIT) which provides emissions from commercial vessels operating in Canadian waters, aggregated at vessel class and province/territory level. The MEIT does not provide emission factors per engine, load and operating mode that are required to estimate emissions from Project-specific marine vessels. The predicted ambient concentrations and conclusions presented in Volume 5, Section 11.3 are considered conservative as documented in the Impact Statement. Updates will be made in the final addenda.

KIA-IR27 (IR-97)

Subject

Maximum Predicted Concentrations

Issue / Concern

Report the absolute maximum predicted concentration in addition to percentile values. In the tables presenting the maximum predicted concentrations, the reported results are based on the applicable percentiles used for comparison with ambient air quality standards. However, reporting the absolute maximum predicted concentration for the same averaging period would also be useful to characterize worst-case conditions and better understand the potential short-term effects of the Project on air quality.

Information Request

The KIA requests the following:

- *Within the report, please provide the absolute maximum predicted concentration, in addition to the applicable percentile-based concentration, for each pollutant and averaging period.*

Proponent Response

The absolute maximum predicted concentrations (i.e., 1st highest modelled concentration) are not provided because the applicable air quality standards are based on prescribed statistical forms, such as percentile-based values, rather than the absolute maximum single modelled hour or day. The absolute maximum predicted value can reflect an isolated combination of conservative model assumptions and rare meteorological conditions and is therefore not considered representative of recurring exposure. The percentile-based metrics remain the appropriate basis for comparison with the CAAQS and other SOGs.

KIA-IR28 (IR-98)

Subject

Public Access Restrictions in the Project Area

Issue / Concern

A significant portion of the domain is excluded because it is within the "Facility Boundary." However, further clarification is needed in this regard.

On page 14, it is stated that "the air quality assessment focuses on areas that are located outside industrial facility boundaries." Additionally, on page 58, it is stated that "grid receptors were chosen based on recommendations provided in Section 7.2 of the BC Air Quality Dispersion Modelling Guideline (ENVP 2022)." However, the B.C. guideline provides a specific definition of "plant boundary," as follows:

> **7.3 PLANT BOUNDARY**
>
> Model output is typically compared to ambient air quality objectives. Although the areas of applicability of the BC ambient air quality objectives are not defined, often they are applied to areas where there is public access (i.e., beyond the plant boundary). The plant boundary is determined to be the following:
>
> - The facility fence line or the perimeter of disturbed area that defines where public access is restricted.
> - If a facility is located within another larger facility boundary, the plant boundary is the boundary of the encompassing facility.
> - If a public access road passes through the plant, the plant boundary is the perimeter along the road allowance.
>
> There may be areas outside the plant boundary such as over a large body of water where public access is likely to be very rare. In this case, the human and environmental risk is low even though these areas may have predicted contaminant concentrations. The applicability of the model output and ambient air quality objectives for such areas is a matter to be discussed with the Ministry.

As the project area is unfenced, and because in this report the PDA is defined based on arbitrary buffers around the project components (pages 11–13), further clarification is needed regarding the exclusion of the large area shown in Figure 6.5, AERMOD Receptor Grid. Inclusion of additional rationale text will help during the technical review process.

Information Request

The KIA requests the following:

- *Please clarify the rationale for excluding the large area shown within the "Facility Boundary" in Figure 6.5 from the AERMOD receptor grid.*
- *Please explain how this excluded area meets the applicable definition of a plant or facility boundary under the referenced B.C. guideline.*

Proponent Response

The BC Guideline's framework for defining the modelling domain, including the placement and exclusion of receptors, was applied to the Project's air quality modelling. Receptors were placed at specified intervals outside of the Project Development Area (PDA) and at 500 m spacing within the PDA. Please see response to IR-102 for additional detail about how receptors were included within the PDA.

As described in the Air Quality Technical Modelling Report (Volume 5, Appendix 11A), the PDA is defined as the physical footprint of all project components, including both permanent and temporary disturbances (e.g., extent of project infrastructure, planned clearing, and laydown areas). The boundaries of the PDAs were created by applying buffers around where the project components will be sited and varies by each of the sub-areas depending on necessary flexibility for final siting of certain project components based on conditions on the ground.

For the Road PDA and Winter Road PDA, a 75 m buffer was applied to the road's centreline, for the Port PDA and the Aerodrome PDA, the areas were subdivided based on the conceptual project component locations and then buffered approximately 1,000 m for the landside Port PDA, approximately 300 m for the marine Port PDA, and 500 m for the Aerodrome PDA.

Access to the road, Port (both marine and landside infrastructure), Aerodrome, and Jericho Station is managed through the Road Management Plan (Volume 11, Appendix 37A), which establishes access management protocols, security and signage, and emergency response procedures for both industrial users and Community users, who are required to sign an Access and/or Code of Conduct Agreement and obtain joint HTO/Kitikmeot Inuit Association permission for any harvesting activity. The PDA boundary therefore delineates the area within which WKR exercises operational and access control under the Project Certificate, land tenure agreements, and the Road Management Plan and where public access will be restricted or managed. This area covers a large body of water where public access is likely to be very rare. Excluding receptors within this boundary for comparison to SOGs is consistent with the BC Guideline.

KIA-IR29 (IR-99)

Subject

Climate and Meteorology

Issue / Concern

There are some inconsistencies among the timeframes used for different climatic variables. On page 16, the date ranges used for different weather variables seems to be inconsistent. For some variables, such as extreme temperature, the data extend to 2025, while for others, such as freezing degree days, the data extend to 2020. Clarification will help during the technical review process.

Information Request

The KIA requests the following:

- *Please clarify in this section why different timeframes were used for different variables.*

Proponent Response

The different date ranges presented for different climate variables in Volume 5, Appendix 11A, Section 3.2 reflect two datasets analysed for different purposes, each appropriate for the variable being reported in the Air Quality Technical Modelling Report. These two date ranges are summarized below.

- **Climate Normals period (1991–2020).** Variables presented to characterize representative regional baseline climate conditions (e.g., monthly mean temperatures, freezing degree days, thawing degree days, average annual precipitation, mean wind speed) use the most recent Climate Normals period of 1991–2020 (Volume 5, Appendix 12A). Climate Normals are 30-year averages updated each decade by Environment and Climate Change Canada (ECCC), and 1991–2020 is the current Normals period.
- **Full ECCC station period of record (extending to 2025).** Variables that present historical extreme values (e.g., all-time recorded extreme high temperature, all-time recorded extreme low temperature, all-time maximum 24-hour precipitation) use the full ECCC station period of record to capture the most extreme values observed in the historical record. Extreme-value characterization uses the longest available record to provide the most reliable estimate of historical data and is not constrained to the 30-year Climate Normals window.

KIA-IR30 (IR-100)

Subject

VOCs emission rates

Issue / Concern

Emission rate for VOCs is not calculated. It seems that in Section 4.3, VOCs were not considered as a pollutant in the emission inventory. This requires clarification, especially since the project includes multiple storage tanks. Clarification or additional rationale text will help during the technical review process.

Information Request

The KIA requests the following:

- *Please clarify why storage tanks and VOCs are not included.*

Proponent Response

Please refer to the response for KIA-IR25 (IR-95).

KIA-IR31 (IR-101)

Subject

Source information

Issue / Concern

More information is needed regarding the sources used in AERMOD. In AERMOD View, the application used for air dispersion modelling in this report, users can export all source information as a table. This table provides complete details of the sources used in the model. Adding this table to the report, even as supplementary material, would be useful to our ability to complete the technical review.

Information Request

The KIA requests the following:

- *Please export the source characteristics from AERMOD View and add the table to either Section 6.1.2, Model Sources, or the supplementary materials.*

Proponent Response

The modelled emission sources are exported from Aermod View in the Aermod View standard spreadsheet format and provided as the following supplementary materials:

- Project construction – the modelled emission sources (Adde
- Project operation – the modelled emission sources are exported in spreadsheet port_cac_ops_20260810_Sources.xlsx

The AERMOD View standard spreadsheet format contains one column for the emission rate per source. The standard spreadsheets were modified to add emission rate columns for all modelled ACPI: CO, NO_X, SO_2, TSP, PM_{10} and $PM_{2.5}$.

KIA-IR32 (IR-102)

Subject

Concentration Contour Plots

Issue / Concern

The concentration contour plots seem inconsistent with defined receptors. In the concentration contour plots, contours showing pollutant concentrations are presented within the PDA. However, Figure 6.5, AERMOD Receptor Grid, and the main text indicate that the PDA was excluded from the analysis. This is confusing because it is not clear how concentrations were calculated in areas where no receptors were included. Clarification will help during the technical review process.

Information Request

The KIA requests the following:

- *Please clarify why the concentration contour plots show pollutant concentrations within the PDA, given that Figure 6.5 and the main text indicate that the PDA was excluded from the AERMOD receptor grid.*

Proponent Response

The PDA was not excluded from the analysis; the AERMOD modelled domain included receptors within the PDA that were not displayed on Figure 6.5 or described within the main text. The modelling included receptors with a spacing of 500 m within the PDA (357 receptors total). These receptors were used to preserve the continuity of the predicted concentrations within the model domain and to visualize the concentration dispersion pattern. Receptors within the PDA were excluded when comparing the predicted concentrations to the regulatory ambient SOG. The regulatory comparison with the CAAQS and other SOGs is based on predicted concentrations at the receptor grid points along and outside the PDA boundary, as reported in Tables 11.13–11.16.

KIA-IR33 (IR-103)

Subject

Wind Data

Issue / Concern

Windrose for relevant date range is needed. Figure 6.2 shows the windrose derived from the AERMET five-year meteorological dataset, while Figure 6.3 shows the same information based on data from the Grays Bay Meteorological Station for the period from August 19, 2024, to November 5, 2024. To assess how well the MMIF data represent actual site conditions, the windrose should also be presented for the same period, August 19, 2024, to November 5, 2024, using the data used in AERMET.

Information Request

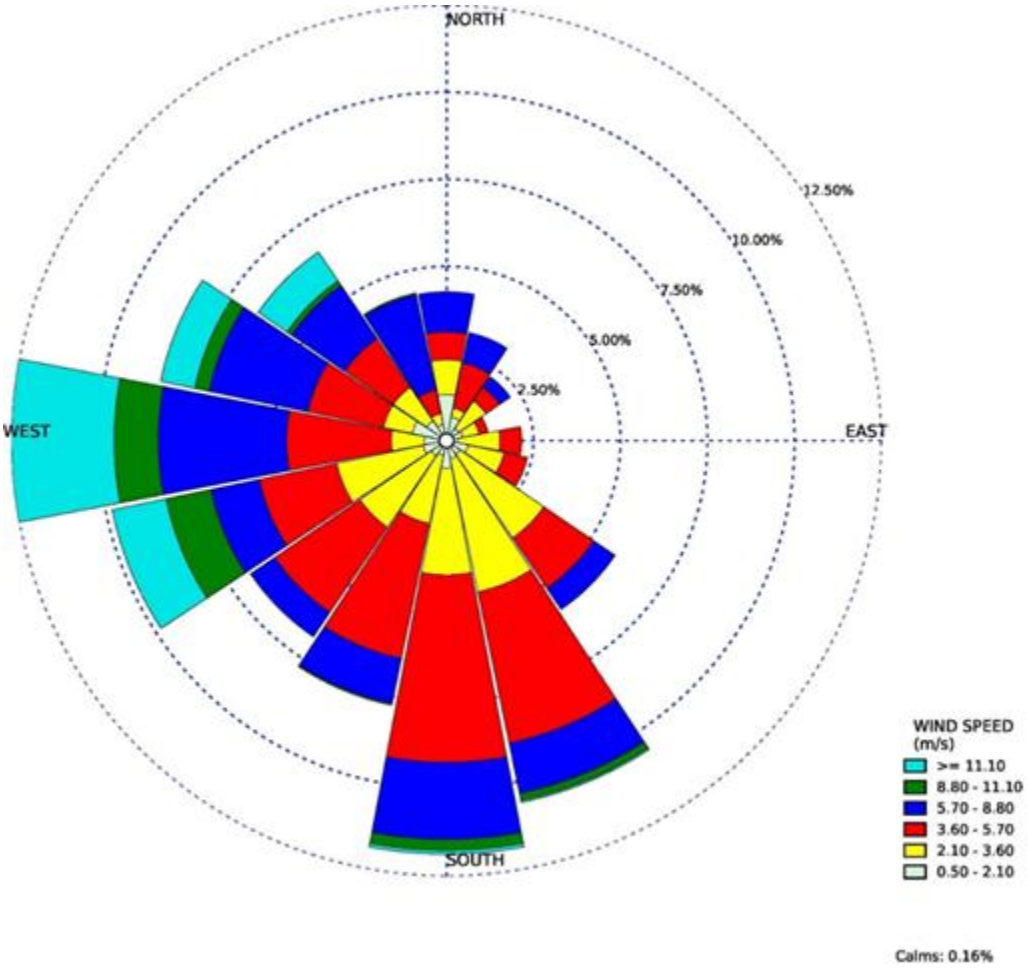
The KIA requests the following:

- *Please add a windrose based on AERMET data for the time of August 19, 2024, to November 5, 2024.*

Proponent Response

A windrose derived from the AERMET-processed meteorological data for the same August 19, 2024 to November 5, 2024 period as the observed Grays Bay Meteorological Station data shown in Figure 6.3 is provided below in Figure IR-103.1). Both the AERMET meteorological data and the Grays Bay Meteorological Station data show strong westerly winds and are in reasonable agreement as stated in Volume 5, Section 6.1.1.

Figure IR-103.1 **Windrose Derived from AERMET Meteorological Data (August 19, 2024 to November 5, 2024)**



KIA-IR34 (IR-104)

Subject

Issue / Concern

Missing settings used for running KDEs. On Page 27, it is stated that: "To delineate seasonal range boundaries, kernel density estimation (KDE) was implemented using a 1-km (cell size) standardized grid with a seasonally variable reference bandwidth (Nick Wilson [GNWT] 2024, pers. comm.)." These settings can highly impact the resulted UDs and should be included in the report. Inclusion of this information on settings is needed to assist us in performing a well-informed technical review.

Information Request

The KIA requests the following:

- *Please include all the settings used for the KDEs in a table for the different seasons and explain the reason for choosing each specific bandwidth.*

Proponent Response

As stated in Volume 6, Appendix 16A of the Impact Statement (IS):

> "Seasonal ranges for the Bathurst herd were provided by GNWT-ECC (Nick Wilson [GNWT] 2024, pers. comm.). Those seasonal ranges were created using caribou satellite and GPS collar data (1996 to 2023) during the herd's spring migration (April 20 to June 1), calving/ post-calving (June 2 to June 28), summer (June 29 to September 6), fall (September 7 to November 30), and winter (December 1 to April 19); dates follow those identified in the Bathurst Caribou Range Plan (Government of Northwest Territories 2019)." (Appendix 16A, Section 4.1.2.1, document page 27, PDF page 3510 of 8171)

The Government of Northwest Territories (GNWT) provided some information on how these seasonal ranges were created, which is reflected in the IS:

> "Collars that contained >50 percent (%) of the data for a given season were included when developing seasonal ranges; e.g., a collar required a minimum of 21 days of data during spring migration to be included in the range development for that season (42 days total) (Nick Wilson [GNWT] 2024, pers. comm.). To delineate seasonal range boundaries, kernel density estimation (KDE) was implemented using a 1-km (cell size) standardized grid with a seasonally variable reference bandwidth (Nick Wilson [GNWT] 2024, pers. comm.). Seasonal ranges were defined by a 95% utilization distribution (UD) boundary representing the probability of use based on density values (Worton 1989)." (Appendix 16A, Section 4.1.2.1, document page 27, PDF page 3510 of 8171)

However, details on season-specific bandwidths were not provided by the GNWT.

KIA-IR35 (IR-105)

Subject

Peak Calving Period

Issue / Concern

Some clarification is needed regarding the method used for finding the peak calving period to inform an independent technical review. On page 28, it is stated that: "Spatial and temporal attributes of the Bathurst caribou herd peak calving area (defined using the location of estimated calving events) were analyzed using methods similar to Gunn et al. (2008c)."

Information Request

The KIA requests the following:

- *Please add a short justification as to why the Gunn et al. 2008c method was preferred over other alternate approaches.*

Proponent Response

The general methodology of Gunn et al. (2008) involves identifying calving events from a spatial analysis of movement patterns, using calving event locations to identify the timing and locations of peak calving (7-day period of reduced movement during calving), and delineating peak calving areas based on the locations from multiple collared, parturient cows. This method was effective in developing annual peak calving polygons to assess over time, so alternative methods were not used.

KIA-IR36 (IR-106)

Subject

Significance Determination

Issue / Concern

For some valued components, the Impact Assessment lists criteria and thresholds, if applicable, used to determine significance of an effect on the valued component in question. It is not always clear what changes are required for a finding of 'significant,' and how the measured parameters or models fit into the definition and determination of significance. If the significance determination is qualitative and based on professional judgement, this should also be stated.

The determination of significance of project effects on valued components is not clearly articulated.

Examples (including but not limited to):

Caribou: Section 16.1.6 in Section 16 of Volume 6 includes discussion of the seven criteria used to classify the residual effects of the Project on Caribou, including definitions of the categories for each criterion. Table 16.4 summarizes this information, listing the criteria as Direction, Magnitude, Geographic Extent, Timing, Duration, Frequency, and Reversibility. Section 16.1.7 then uses the assessment criteria to describe in Table 16.6 how significance of an effect is determined based on the categories assigned for three out of the seven criteria – Direction, Magnitude, and Timing; the remaining four criteria are listed as 'qualifiers'. The listed thresholds in Table 16.6 are Adverse Direction, High Magnitude, and Moderate to Very High Sensitivity Timing. It is not clear from the text, but it appears that all three of these thresholds must be met for a for a particular effect to be classified as 'significant.' Page 16-26 states that 'contextual' criteria qualify the primary criteria (Direction, Magnitude, and Timing), "in terms of permanency and spatio-temporal extent of Project effects," but does not describe if these four criterion factors in the determination of significance other than being descriptive terms.

Vegetation: For Section 15, Assessment of Potential Effects on Vegetation, the significance determination procedure is more inscrutable. Section 15.1.5 and Table 15.3 outline the seven criteria used to characterize residual effects – Direction, Magnitude, Geographic Extent, Timing, Duration, and Reversibility – but, unlike for caribou, there is not a corresponding table for vegetation outlining thresholds or the role of each criteria (i.e., primary or qualifier) in making a significance determination. Section 15.1.6 (Page 15-14) states that a significant adverse effect on vegetation is one that threatens the long-term viability or persistence of plant species or communities, after the application of avoidance and mitigation measures. However, there is no description of how the seven criteria factor in to determining significance nor how the measurable parameters in Table 15.2 would indicate a threat to long-term viability or persistence of plant species and communities.

Birds: The Impact Statement defines a significant adverse residual effect on birds "as a residual effect that is expected to result in an adverse change to bird population viability and persistence, of bird populations that interact with the RAA, beyond an acceptable level (e.g., where it is not sustainable or is unavailable to contribute to biodiversity and ecosystem function or is not available for managed harvest)." The assessment appears to evaluate residual effects using indicators such as habitat loss, habitat alteration, and changes in mortality risk. However, the Impact Statement does not clearly describe the analytical framework used to link the assessed indicators to this endpoint. It is unclear how predicted changes in habitat availability or mortality risk were translated into conclusions regarding long-term population viability, persistence, sustainability, or contribution to biodiversity and ecosystem function. The Impact Statement does not identify quantitative thresholds or other measurable standards that define what constitutes an "acceptable level" of change. It is unclear how significance determinations were made or how the reasonableness of those determinations can be independently evaluated without more information.

We reviewed Volume 4: Effects Assessment Methodology, and it did not provide clarification regarding these questions.

Information Request

The KIA requests the following:

- *Please provide explicit descriptions of how significance was determined for each residual effect and VC, including the specific qualitative and / or quantitative findings required for a "significant" designation and a clear link between each criterion and measurement to the definition and determination of significance. If the significance determination is qualitative and based on professional judgement, this should also be directly stated.*
- *Explain how the assessment endpoints were predicted in the effects analysis (e.g., for birds, how habitat loss and mortality risk are linked to the significance endpoint of population viability and persistence).*
- *Define "acceptable level", where used, in the significance definition and identify any quantitative thresholds or other benchmarks applied in determining significance.*
- *Please explain how herd vulnerability/resilience was considered in the significance ratings with justification.*

Proponent Response

General Approach for Significance Determination

The Impact Statement (IS) determines significance at the level of Valued Components (VCs), not individual residual effects. The IS employs a *reasoned argument* approach that (1) links VC-specific effects pathways to measurable parameters (e.g., % habitat loss), (2) characterizes the residual effects post-mitigations using standard assessment criteria (e.g., direction, magnitude, timing), and (3) concludes with a VC-level determination of significance using benchmarks guided by input from Inuit, Indigenous, Community Knowledge, and scientific literature. Each VC section in the IS describes the analytical methods (quantitative and/or qualitative), provides a significance definition, outlines the level of Inuit, Indigenous, and Community Knowledge input and engagement (including value-based significance thresholds identified through engagement), and addresses uncertainties.

Caribou — How significance is determined

Project residual effects on the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH) are assessed using known effects pathways, key measurable parameters, and the application of mitigations, as described throughout Volume 6, Section 16.4. These residual effects are characterized using criteria defined in Table 16.4 (Volume 6, Section 16.1.6, document pages 16-20 to 16-22) of the IS.

Every VC has a definition of significance that must be met to deem Project-related or cumulative effects as Significant. Whether that definition is met will depend on how residual effects are characterized using the assessment criteria. In the caribou assessment, the link between assessment criteria and significance follows a specific process. This process for determining herd-level significance for the BCH and DUH is detailed in Section 16.1.7 and Table 16.6 of the IS:

"Primary criteria contribute the most to the significance determination, and their thresholds for significance require Project residual effects to be adverse (direction), involve a substantial change in measurable parameters (high magnitude), and occur when caribou are sensitive to disturbances (moderate to very high sensitivity timing). Contextual criteria qualify the primary criteria in terms of the permanency and spatial-temporal extent of Project effects" (Volume 6, Section 16.1.7, document page 16-26).

Project effects on the BCH and DUH are rated significant only when the combination of residual effects meet the overarching definition of significance:

"The Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management, and enhancement measures" (Volume 6, Section 16.1.7, document page 16-26).

Details on Inuit, Indigenous, and Community Knowledge input for significance determination are provided in Volume 6, Section 16.1.1.5 and Section 16.1.7. In particular, the Inuit Advisory Group (IAG) "*emphasized healthy caribou populations and Inuit harvesting as important considerations for the Project (IAG 2025b)*" (Volume 6, Section 16.1.1.5, document page 16-7).

The IS argues that this significance definition is met only when the primary criteria are met concurrently for several residual effects, i.e., several residual effects are **adverse** in direction, **high** in magnitude, and occur during **moderate** to **very high** sensitivity lifecycle stages. Reversibility, geographic extent, duration, and frequency are contextual qualifiers that describe the residual effect but do not, on their own, change the significance determination.

The primary criteria are used to determine whether Project effects meet this definition of significance. As a key contributor to the determination of significance, the magnitude thresholds for each effect are provided in Table 16.4 (e.g., for change in habitat, high magnitude = >10% combined direct and indirect habitat effects within BCH-RAA1 and DUH-RAA; for change in mortality risk, high magnitude = >0.28% annual mortality of each herd's current population size) (Volume 6, Section 16.1.6, document pages 16-20 to 16-22). This approach was applied to each assessment endpoint or potential effect (i.e., range disturbance, habitat, movement, and mortality) and used to determine significance for mainland (BCH) and island (DUH) caribou.

With regards to herd vulnerability/resilience, the "change in range disturbance" assessment endpoint implicitly considers the range conditions needed for herd resiliency—this metric is directly linked to the *Bathurst Caribou Range Plan* (GNWT 2019).

Vegetation — How significance is determined

The significance determination for Vegetation, as described in Volume 6, Section 15.1.6, is based on the following: "A significant adverse effect on vegetation is one that threatens the long-term viability or persistence of plant species or communities, after the application of avoidance and mitigation measures."

For vegetation, the significance determination is **professional judgment based**, applied with reference to the seven residual effects characterization criteria in Table 15.3 (Volume 6, Section 15.1.5, Pages 15-13 to 15-14).

The IS does not identify pre-defined quantitative thresholds that translate measurable parameters into a "significant" finding for vegetation. Thresholds defined by government or scientific literature are not established for vegetation, and little information is available for vegetation components, such as SOCC within Nunavut.

Vegetation community fragmentation is considered a key indicator for effects on this VC. The endpoint of long-term viability or persistence is evaluated qualitatively in light of: the magnitude of habitat loss within the assessment area, the regional abundance and distribution of affected vegetation types and species at risk, the reversibility of the effect, and the effectiveness of mitigation, management, and enhancement measures.

Birds — How significance is determined

The significance definition for birds, as stated in Volume 6, Section 17.1.5, is: "*a significant adverse residual effect on birds is defined as a residual effect that is expected to result in an adverse change to bird population viability and persistence, of bird populations that interact with the RAA, beyond an acceptable level (e.g., where it is not sustainable or is unavailable to contribute to biodiversity and ecosystem function or is not available for managed harvest)*".

The bird residual effects characterization in Table 17.4 (Volume 6, Section 17.1.4.3, Pages 17-13 to 17-14) provides quantitative thresholds for the Change in Habitat measurable parameter:

- Negligible: <1% change of suitable habitat
- Low: 1% to 15% change of suitable habitat
- Moderate: >15% to 30% change of suitable habitat
- High: >30% change of suitable habitat

For Change in Mortality Risk, the magnitude ratings in Table 17.4 are qualitative (negligible, low, moderate, high) and reference whether changes are within or outside the range of natural variation and/or accepted standards. The link from indicators (habitat loss, mortality risk) to the endpoint (population viability and persistence) is made by professional judgment, drawing on:

The proportion of suitable habitat available within the RAA for each guild that is affected by the Project (see Tables 17.6, 17.7, and 17.8 for baseline habitat availability);

The literature-supported habitat thresholds, as described in Section 17.1.4.3: "*research suggests that maintaining 10% to 30% of habitat can sustain a population, with negative consequences arising beyond these limits (Andrén 1994; Swift and Hannon 2010)*"; and

The reach of the assessment beyond the breeding range, given that "*Migrant bird species occupy wintering areas extending from the Canadian boreal forest to the southern extent of South America*" and broader-range factors are not amenable to Project-level mitigation (Volume 6, Section 17.2.2.1).

"Acceptable level" — Definition for Birds

An explanation of the ‘acceptable level’ is described in the Significance Definition in Section 17.1.5. (Page 17-14) as one “*...where it is not sustainable or is unavailable to contribute to biodiversity and ecosystem function or is not available for managed harvest* “. The overall significance determination for the VC is based, in part, on the available quantitative thresholds identified under the various effects characterization criteria along with qualitative evaluations.

KIA-IR37 (IR-107)

Subject

Assessment of Herd-Level Change in Caribou Movement

Issue / Concern

According to Table 16.6, to be deemed 'significant,' an effect must meet the threshold of High Magnitude. For the effect of Change in Movement, Table 16.6 states that a High categorization requires the Project or a component to affect herd-level movements and reduce access to seasonal ranges, such as calving areas. Section 16.1.6.3 (Page 16-24) states that there are no prescribed thresholds to help determine the magnitude of effects on movement, but there is no explanation or justification regarding the rationale behind the setting of Magnitude categories for Change in Movement within the report.

It is also not clear how the analytical assessment would show herd-level changes to movement and restricted access to seasonal ranges. Section 16.4.3.1 lists two metrics used to assess Change in Movement: (1) annual exposure rate of caribou to disturbances, and (2) probability of caribou use of areas on the landscape during migration. Metric 2 involves using collar data to determine where migrations overlap with the project, which are in turn used to "infer Project-related pathways that may

create physical and/or perceptual filters to caribou movement." The output of assessment (1) is the average number of days a caribou may be exposed to the Project; the output of (2) includes indications of where the Project may interact with caribou migration. It is not clear how these analyses would be extrapolated to indicate potential herd-level movement changes and restricted access to seasonal ranges. It is likewise unclear how the output from (2) was corrected for inclusion of the Project.

Page 16-26 also includes a definition of 'significant':

> *"The Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management, and enhancement measures."*

It is not clear how long-term persistence and viability of caribou populations were assessed or how it was linked to changes in movement. Based on the definition of significance and the lack of available thresholds, changes in movement are implied to be required to conclude that there will be significant impacts on the long-term persistence and viability of caribou.

Note: A part of the wildlife baseline report describes a Caribou Herd Vulnerability Model (CVHM), but Page 16-155 states that CVHM results do not contribute to the determination of significance.

Information Request

The KIA requests the following:

- *Please describe the rationale for each of the Magnitude categories for Change in Movement.*
- *Please describe how the data and analysis to assess Change in Movement are extrapolated to determine herd-level movement changes and/or access to seasonal ranges.*
- *Please provide a description of how the data and analysis to assess Change in Movement would indicate a threat to long-term persistence and viability of a population.*

Please explain how herd vulnerability/resilience was considered in the significance ratings with justification.

Proponent Response

Rationale for the Magnitude Categories for Change in Movement

The IS states that "There are no prescribed thresholds to help determine the magnitude of Project effects on caribou movement" (Volume 6, Section 16.1.6.3, Page 16-24). The four magnitude categories — Negligible, Low, Moderate, High — are scaled according to whether the Project affects movement at the individual level only (Low), at the broader herd scale including migration timing and location (Moderate), or to a degree that restricts access to seasonal ranges (High) (Table 16.4, Volume 6, Section 16.1.6, Pages 16-20 to 16-22).

The rationale, as stated in Section 16.1.6.3, is as follows:

> "Overall, if any Project component is deemed to limit the herd's access to seasonal ranges or key habitats (e.g., traditional calving areas), it is considered a high magnitude effect. A moderate magnitude refers to the Project's ability to influence some individuals' broader movements between seasonal ranges (e.g., timing and location of migration), while a low magnitude indicates that the Project may affect some individuals' local movements within their range (e.g., crossings) and have no effect on broader movements between seasonal ranges. A negligible magnitude suggests that neither an individual's nor the herd's movements are affected at local or range-level scales" (Volume 6, Section 16.1.6.3, Page 16-24).

Extrapolating Analyses to Infer Herd-level Changes in Movement

Two analytical lines of evidence are used to evaluate Change in Movement (Volume 6, Section 16.4.3):

1. Annual exposure rate — the average number of days an individual caribou is exposed to Project disturbances. This is calculated by applying Project ZOIs to GPS-collared caribou locations within the BCH-RAA1 and DUH-RAA.

2. Probability of caribou use of areas during migration — analyzed using Brownian Bridge Movement Models (BBMMs) (Volume 6, Section 16.1.5, Page 16-19; Section 16.2.1.3, cumulateive Page 16-28). BBMMs characterize the migration movement pathway as a spatial probability distribution and "support the assessment of change in movement (see Sections 16.4.3 and 16.5.4), particularly the interaction between caribou migration corridors and human disturbances" (Volume 6, Section 16.1.5, Page 16-19).

To extrapolate from these two metrics to herd-level inferences, the IS uses a qualitative weight-of-evidence approach. As stated in Section 16.4.3.1:

> "The qualitative assessment relies on interpreting historical interactions between caribou and the areas proposed for the Project, including the expected PDA (surface disturbance footprint) and ZOI (buffer around the footprint). This historical context is used to determine the expected likelihood, duration, and frequency of BCH and DUH interactions with the Project." (Volume 6, Section 16.4.3.1, Page 16-100).

Annual exposure rates under baseline conditions "contextualizes how often local caribou movements may be altered" (Volume 6, Section 16.4.3.1, Page 16-100) with the inclusion of the Project. Where Project–migration corridor overlap is identified through BBMM outputs, the IS considers whether the overlap occurs in a portion of the herd's range that constitutes a pinch-point for migration or access to a discrete seasonal range (e.g., calving areas), drawing on baseline knowledge of seasonal range geography and Kitikmiut Knowledge of migration corridors (Volume 6, Sections 16.2.2.4 and 16.1.1.1). Inferences to "restricted access to seasonal ranges" are made when Project infrastructure intersects a corridor whose elimination would functionally sever a seasonal range from the rest of the herd's annual range or limit use of portions of a seasonal range.

Ultimately, the Project is inferred to potentially act as a physical or perceptual filter on local-scale movement and broad-scale migration unless a commitment is made to "implementing the proposed mitigation, management, and enhancement measures, such as the caribou TARP and adaptive road closures" (Volume 6, Section 16.4.3.1, Page 16-100). Given that commitments are made to such measures (see Volume 6, Section 16.4.3.3), effects on movement are expected to be limited.

How Change in Movement is Linked to Long-term Persistence and Viability

The IS's significance definition for caribou — "The Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management, and enhancement measures" (Volume 6, Section 16.1.7, Page 16-26) — is applied across all five potential effects (range disturbance, habitat, movement, mortality risk, health). For Change in Movement, the linkage to persistence and viability is made qualitatively, by considering whether the magnitude of movement change rises to the level of restricting access to seasonal ranges (the threshold for "high" magnitude in Table 16.4). If access to calving, post-calving, or summer ranges is predicted to be restricted, this is taken as a credible mechanism for population-level effects (e.g., reduced reproduction and recruitment).

The CHVM (Volume 6, Appendix 16B) provides complementary information on the energetic consequences of repeated Project encounters and how those translate to fall body weight, pregnancy probability, and calf survival (Volume 6, Section 16.6.3); however, as noted in Section 16.6.3.1: "CHVM results do not contribute to the determination of significance".

Linking Herd Vulnerability and Resilience to Significance Determination

The link between measurable movement parameters (i.e., exposure rates and BBMM corridor overlap) and long-term persistence and viability is established qualitatively, through professional judgment informed by the literature and Inuit Knowledge. Specifically, a high-magnitude movement effect, whereby the BCH or DUH lose access to seasonal ranges, would constitute a vulnerability to the herd.
A quantitative link to vulnerability and resilience is made with the assessment endpoint "Change in Range Disturbance"; see response to Information Request KIA-IR36 (IR-106).

KIA-IR38 (IR-108)

Subject

Documentation for Establishing Zones of Influence

Issue / Concern

The ERM (2025a) report cited to justify using a 1 km ZOI for all-season roads is not available for review. Understanding the reasoning for decisions regarding ZOIs or other values used in analysis is important for reviewing potential effects.

Zones of Influence (ZOIs) are discussed in several places, including but not limited to Section 16.4.2.1. Page 16-89 states:

> *"the ZOI of the Project Road is expected to be 1 km … ERM Consultants Canada Ltd. (2025a) recommended a 1-km ZOI for all-season roads where traffic is managed or the road is closed when caribou are present."*

A search for the report in question was conducted, but it could not be located.

Information Request

The KIA requests the following:

- *Please provide the referenced document:*

  "ERM Consultants Canada Ltd. 2025a. Bathurst Caribou Zone of Influence Literature Review. Prepared for the Government of Northwest Territories. 18 pp."

Proponent Response

WKR will provide the ERM Consultants Canada Ltd. (2025) literature review available on the WKR website (https://www.westkit.ca/file-downloads), subject to confirmation that distribution permission has been obtained from the document's commissioning party (Government of Northwest Territories, Department of Environment and Climate Change).

KIA-IR39 (IR-109)

Subject

Road Access Control Measures

Issue / Concern

It is not clear from the available information what type of mitigations will be implemented or what they will entail. It is difficult to discern whether mitigations will be sufficient or feasible to reduce project effects without a clear description.

According to the Abbreviations list, TARP is defined as "Trigger Action Response Plan," and MCCM is defined as "Mobile Caribou Conservation Measures."

Section 9.4.1.3 (Page 9-12) states that residual effects are those that remain after a mitigation or enhancement has been applied. Section 16.4.6 (pages 16-115 to 16-122) presents a summary of the findings of Project residual effects on caribou. Page 16-117, which summarizes the findings of project effects on change in caribou habitat includes the statement:

> *"The reduced ZOI for the Project (1 km) compared to the maximal potential ZOI (i.e., 5 km, the LAA) is a consequence of mitigation, management, and enhancement measures such as the caribou TARP, which includes MCCM-based adaptive road closures and traffic management (e.g., speed limits, wildlife right-of-way)."*

TARP is also mentioned as an important mitigation for addressing changes in caribou movement and change in mortality risk to caribou.

It appears that the TARP and its MCCM measures that will be responsible for effectively reducing the ZOI to 1 km, reducing the effects of change in habitat and movement, and reducing mortality risk are not yet developed or available for review. It is difficult to determine how effective and suitable the mitigations will be at reducing Project effects on habitat, movement, and mortality without a detailed description of these mitigation measures. In addition, controlled access is listed as a mitigation measure for reducing mortality risk, but details of this mitigation measure are also not provided. Access control can take many forms – from a manned checkpoint to a gate. It is difficult to assess how effective the mitigation would be without a more detailed description of how access will be managed. Access management seems to be related to establishment of an effective TARP / MCCM, since it is not clear how temporary shutdowns of the road would be relayed to those driving on the road without establishing communications with road users.

Information Request

The KIA requests the following:

- *Please provide a description of how access will be controlled to the road, and how communications with road users will be established.*
- *Please provide details regarding the TARP and MCCM.*

Please provide a description of mitigation measures that are sufficiently thorough to be able to understand how measures will reduce potential project effects to a finding of "non-significant."

Proponent Response

Summary

The mitigations used to address road-related effects, i.e., Mobile Caribou Conservation Measures (MCCM), as part of the Trigger Action Response Plan (TARP), are described in Volume 6, Section 16 (Caribou Assessment) and Volume 11, Appendix 37B (Wildlife Mitigation and Monitoring Plan [WMMP]) of the Impact Statement (IS). In these documents, WKR has committed to and outlined general measures for access control, road user communications, triggers for road closures and temporary site shutdowns, and monitoring protocols for adaptive management. These commitments were used to justify the residual effects characterizations of the Project, including effects on habitat (reduced zone of influence), movement (improving permeability), and mortality (reduced collision risk). This level of detail was sufficient to evaluate mitigation effectiveness at the early design stage of the WMMP. Detailed protocols and modified triggers (thresholds) will be finalized prior to construction through engagement with co-management parties and the regulatory processes that follow the NIRB review.

Context from the Impact Statement

<u>Road Access Control and Communications</u>

The Project Road is a controlled-access road. As described in the Road Management Plan (Draft):

> "*Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station on IOL. These access points will manage and monitor road use through sign-in procedures and radio check-ins, helping to track users and ensure the safety of users. WKR will maintain logs recording the entry and exit of all vehicles using the road. Logs will also record any incidents or accidents for regulatory and safety audit purpose. Unauthorized use may lead to security alerts and reports to local authorities.*" (Volume 11, Appendix 37A, Section 5.1.1, page 10)

User groups will be governed by separate agreements:

- "Mining users will have access to the road on a tolled basis, with port and road use fees to be established through agreements between WKR and mining/exploration companies."
- "Security and other public government users will have access to the road through agreements to be established between WKR and the relevant government department or agency."
- "Community users will have free access to the road for travel and transportation purposes, subject to agreeing to abide by safe operating procedures."
- "Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA)" (Volume 11, Appendix 37A, Section 5.1.1, page 10).

Communications with road users will be supported by mandatory radio communications for Project and contractor vehicles. As described in the Road Management Plan:

- "Project and contractor vehicles will be equipped with radio communication controls set to the requisite road frequency to maintain communications at all times. The system will be used to report conditions on the road such as:
    - Vehicle locations
    - Accidents or stranded vehicles
    - Unauthorized vehicle use of the road
    - Presence of wildlife on the road
    - Road conditions." (Volume 11, Appendix 37A, Section 5.1.2, page 11)

The Road Management Plan further specifies the following:

- "It is recognized that members of the public (Community Users) may be present on the road without road radios” (Volume 11, Appendix 37A, Section 5.1.1, page 12). Further, community users will be strongly encouraged, though not required, to carry radios, satellite phones, or other communication devices while using Project facilities. WKR's code of conduct will outline communication expectations for all facility users, including protocols for temporary shutdowns triggered by wildlife or environmental alerts. Environmental monitors stationed at the Port, Road, and Jericho Station will regularly patrol all facilities to identify vehicle locations, accidents, stranded vehicles, unauthorized road use, wildlife presence, and environmental or road condition concerns. Should an alert be issued while community members without communication devices are on-site, WKR will implement protocols to locate those individuals, communicate the nature of the alert and associated expectations, and help where necessary.
- Project and contractor vehicles will be required to have beacon lights and flagging" (Volume 11, Appendix 37A, Section 5.1.1, page 12).
- Drivers must call out wildlife observations on the radio (e.g., to the nearest kilometre marker) (Volume 11, Appendix 37B, Table 7.1 [WMMP]).

TARP and MCCM

The TARP and MCCM framework is described in the WMMP:

> "A caribou trigger action response plan (TARP) to manage road Construction and Operations and Maintenance activities. As part of the TARP framework, MCCMs will inform adaptive road closures. If lead caribou (cows or cows with calves) or groups of caribou (≥25 animals) are observed near the road by Environmental Monitors, or if collar data provided by GN/GNWT suggest that caribou are on a trajectory to cross the road, then vehicle traffic will be suspended. Road closures will be lifted once road monitoring, supported by collar data, indicates that cows/calves or groups of caribou have moved out of the road area" (Volume 11, Appendix 37B, Section 7.1, Table 7.1, page 15).

Specific triggers identified in the IS for road closures and human activity management are summarized in Sections 6.3 and 6.4 of the WMMP (Site Alert and Temporary Shutdown levels):

- A site alert is triggered when a group of at least 25 caribou is identified within sight of the Project (Volume 11, Appendix 37B, Section 6.3, page 11).
- A temporary shutdown can be triggered when “Caribou calving on or near the road or other infrastructure, or caribou with calves within sight of the PDA during the calving and post-calving seasons (June 2 to June 28)”, or "At least 10 caribou cows with calves moving onto or towards the road or other infrastructure during the caribou summer season (i.e., June 29 to September 6)" (Volume 11, Appendix 37B, Section 6.4, page 12).

Active monitoring frequency by Environmental Monitors is calibrated to caribou sensitivity timings: "Daily active monitoring will occur from April 20 to September 6 for the BCH, and from November 1 to November 30 and April 15 to May 30 for the DUH. During the remainder of the year, active monitoring will occur weekly" (Volume 11, Appendix 37B, Section 8.3.3, page 28).

Early Design Stage for the WMMP

The IS reflects an early design stage for the WMMP. As stated in the WMMP (Appendix 37B, Section 1, Introduction):

> "This version of the WMMP is presently not intended to provide detailed monitoring approaches and methods (e.g., site-specific study designs, cost estimates, or schedules); rather, it provides a conceptual outline of the requirements for mitigating and monitoring Project-related effects on wildlife that have been proposed in the IS. The WMMP will be updated as further details and monitoring design are developed in continued discussions with governing bodies, working groups, and other interested parties, and will include regulatory approval and/or permitting conditions". (Volume 11, Appendix 37B, Section 1, page 1)

The framework presented in the IS provides the conceptual triggers, site notification, alerts, and temporary shutdown levels (WMMP, Section 6), and a list of mitigations (WMMP, Table 7.1) to support the IS's prediction that mitigation, management, and enhancement measures reduce the Project zone of influence (ZOI) from the maximum potential 4-km extent (LAA) to 1 km (Volume 6, Section 16.4.6, page 16-117):

> "The reduced ZOI for the Project (1 km) compared to the maximal potential ZOI (i.e., 5 km, the LAA) is a consequence of mitigation, management, and enhancement measures such as the caribou TARP, which includes MCCM-based adaptive road closures and traffic management (e.g., speed limits, wildlife right-of-way)" (Volume 6, Section 16.4.6.1, page 16-117)

Specific triggers for adaptive management within the TARP "will be included in the Final WMMP and will be determined in consultation with the Kitikmeot Inuit Association, the GN, and the GNWT" (Volume 11, Appendix 37B, Section 8.3.3, page 28).

KIA-IR40 (IR-110)

Subject

Caribou Herd Vulnerability Assessment

Issue / Concern

The caribou herd vulnerability assessment is missing some key information. Section 3 of Appendix 6B outlines three development scenarios used in the vulnerability assessment: no development, the Grays Bay Road and the Tibbitt to Contwoyto Winter Road (TCWR), and Grays Bay Road and a proposed all-weather road denoted as SGP. The bulleted list on Page 37 states for the final scenario, "we used the route with the lower number of encounters (i.e., Route 6 from Russell et al. 2024a)." It is not clear what is meant by this statement, as it was not described previous to this section if different route options were considered for the development scenario of Grays Bay Road plus the all-weather SGP road. It is also not clear what implications result from using a route with a lower number of encounters.

It appears that Figures 18 and 19 (pages 34 and 35) include conflicting information, or there is an error in labelling one of the figures. Figure 18 shows that there are more overall encounters over a calendar year for the Gray's Bay Road plus SGP compared to Grays Bay Road plus TCWR, but Figure 19 shows more encounters per caribou for the Gray's Bay Road plus TCWR.

Figure 20 (page 36) is not clear. There are vertical and horizontal lines on the figure panels that are not defined, it is not clear which scenario is depicted, and the time-period covering either figure panel is not described.

Figures in Appendix 1 (to Appendix 16B) include acronyms or numbers as labels that are not clearly defined in the text, figure captions, or a glossary (See Figure S2-4 for an example), and other figures do not include axis labels (see Figure S2-7, S2-10). Lack of definitions or axis labels makes it difficult to interpret the figure. Ideally, a caption or notes section will include all the information necessary to interpret a figure or table without having to read the main text.

The report includes several figures depicting kernel density analysis results. However, there are no details regarding the settings and data used in the kernel density analysis. Since model settings can greatly impact the results, they should be included in the report.

Information Request

The KIA requests the following:

- *Please provide details if multiple routing options were used in models or if route alternatives factored into the herd vulnerability analysis.*

- *Please ensure that all necessary information to interpret a table or figure is included in the caption, table or figure notes, in the main text, or in another referenced table or figure.*
- *Please include all the settings used for the KDEs in a table for the different seasons and explain the reason for choosing each specific bandwidth.*

Proponent Response

Clarifying the Purpose of the Caribou Herd Vulnerability Model

The purpose of the Caribou Cumulative Effects (CCE) model—referred to as the Caribou Herd Vulnerability Model (CHVM) in Volume 6, Section 16—is to identify the main drivers of change of caribou herds (e.g., climate, development-related disturbance), particularly the Bathurst Caribou Herd (BCH), to make inferences about potential Project-related and cumulative effects, and to identify the effectiveness of potential mitigations in reducing those effects. The intent of the CCE/CHVM is not to quantify and predict the outcomes of every possibility or scenario. That being said, WKR addresses the specific comments and questions posed by the KIA in the sections that follow.

Routing Options

To clarify, the phrase "*we used the route with the lower number of encounters (i.e., Route 6 from Russell et al. 2024a)*" (Volume 6, Appendix 16B, document page 35) refers to a choice between multiple alignment options for the proposed Slave Geological Province (SGP) Corridor, not the Grays Bay Road. The Grays Bay Road alignment used in Appendix 16B is the single proposed Project alignment; multiple alternative alignments for the Grays Bay Road itself were not analyzed in the CCE/HVM. Alternative alignments for the Project are addressed in Volume 2, Section 3 of the Impact Statement (IS).

Please refer to Russell et al. 2024 for further details on the SGP Corridor routes used in their assessment:

Russell, D., Gunn, A., and Frid, L. 2024. Vulnerability Assessment of the Bathurst Caribou Herd for the Proposed Slave Geological Province Road, NWT. Manuscript Number 323. Prepared for the Government of Northwest Territories by Shadow Lake Environmental Inc., CARMA, APEX Resource Management. 83 pp.

Figures 18 and 19 Inconsistencies

Figures 18 and 19 represent the same data in different ways. The confusion stems from mislabeling in the x-axis for Figure 19—the labels for “GBRP&Tibbitt” and “GBRP&SGP” should be switched. When this is done, the total average encounters are equivalent between Figures 18 and 19: 26.7 encounters/caribou for “GBRP&SGP” and 10.1 encounters/caribou for “GBRP&Tibbitt”. These x-axis labels in Figure 19 will be adjusted (Volume 2, Appendix 16B, document page 35).

Figure 20 Clarity

The vertical and horizontal lines in Figure 20 (a and b) are described in the preceding text:

"There was a near linear cumulative frequency of total encounters (Figure 20, Panel A) for the GBRP and SGP road route with 60% of animals encountering the route 27 times or less compared to 10 encounters or less for the GBRP and Tibbitt route. Similarly, during the critical post calving to rut period (Figure 20, Panel B), 60% of caribou encountered the routes 18 and 7 times or less, respectively". (Volume 6, Appendix 16B, document page 36)

The vertical and horizontal reference lines on each panel correspond to the 60th-percentile thresholds quoted in the text; the 60th-percentile lines are the key focus of Figure 20. The Figure 20 caption will be updated to explain the vertical and horizontal lines as follows: "*Vertical dashed lines identify the total encounters per caribou for 60/100 (60%; horizontal solid line) of the randomly selected Bathurst cows*".

Appendix 1 Figures (S2-4 through S2-10)

Figures S2-4, S2-7, and S2-10 in Appendix 1 of Volume 2, Appendix 16B include acronyms and unlabeled axes that can be interpreted from the main text. The acronyms refer to the herd names: CAH = Central Arctic Herd; BAH = Bathurst Herd; TAI = Taimyr Herd. The x-axis labels refer to scenarios under optimistic (sometimes labelled "119") and pessimistic (sometimes labelled "585") conditions in 2050 and 2100. The numbers adjacent to bars on a graph indicate the exact y-value associated with a bar. WKR refers the KIA to the main text associated with those for further information.

Please note that Appendix 16B was conducted by independent consultants to the Project.

Kernel Density Estimation Settings for Figures

Acquiring more information on the Kernel Density Estimate (KDE) parameter settings (e.g., grid cell size, bandwidth value, sample size, software package) beyond what is stated in Appendix 16B is not possible at this time given the untimely passing of the primary author, Don Russell. WKR would also like to clarify that these KDE polygons presented in Appendix 16B were used as initial screening tools to determine herd interactions with the Grays Bay Road, Tibbitt–Contwoyto Winter Road, and the SGP Corridor. The KDE polygons were not used to complete the CCE/CHVM scenario analyses, which instead used the actual collar locations from randomly sampled cows in a herd.

KIA-IR41 (IR-111)

Subject

Alternative Energy System

Issue / Concern

Aside from a single table entry, the assessment provides no discussion of potential impacts to birds or the future studies and assessment work that will be undertaken to evaluate avian effects once the alternative energy system design has been finalized.

In the Grays Bay Road and Port Project Impact Statement Volume 1 – Main Document, it is stated, "An alternative energy system with capacity around 1 MW may be installed at the port area to offset diesel consumption and reliance on diesel generated power. This may include a combination of wind turbines, solar PV, and/or battery storage. Phasing, number, size, and location of wind turbine(s) and/or solar array(s) will be determined later in the design process."

The Grays Bay Road and Port Project – Impact Statement Volume 6: Terrestrial Environment Section 17: Assessment of Potential Effects on Birds contains little information of potential effects on birds, with impacts summarized in a single table (Table 17.9). It is noted that the project component will involve both changes in habitat and in mortality risk for birds. Beyond this single table entry, the documentation provides no assessment of potential effects on birds across all guilds, and does not identify the future work, studies, or assessment framework that will be used to characterize and evaluate these impacts once the alternative energy system design has been developed.

It is recognized that the type, number, size, and location of the alternative energy system have not yet been finalized. However, the documentation does not discuss what future avian studies, surveys, or assessment work will be undertaken once these design details are developed. Given the potential for wind turbines and solar infrastructure to affect birds through collision risk, displacement, and disturbance, clarification is requested regarding the future work to characterize and assess these potential effects.

Information Request

The KIA requests the following:

- *A description of how the potential effects of the proposed alternative energy system on birds will be assessed, including the assessment, methodology and study design.*
- *Information on how potential collision risk, displacement, disturbance, and cumulative effects associated with wind turbines, solar arrays, and associated infrastructure will be evaluated.*
- *Is it anticipated that the alternative energy systems will be evaluated in a separate, future EIS or amendment application that will provide more detail? If so, can this be stated in the document?*

Proponent Response

The IS acknowledges that an alternative energy system with a capacity of approximately 1 MW may be installed at the Port to reduce diesel consumption. As described in Volume 1, the alternative energy system may include wind turbines, solar photovoltaic panels and/or battery storage; however, the type of technology, number, size, configuration, and location of the infrastructure have not yet been determined. Consequently, the Project's interactions with birds associated with the alternative energy system are identified at a conceptual level in Table 17.9 of Volume 6, Section 17 through the effects pathways of *Change in Habitat* and *Change in Mortality Risk* but were not assessed in further detail because sufficient design information is not yet available to support a meaningful effects assessment.

As stated in Volume 1, the phasing, number, size, and location of any wind turbine(s) and/or solar array(s) "*will be determined later in the design process*" (Volume 1, Table MD 2.1; page MD-18). The potential effects of an alternative energy system on birds, including collision risk, displacement, disturbance, and habitat alteration, depend on design-specific characteristics such as the technology selected, turbine dimensions and rotor-swept area (if applicable), lighting requirements, infrastructure layout, and proximity to bird habitat, nesting areas, and movement corridors. These design parameters are not yet available; therefore, a project-specific assessment of these potential effects cannot be completed at this stage.

The regulatory mechanism through which the alternative energy system will be reviewed will depend on the final design and the applicable regulatory requirements at that time. WKR will engage with the Nunavut Impact Review Board and relevant regulatory authorities to determine the appropriate review process once sufficient engineering detail is available. If an additional assessment is required, the alternative energy system and its potential effects on birds will be evaluated through the applicable regulatory process before implementation.

Accordingly, the absence of a detailed assessment of the alternative energy system in the current Impact Statement reflects the preliminary stage of engineering design rather than an omission in the assessment process. WKR commits to completing a technology-specific avian effects assessment once the alternative energy system design has been finalized and before any such infrastructure is constructed.

KIA-IR42 (IR-112)

Subject

Wave Energetics and Marine Environment

Issue / Concern

WKR summarizes the effects on marine water quality and sediment as: "The Project may temporarily affect marine water and sediment through activities such as dredging, blasting, infrastructure installation, desalination and wastewater treatment system discharge, and vessel traffic. Key measures include designing roads and water crossings to protect wildlife and water flow, controlling dust and emissions through equipment maintenance and dust suppression, limiting noisy activities during sensitive times for wildlife and land users, and managing waste, fuel, and wastewater to prevent contamination. With these measures, Project effects on marine water and sediment are predicted to be not significant."

WKR's characterization of effects explored throughout the rest of the application does not appear to consider the potential energetic changes in wave action within the marine environment as a result of permanent in-water infrastructure. It does not appear this effect pathway has been considered in the EIS.

Information Request

How have potential impacts to wave energetics in the marine environment resulting from permanent in water infrastructure (e.g., two deep water wharves designed for large vessels up to 100,000 deadweight tonnes) been considered? Please discuss this effect pathway in the context of changes in sedimentation patterns within the marine local assessment area and associated effects on sediment quality and aquatic habitat.

Note the disturbances to marine sediment via construction activities are separately contemplated to this issue.

Proponent Response

The IS does not explicitly assess permanent alterations to wave climate caused by static reflection, diffraction, or focusing of incident waves from the permanent in water infrastructure.

The natural wave climate in Grays Bay is characterized by limited fetch (sheltered by Hepburn Island), measured significant wave heights generally <0.9 m, modest tidal range (<0.69 m), and ebb-dominated tidal currents in the upper water column with weak, variable bottom currents. Permanent in-water infrastructure can alter local wave climate through reflection, diffraction, and sheltering effects. Because the Grays Bay setting has a constrained natural wave climate and circulation patterns that promote dispersion of suspended material (as documented through the 2025 ADCP program), the magnitude of any wave-energetic modification is expected to be localized to the immediate vicinity of the wharves, barge landing, and small craft harbour. Coarser sediment will continue to settle in higher-energy zones; finer sediment will continue to deposit in the lower-energy zones, including areas sheltered by new

infrastructure. Net effects on sediment quality in the LAA are expected to be characterized by localized redistribution rather than introduction of contaminants.

A quantitative wave climate and sediment transport modelling study has not been completed at the current design stage. The IS was completed to support the impact assessment, consistent with the conceptual (approximately 10%) design stage. The effects assessment relied on available hydrodynamic baseline information, sediment characterization, engineering design information, and evaluation of sediment disturbance pathways associated with construction and operation activities. As engineering design advances, additional hydrodynamic, wave and sediment transport analyses and modelling, as required to support detailed design and regulatory approvals (post certificate, prior to the start of construction), may be undertaken to further evaluate the potential influence of permanent marine infrastructure on wave conditions, sediment transport, and associated habitat conditions.

KIA-IR43 (IR-113)

Subject

Desalination

Issue / Concern

With respect to water treatment and discharges to the receiving environment, WRK indicates "If desalination is conducted, a prefabricated desalination plant will be installed on a prepared foundation at the port. The seawater intake would likely be on the east side of the Grays Bay peninsula near the Small Craft Harbour, and outlet likely on the west side of the peninsula near the Barge Landing area. Water withdrawal and treatment will be established during construction and maintained to the extent necessary during operations and maintenance."

The application, including the Water Management Plan, includes no information on what kind of treatment may be pursued or potential effluent quality criteria. While we understand additional details will be provided during project licencing, sufficient detail is required during these proceedings to provide confidence that the EIS predictions of project effects can be met.

Note the application suggests that "Modelling indicates that effluent discharges will rapidly dilute within small mixing zones (approximately 6 m during construction and 28 m during operations), maintaining water quality within acceptable limits, and thus limiting effects to sediment quality" but no substantiating evidence is included.

Information Request

Provide details on the water treatment plants that are being investigated, discharge locations that are being considered and any effluent quality criteria that may be required. Sufficient detail should be included to demonstrate that that water treatment / desalination options are feasible for the settings in which they may be implemented (i.e., the Canadian Arctic), and that the volumes discharged at potential effluent concentrations will not substantially degrade the receiving environment.

Further, substantiate the statement that "Modelling indicates that effluent discharges will rapidly dilute within small mixing zones (approximately 6 m during construction and 28 m during operations), maintaining water quality within acceptable limits, and thus limiting effects to sediment quality".

Proponent Response

Desalination concept and effluent quality framework

The IS is based on conceptual (approximately 10%) engineering design. The IS describes the conceptual desalination plant as follows: "If desalination is conducted, a prefabricated desalination plant will be installed on a prepared foundation at the port. The seawater intake would likely be on the east side of the Grays Bay peninsula near the Small Craft Harbour, and outlet likely on the west side of the peninsula near the Barge Landing area. Water withdrawal and treatment will be established during construction and maintained to the extent necessary during operations and maintenance" (Volume 1, MD.2.6.2.10, document page MD-27, PDF page 104 of 8171). The desalination plant is currently planned as a temporary and supplemental water supply measure. It would support construction and early operations until water intake from the planned inland lake source is established. Following commissioning of the inland water supply system, desalination would be retained primarily as a contingency or backup water supply source.

The Wastewater Systems Effluent Regulations (WSER) under the Fisheries Act apply to wastewater discharges and establish national minimum effluent quality standards (Volume 8, Section 21.1.2, Page 21-8). Specific discharge criteria for the Project's wastewater are summarized in Volume 8, Section 21.3.2, Table 21.11 (Wastewater System Effluent Regulations Discharge Criteria, Page 21-49). The IS commits the Project to compliance with WSER for marine receiving waters.

A specific desalination treatment technology has not yet been selected at the ~10% conceptual design stage. As stated in Volume 1, "Water withdrawal and treatment will be established during construction" (Volume 1, Executive Summary, document page ES-12, PDF page 49 of 8171). Reverse osmosis is a commonly used desalination technology in remote Arctic settings and is the leading candidate under consideration, given its established track record at comparable Arctic projects (e.g., Mary River, Meadowbank). Final technology selection will be confirmed during detailed engineering design and the subsequent water licence application.

Concentrate (brine) discharge characteristics for reverse osmosis will primarily be elevated salinity relative to ambient seawater, with no introduction of new contaminants beyond the natural composition of intake seawater (i.e., concentrated dissolved salts, no organic contaminants or process chemicals beyond approved antiscalants). Wastewater treatment for sewage will meet WSER discharge criteria as summarized in Volume 8, Section 21.3.2, Table 21.11.

Discharge locations under consideration

As stated in Volume 1, the outlet "likely [will be] on the west side of the peninsula near the Barge Landing area" (Volume 1, MD.2.6.2.10, document page MD-27, PDF page 104 of 8171). The selection of this location was informed by site-specific oceanographic data and water depth to promote mixing: the 2025 ADCP program identified the dominant ebb-tide currents as flowing eastward at 0.2–0.5 m/s with a maximum of 0.58 m/s, with weaker and variable bottom currents (Volume 8, Section 21.2.2.4, document page 21-26). The west-side discharge location takes advantage of these currents to promote

dispersion, while also directing the discharge away from the Small Craft Harbour located to the east. Final outfall location, depth, and diffuser configuration will be confirmed at detailed design.

The statement that "Modelling indicates that effluent discharges will rapidly dilute within small mixing zones (approximately 6 m during construction and 28 m during operations), maintaining water quality within acceptable limits, and thus limiting effects to sediment quality" (Volume 1, Section MD.8.1.2, document page MD-79, PDF page 156 of 8171) is drawn from Volume 8, Section 21.3.2.2, document page 21-38, PDF page 5362 of 8171 for the Construction-phase scenario and Volume 8, Section 21.3.2.2, document page 21-42, PDF page 5366 of 8171 for the Operations and Maintenance-phase scenario.

The preliminary near-field plume modelling in Volume 8 used CORMIX plume dispersion modelling software (version 12.0.1.0) and describes (1) the modelling approach and marine outfall depth; (2) input parameters including ambient current speeds derived from the 2025 ADCP data, ambient salinity, assumed effluent discharge rates and characteristics for both Construction-phase and Operations and Maintenance-phase scenarios; (3) the predicted dilution achieved at the edge of the mixing zone; and (4) comparison of predicted concentrations to CCME WQG-PAL and to baseline ambient concentrations.

The discharge volumes anticipated for the Project (to be defined at detailed design) are modest by industry standards and are within the operational envelope of well-established commercial-scale systems. Site-specific oceanographic characteristics (low tidal range, ebb-dominated upper-water-column currents, modest fetch and wave climate) are conducive to effective near-field mixing and dispersion of discharged effluent.

KIA-IR44 (IR-114)

Subject

Cumulative Effects from Water Crossings

Issue / Concern

Changes in surface water and sediment quality do not appear to be contemplated in the context of impacts from water crossings. The proposed road alignment bisects multiple watersheds in which all watercourses will be impacted to some degree, be direct interactions with the watercourse or dust and debris from the potential traffic. The cumulative effects in downstream waterbodies where influences on multiple watercourses coalesce do not appear to have been considered in the effects assessment.

Information Request

Please characterize the effects on downstream waterbodies/higher order watercourses where the influences of multiple watercourses/waterbodies impacted by the road alignment and associated water crossings coalesce.

Proponent Response

The IS does not include quantitative watershed-scale loading or downstream concentration modelling. Instead, the cumulative effects characterization in Volume 7, Sections 19.4 and 20.4, is based on the per-crossing residual effect characterization combined with qualitative assessment of dilution, attenuation, and additive contributions at downstream points of confluence.

Aggregated and downstream effects are addressed through the following IS content:

1. Cumulative spatial integration within each watershed — The CEA for Water Resources (Volume 7, Section 19.4) and for Freshwater Fish and Fish Habitat (Volume 7, Section 20.4) considers the combined contribution from Project crossings within each watershed and how those combined contributions relate to downstream higher-order water bodies. The IS characterizes per-crossing residual effects, after mitigation, as low magnitude and short-to-medium-term duration, with effects on water quality dissipating downstream of each crossing through dilution and natural attenuation.
2. Watershed-scale management framework — The Water Management Plan (Attachment H6) and the Erosion and Sediment Control Plan (Attachment H2) apply consistent best management practices across all 171 watercourse crossings, including those located in headwater positions whose flows discharge to downstream higher-order water bodies. These mitigation measures constrain the per-crossing contribution to downstream water quality.
3. Cumulative effects with other physical activities — The CEA for Water Resources (Volume 7, Section 19.4) provides the assessment of the Project and other physical activities (past, present, reasonably foreseeable) within the RAA.

Drawing on the Volume 7 effects assessment, the IS frames cumulative effects in higher-order downstream watercourses as a function of: (a) the per-crossing residual effect (low magnitude after mitigation); (b) dilution and attenuation downstream of each crossing; (c) the additive contribution from multiple Project crossings within the same watershed; and (d) the combined contribution from other past, present, and reasonably foreseeable physical activities in the watershed. The IS characterization is that combined effects in downstream higher-order water bodies remain within baseline variability after application of mitigation.

The Aquatic Effects Management Plan (Appendix 37D) establishes the monitoring framework for verifying the IS predictions, including the use of exposure and reference areas defined to capture potential downstream effects (Appendix 37D, Section 2.2.1). Future refinement of monitoring locations through the AEMP development process (see KIA-IR47 and KIA-IR52) will be informed by the watershed-scale framing presented in Volume 7, Sections 19.4 and 20.4.

KIA-IR45 (IR-115)

Subject

Projected Activity on Roads

Issue / Concern

WKR does not appear to provide concrete projections as to the expected use of the Road. Even in Temporary Care and Maintenance (which is not assessed in the Impact Statement), WKR assumes "that the activities occurring would be similar to operations and maintenance, but at lower levels". Neither the projected operational use of the road nor those projected under Care and Maintenance are provided.

This information is required to provide insight into potential volumes of dust that may be generated through road traffic, degradation of the road and surrounding permafrost from kinetic energy, and the likelihood / frequency that water crossings will be maintained both throughout the year and immediately prior to freshet.

Information Request

WKR to provide projections of number of trips expected along the road both during standard operation and under Care and Maintenance. These projections should be specific to vehicle type (to the resolution of large/industrial vehicles and smaller personal use vehicles) and times of year during which variation of traffic may be expected.

Proponent Response

Projected road traffic during Operations and Maintenance is summarized in Table IR-45.1. Project traffic is road use by WKR to operate and maintain Grays Bay Road, Grays Bay Port and Jericho Station. Reasonably Foreseeable Induced (RFI) traffic is third-party road use, such as concentrate trucking, associated with the Izok Lake, High Lake and Hackett River mines. RFI values represent RFI activity only and do not include Project traffic (Volume 2, Section 1.5; Volume 4, Sections 9.4.1.1 and 9.4.3, and Appendix 9A, Attachment 9A2; Volume 10, Section 32.2.1; Appendix A, Cumulative Effects Assessment Supplement (Section A.2), to the Addendum to the Information Request Proponent Response Package).

Table IR-45.1 Projected Grays Bay Road Traffic during Operations and Maintenance

Traffic Type	Project Traffic	RFI Traffic
Concentrate Haul Trucks[1]	-	~15,200 round trips (~51 trips a day)
Jericho Station to Grays Bay Port – Waste and Wastewater Trucking[2]	1 round trip per week	-
Jericho Station to Grays Bay Port – Potable Water Trucking[2]	1-2 round trips per week	-
Light Vehicles	Not quantified[3]	Not quantified[4]

Sources: Volume 2, Tables 2.11 and 2.19; Volume 10, Section 32.3; Addendum Appendix A, Sections A.3 and A.4.4; and KAA-63 (IR-63).

Notes:

1 Under the RFI scenario, concentrate trucks would travel between the RFI mines and Grays Bay Port (see Addendum Appendix A, Section A.3). The estimate assumes an annual average of 760 kt of concentrate during the RFI mines' overlapping operating years, B-Trains with a haul capacity of up to approximately 50 t, and approximately 300 trucking days per year. The estimate is an approximation within a range reflecting "the substantial current unknowns of RFI mine production" (see Addendum Appendix A, Section A.4.4).

2 For the Project, waste and wastewater would be trucked weekly (or as required) during operations. Potable water may be trucked from Grays Bay Port to Jericho Station during periods of lower demand (i.e., fewer people during the summer season), with one to two trips per week likely (or as required) [Volume 2, Table 2.11]. Trip numbers for road maintenance equipment (e.g., graders, plow/sand/gravel/water trucks) are not quantified (Volume 2, Table 2.19).

3 For the Project, the Grays Bay Road and Jericho Station fleet includes 6 light vehicles (one-ton trucks); trip numbers are not quantified (Volume 2, Table 2.19).

4 Under the RFI scenario, movement of some other small vehicles between mines and Grays Bay Port are anticipated; trip numbers are not quantified (see Addendum Appendix A, Section A.3).

Seasonal Variation

Winter road maintenance of the Grays Bay Road will primarily address snow accumulation, and weather closures are to be expected during winter. Summer activities will likely consist of dust suppression and gravel resurfacing/reshaping and repair of embankments and watercourse crossings (Volume 2, Section 2.6.3.3).

Truckloads and mixed-use vehicles travelling via the Tibbitt to Contwoyto Winter Road (TCWR) to the Project are limited to the winter road season, typically December/January to the end of March or beginning of April. These would be comprised of approximately 1000 Project truckloads and mixed-use vehicles per winter road season and up to 1,000 RFI truckloads per winter road season (Volume 2, Section 2.6.1; Table 2.22 and Note 2; Volume 4, Appendix 9A, Attachment 9A2 and Table 9A2.22).

RFI concentrate will be stockpiled at Grays Bay Port throughout the year for open-water shipping, with truck movements along Grays Bay Road assumed on approximately 300 days per year due to weather and other conditions (see Addendum Appendix A, Section A.4.4).

Temporary Care and Maintenance

As the Project components are considered permanent infrastructure, there are no plans for closure and reclamation, other than areas used solely for pre-construction/construction activities that are not required for ongoing operations and maintenance. The Project may be placed in a state of temporary care and maintenance if there is an unexpected period of time where third-party users are not yet prepared to use the Project infrastructure. Temporary care and maintenance is therefore not assessed in the Impact Statement, as it is assumed that the activities occurring would be similar to operations and maintenance, but at lower levels. (Volume 4, Section 9.2.4.2). Project and RFI traffic would therefore be lower than the values in Table IR-45.1. As previously indicated, during Temporary Care and Maintenance the activities occurring would be similar to operations and maintenance, but at lower levels than the numbers listed above.

KIA-IR46 (IR-116)

Subject

Consideration of Culturally Important Areas in Aquatics Effects Assessment

Issue / Concern

WKR indicates that "Through workshops and regional discussions, Kitikmiut Knowledge Holders, other Indigenous groups, and other potentially affected communities assisted WKR in identifying culturally important areas, species, and practices that may experience combined effects from the Project and other projects and activities in the Project's RAAs."

However, it is unclear how this feedback has been incorporated into the monitoring, management and mitigation of impacts to the aquatic environment within the rest of Volume 7 and the associated Aquatic Effects Monitoring Plan (in Draft) within Volume 11.

Information Request

Please clarify how culturally important areas have factored into the road alignment, the selection of water crossing infrastructure, and monitoring efforts to evaluate impacts to those areas within the RAA.

Proponent Response

WKR collected and considered Inuit, Indigneous, and Community Knowledge and engagement feedback related to culturally important areas through three primary channels:

1. the Project-specific Inuit Knowledge report compiled from the Naonaiyaotit Traditional Knowledge Project database (Banci and Spicker 2024);
2. the Inuit Advisory Group workshops conducted in 2018, 2025 and 2026; and
3. community-based primary research and direct engagement with the Kitikmeot communities of Cambridge Bay, Gjoa Haven, Kugaaruk, Kugluktuk, and Taloyoak (Volume 3, Section 6).

Key concerns obtained from engagement feedback and Inuit, Indigenous, and Community Knowledge are outlined in Volume 7 Table 20.4 which describes freshwater fish and fish habitat concerns and identifies where they are addressed within the IS. Feedback and information gathered was used during road alignment development to limit overlap with culturally important areas specifically through routing related to traditional travel routes, hunting and fishing camps, and gathering places. Alignment options were evaluated against multiple criteria including avoidance of culturally important areas, traditional land use, and ecologically sensitive habitat. The selected alignment reflects, among other considerations, the integration of Kitikmiut and other Inuit and Indigenous perspectives on culturally important areas. In this context, it is important to note that the current alignment reflects that proposed by the Kitikmeot Inuit Association and Government of Nunavut, when they were the previous Project proponents. WKR committed to the previously proposed Grays Bay to Jericho route when the Kitikmeot Inuit Association officially transferred proponent responsibilities for the Project to WKR.

WKR has further validated the alignment through its own assessment, as reflected in Volume 2, Section 2.4.

Selection of structures (e.g., bridges versus culverts; open bottom culverts versus embedded) will be finalized during the detailed design phase based on watercourse classification (fish-bearing or non-fish-bearing), hydraulic and morphological characteristics; Inuit, Indigenous, and Community Knowledge of seasonal use of the watercourse for travel and harvesting; and downstream cultural and ecological values. Structure selection will allow for continued navigable use of watercourses, and limit potential interactions with sensitive habitats which have cultural importance.

Monitoring plans which include effectiveness monitoring of mitigation measures and adaptive management will be developed through continued engagement with communities and stakeholders and will incorporate culturally important areas and activities within the development of monitoring programs and endpoints. In practice this may include development of monitoring locations in proximity to culturally important areas and monitoring programs will evaluate effects on Kitikmiut-identified traditional harvesting areas or harvested species. The AEMP provided in the IS is a draft, conceptual document, WKR anticipates further engagement with the Kitikmeot Inuit Association and the IAG, including confirming selected monitoring locations and programs are suitable to detect and limit effects to culturally important areas.

KIA-IR47 (IR-117)

Subject

Characterization of Residual Effects

Issue / Concern

WKR indicates that "For the purposes of this assessment, a measurable change is defined as a change in water chemistry that can be quantified relative to the established range of baseline variability and evaluated using the criteria in Section 19.1.6". While some baseline data are available for the Effects Assessment, there are key deficits in water and sediment quality data within the LAA and RAA that will make it challenging or impossible to evaluate changes in water chemistry stemming from Project Activities. Notably, there appear to be sparse data available along the road alignment, with water quality data exclusively sourced from 2012 except the potential water intake sites where new data were collected in 2024 (Appendix 19A Table 2.1). Sediment data are similarly sparse. It is therefore unclear how these data and the sparse road alignment data will be used to confidently characterize "baseline variability" and evaluate project effects.

Information Request

Please clarify if the data summarized in Table 2.1 of Appendix 19A represent the total available water and sediment quality data. If there are additional data available, please summarize those data points in a table (e.g., when the data were collected and what parameters were assessed), provide a figure showing where those data were collected, and clarify how those data have been incorporated into the effects assessment.

Further, please clarify WKR's position on whether the existing data are sufficient to define baseline variability under varying hydrological conditions that may be encountered once the road has been constructed. Also, provide a power analysis to define the effect size that is statistically distinguishable from baseline conditions given the available data. Specific consideration should be provided to define "baseline variability" within each watershed bisected by the road and project infrastructure.

Finally, please outline WKR's plan to bolster the existing baseline dataset along the corridor, and the timeline under which these data will be collected with sufficient clarity to be developed into a commitment that can be referenced in the Project Certificate. Note we would expect at least three years pre-construction data from key locations (to be determined by WKR) to be collected as input into a water licence application to the NWB.

Proponent Response

Table 2.1 of Appendix 19C reflects the surface water and sediment quality data used in the Impact Statement.

Project-specific baseline data reported in the IS is supported by regional analog data from comparable Arctic projects (Volume 7 Appendix 19C, Table 2.1) and by professional judgement exercised by qualified professionals in understanding natural potential variability. The types of potential effects and effects pathways for watercourse crossings are well understood and generally mitigated using standard mitigation and best management practices. Where uncertainties still exist the Aquatic Effects Management Plan (Volume 11, Appendix 37D, Draft) can be leveraged to adjust mitigations if necessary.

The Aquatic Effects Management Plan (Appendix 37D) is currently in draft and "*will be refined and developed as the Project engineering design and regulatory review progresses*" (Volume 11, Appendix 37D, Section 1, document page 1, PDF page 7873 of 8171). Site-specific pre-construction baseline data will be collected at a level of detail sufficient to support a NWB Water Licence and to establish baseline monitoring objectives for each crossing location that is required for the program.

KIA-IR48 (IR-118)

Subject

Drinking Water Sources on the Land

Issue / Concern

WKR notes that "With respect to water resources, feedback received from [Inuit Advisory Group] members (IAG 2025b) identified the following priorities, when considering unacceptable changes as a result of the Project:

- *That Inuit perspectives are considered and addressed in Project design,*
- *That the Project does not negatively affect peoples' ability to put food on the table, and*
- *That water and wildlife are protected"*

It is unclear if the collection of drinking water while on the land was considered with respect to the significance definitions for effects. Dust impacts from all-weather roads have been considered an ongoing risk to drinking water sources on the land by Inuit associated with the Baffinland project, and it is unclear whether a similar concern may be relevant to the Grays Bay Road and Port project.

Information Request

Please clarify whether drinking water sources on the land were considered in WKR's definition of significance pertaining to effects, and how this understanding has been incorporated into the EIS.

Note this concern is particularly relevant as the Road will be open to private vehicles and the linear infrastructure corridor may therefore serve as a significant travel route for local Inuit in the future.

Proponent Response

The IS effects assessment for Water Resources (Volume 7, Section 19) considers changes in surface water quality at all 171 watercourse crossings along the Project alignment, as did the assessment for Traditional Land, Marine, and Resource Use (TLMRU) (Volume 9, Section 24). While the assessment in the Water Resources Section is framed around protection of aquatic ecosystems through CCME guidelines, the protection of water quality also directly supports the protection of drinking water sources on the land. The two-fold framing was captured in the IAG-derived significance criteria documented in Volume 7, Section 19.1.6:

> "*That Inuit perspectives are considered and addressed in Project design; That the Project does not negatively affect peoples' ability to put food on the table; and That water and wildlife are protected*" (Volume 7, Section 19.1.6, document page 19-15, PDF page 3991 of 8171)

The third criterion ("that water… are protected") encompasses both ecological water quality and water as a source of drinking water for Inuit while on the land. This is reinforced through Volume 9, Section 24 (TLMRU), Volume 9, Section 26 (Community Health and Well-being) and the Human Health and Ecological Risk Assessment (Volume 9, Section 26, Appendix 26A), which evaluate traditional land use and potential human-health effects from Project-related contaminants.

WKR will incorporate, in the next AEMP iteration, an explicit statement that monitoring of surface water quality is designed to detect any Project-related changes that could affect drinking water sources on the land, with specific consideration of the cultural importance of these water sources.

KIA-IR49 (IR-119)

Subject

Representative Sediment Samples

Issue / Concern

WKR provides a description in Volume 7 of where sediment samples were collected in streams and lakes and uses these samples to characterize baseline conditions therein. It is unclear how the depth from which the sediment samples were collected corresponds to the sedimentation rates at the respective locations. Additional clarity regarding what depths represent current conditions relative to those that have developed over time will be an essential component in future sediment sampling when those data will be used to evaluate project effects relative to pre-construction conditions.

This concern is compounded as there are relatively sparse details within the AEMP to address this uncertainty both now as it pertains to baseline characterizations and in the future when effects-based sediment sampling will be undertaken.

Information Request

What temporal period do the samples contributing to the baseline characterization of sediment in the RAA represent and on what evidence does WKR base their response?

Clarify how future sediment sampling programs will address concerns regarding the period over which collected sediment samples are reflected and the measures that will be implemented to ensure future sediment sampling during project operations is not diluted with pre-operational / unimpacted sediment.

Finally, what is the effect size that WKR expects to be able to detect as part of sediment sampling conducted through the AEMP.

Proponent Response

Sediment samples included in the IS Water Resources baseline characterization (Volume 7, Section 19.2.2.3, and Appendix 19A) were collected using standard grab-sampling methods. Grab samples integrate sediment deposited at the time of collection within the surface layer (typically the top several centimetres, depending on sampler type and substrate). The IS does not contain a direct measurement of sedimentation rates at the sampled stations, and therefore does not explicitly define the temporal period that surface grab samples represent at each station.

The IS does, however, document the temporal stability of the baseline characterization through comparison of recent and historical data.

The Aquatic Effects Management Plan (Appendix 37D) is a draft document that establishes the conceptual framework for freshwater and marine sediment monitoring during the Construction and Operations and Maintenance phases. As stated in the AEMP: "This is a preliminary draft of the AEMP that will be refined and developed as the Project engineering design and regulatory review progresses" (Appendix 37D, Section 1, document page 1, PDF page 7873 of 8171). The AEMP commits to before-after/control-impact (BACI) study designs, the use of reference and exposure stations, and accepted federal and territorial guidelines for sediment sampling (Appendix 37D, Sections 2.2.2 and 2.3.3).

Specific sediment sampling design elements raised by the IR, including (a) depth of sampling within the surface layer; (b) measurement of sedimentation rates at monitoring stations; (c) approach to distinguishing post-operational deposition from pre-operational sediment; (d) effect-size determination, are typical components of monitoring program design developed during the subsequent regulatory permitting process (Nunavut Water licence application and Fisheries Act Authorization application).

KIA-IR50 (IR-120)

Subject

Freshet Preparations and Snow Accumulation

Issue / Concern

WKR indicates that "Winter maintenance activities will focus on managing snow accumulation to maintain safe and reliable road access. Due to strong winter winds, the Project area is expected to experience snow drifting along sections of the road. Routine snow management will include the removal of snow where accumulations compromise road safety or impede travel. Snow accumulation near watercourse crossings will be managed to ensure that water can move freely through culverts and waterways during freshet."

However, the number of water crossings over the proposed 230 km road distance may introduce significant challenges ensuring the culverts are clear of snow during freshet to prevent ponding ahead of the culverts or melt water overtopping the roads. It is unclear if sufficient staff will be available at the frequency needed to maintain free passage of water under the road at all water crossings during freshet.

Information Request

Please clarify how frequently water crossings will be inspected and cleared during the onset of freshet and as it progresses each year to ensure free passage of water (and fish as appropriate) underneath the road. Further, provide evidence to demonstrate this frequency is sufficient to maintain free passage of water underneath the road and that there will be adequate staff available to accomplish this task.

Proponent Response

In addition to the winter maintenance activities described in this IR, Design for each watercourse crossing will be completed to maximize the function of culverts and bridges, thus resulting in minimum intervention for ice or water movement passage.

Furthermore, routine inspections of all culverts and bridges will be included in the Road Management Plan (Appendix 37A), as it further develops, including the frequency of inspections and the staff that will be responsible for inspections and management of culvert and bridge maintenance. Adaptive mitigation measures will also be included in the Road Management Plan to outline the planned and optional measures to manage water in all crossings.

KIA-IR51 (IR-121)

Subject

Underdeveloped Management Plans

Issue / Concern

The management plans presented in WKR's application appear to be in draft form without detail. While this is not necessarily a universal concern, there are key considerations that must be addressed as part of the EIS: Adaptive Management. Conceptual triggers and thresholds should be identified by the proponent and adaptive management responses defined to provide confidence that all measures that may be required to address deviations in EIS predictions can be implemented without going back to the NIRB for additional permitting.

Information Request

Please update all relevant plans (in particular, the Adaptive Management Plan, AEMP and Environmental Protection Plan) with adaptive management tables and management associated responses that may be implemented to provide confidence to reviewers that those measures may be implemented without needing to resubmit to the NIRB.

Proponent Response

An overview of the Follow-up and Adaptive Management Approach for the Project is provided as part of the Environmental Management System framework described in Volume 11, Sections 37.1.1 and 37.1.5, and is reflected in each plan.

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

KIA-IR52 (IR-122)

Subject

Monitoring Plan Details

Issue / Concern

Insufficient details are provided within the AEMP to demonstrate that the proponent will be able to effectively monitor project effects at relevant locations with sufficient resolution to identify impacts in a timely manner and address those impacts with appropriate management options.

Information Request

To support the technical review, please provide a full AEMP for both the marine and freshwater aquatic environments. We presume that this plan will be refined over the course of these proceedings with a requirement to submit a finalized version as a condition of the Project Certificate.

We note that this is particularly important for marine components of the plan as those are not within the scope of future licencing applications before the NWB.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

As described in the response to GC-IR 08 (IR-155), WKR agrees to divide the conceptual Aquatic Effects Management Plan (AEMP) into separate marine and freshwater environment AEMPs during the next planned revision.

KIA-IR53 (IR-123)

Subject

Water Withdrawal Thresholds and Low Flow Sensitivity

Issue / Concern

The assessment concludes that water withdrawal effects are low where withdrawals remain below 10% of available streamflow or lake volume. While this threshold may be appropriate under average flow conditions, the Project area is characterized by highly seasonal hydrology, including short-duration freshet events, prolonged low-flow periods, and smaller systems that may experience little flow or freeze-to-bed conditions during winter. It is not clear from the assessment whether the proposed threshold remains protective under these conditions or how seasonal variability has been incorporated into the analysis.

Information Request

Please provide the technical basis for application of the <10% withdrawal threshold. Evaluate withdrawal effects during low-flow and winter conditions and provide a description how water withdrawal will be seasonally managed.

Proponent Response

The 10% withdrawal threshold is the cumulative-withdrawal threshold established by Fisheries and Oceans Canada (DFO) in the *Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada* (DFO 2013a), which the Impact Statement (IS) adopts in the absence of a territorial-specific environmental flow needs (EFN) policy. Additionally, under-ice withdrawals for the Project will follow the DFO *Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut* (DFO 2010).

The water withdrawal limit framework has been developed based on two distinct DFO criteria to address seasonality of withdrawal and environmental protections:

1. open-water withdrawals: adherence to a 10% of *instantaneous streamflow* limit, which aligns with DFO conclusions that cumulative alterations to the natural flow of less than 10% have a low probability of detectable impacts to ecosystems that support fisheries together (DFO 2013a); and,
2. under-ice withdrawals; 10% of *under-ice water volume* limit applicable to lakes exceeding 3.5 m open-water depth, with under-ice volume determined using a 2.0 m maximum ice thickness (DFO 2010).

Requirements obtained from regulatory agencies, including seasonal restrictions, will be outlined in the Projects Water License and incorporated into the final Water Management Plan.

KIA-IR54 (IR-124)

Subject

Hydrologic Baseline Representativeness

Issue / Concern

Hydrologic characterization of the Project relies heavily on regional hydrometric records and historical Izok Corridor datasets. Given the length of the corridor, the five watersheds crossed by the Project, and the 171 identified watercourse crossings, it is difficult to assess whether the available site-specific monitoring data adequately characterize the range of hydrologic conditions present along the alignment.

Information Request

Please summarize site-specific hydrometric monitoring completed along the current alignment, describe how regional stations were applied to ungauged crossings, and discuss how uncertainty was incorporated into the assessment. Describe any future work planned to be completed as the project progresses to better characterize hydrological conditions at watercourse crossing sites.

Proponent Response

The Grays Bay Road and Port Project Impact Statement (IS) is based on approximately 10% (conceptual) engineering design.

Site-specific hydrologic characterization at watercourse crossings is anticipated to be advanced through subsequent design, geotechnical investigations, and permitting phases, including hydrologic input to the *Fisheries Act* authorization and Nunavut Water Board (NWB) Water Licence application processes. Crossing-specific hydraulic design (e.g., culvert sizing) is identified in Volume 7, Section 19.3.7 as accommodating "predicted flows, extreme rainfall, and changes to the permafrost regime," with adaptive management used "to develop solutions where practical" if issues arise (Volume 7, Section 19.3.7, document page 19-81, PDF page 4057 of 8171). As geotechnical investigations are completed, including hydrologic characterization where necessary, engineering design will advance to incorporate these site-specific considerations to accommodate the flow.

KIA-IR55 (IR-125)

Subject

Groundwater, Permafrost and Climate Change

Issue / Concern

The conclusions regarding groundwater protection and limited groundwater-related effects rely on the assumption that permafrost restricts groundwater movement and groundwater-surface water interaction. While this assumption is considered reasonable under current conditions, long-term climate-driven changes in active layer thickness, talik development, and permafrost degradation may alter groundwater conditions.

Information Request

Please provide a commentary on how future hydrogeological conditions will be assessed and managed, and how it will be considered as part of the future Environmental Management Plans.

Proponent Response

Identified Impacts and Potential Future Climate-driven Permafrost Impacts

The IS acknowledges that climate-driven changes in the distribution of permafrost can also lead to changes in groundwater quality by changing the groundwater flow system. Changes in groundwater flow could lead to mixing of waters that would not normally mix as well as potentially affecting surface water bodies. (Volume 7, Section 19.3.4.2, document page 19-76, PDF page 4052 of 8171).

Permafrost melting and increased groundwater mixing may be partially responsible for the changes in drinking water taste noted in Table 19.9 of the IS. While the Project effects on the distribution of permafrost are expected to be minimal, future changes in the distribution of permafrost due to climate change could continue to lead to changes in groundwater quality that are outside of WKR's control. (Volume 7, Section 19.6.3, document page 19-97, PDF page 4073 of 8171).

The trajectory of climate-driven permafrost change is characterized in Volume 5, Appendix 12A (Climate Profile Technical Data Report):

> "*The active layer in the Project Region is projected to increase 20 cm to 40 cm by the end of the century (2071–2100) under the RCP8.5 emission scenario (see Figure 5.6) (Peng et al. 2018). Studies indicate permafrost will become sporadic in the Project region by the end of the century under the RCP8.5 emissions scenario (see Figure 5.7) (Cannon et al. 2020) and retreat to the north of approximately 65°N (Slater and Lawrence 2013; Guo and Wang 2016).*" (Volume 5, Appendix 12A, Section 5, Permafrost).

It should be noted that these proposed timelines occur after the project construction is complete (estimated completion in 2034) and the construction period is when groundwater impacts resulting from the project are most likely to occur.

Additionally, groundwater is rarely used as a source of drinking water within the RAA currently due to the extensive permafrost cover, but receding permafrost cover may increase the availability of groundwater and the number of groundwater users who could be affected by changes to groundwater quality.

How Future Climate Related Effects are Addressed in the IS

The Project has been designed to reduce potential negative climate related effects and remain resilient to the effects of climate change. Examples of design choices that have been made to mitigate impacts are provided in Volume 7, Section 19.3.7:

> "*The mitigation measures developed for the Project will continue to be effective under the various climate prediction scenarios as they include measures to accommodate change to water resources. For example, culverts will be sized to accommodate predicted flows, extreme rainfall, and changes to the permafrost regime.*" (Volume 7, Section 19.3.7, document page 18-81, PDF page 4057 or 8171)

While climate-driven changes in active layer thickness and permafrost distribution will change groundwater conditions in the future, the creation of new pathways for the interaction of shallow and deep groundwater intervals are expected to be minimal as bedrock in most areas within the RAA also has a low permeability:

> "*Only 7 km (3%) of the proposed roadway is estimated to be within 100 m of open taliks where permafrost is absent and a pathway for contamination to move between deep and shallow water could exist. The potential for this interaction will be further limited by the decreasing permeability of the bedrock unit with increasing depth.*" (Volume 7, Section 19.3.4.2, document page 19-76, PDF page 4052 of 8171).

Where permafrost is absent, groundwater flow is limited by the hydraulic conductivity of the bedrock, which is estimated to be as low as 2.46×10^{-10} (Volume 7, Section 19.2.2.4, document page 19-50, PDF page 4026 of 8171). While this is higher than those estimated for permafrost (<1 x 10-11 m/s), it is still lower than the typical upper threshold for an aquitard (generally <1 x 10-8 m/s). These low hydraulic conductivities will limit the migration of impacts even without the presence of permafrost across most of the project area. However, if issues arise, adaptive management will be used to develop solutions where practical.

To protect potential future groundwater users, the potable water pathway and Health Canada Drinking Water Quality Guidelines are the thresholds applied when discussing groundwater quality in this assessment, to account for the potential for future groundwater use.

How Future Hydrogeological Conditions Will Be Assessed and Managed

Responses to future climate-driven changes will be accommodated through adaptive management practices as described in Volume 11 Environmental Management Plans and the Climate Change Risk Assessment, and continued engagement with communities. The Environmental Management Plans through which these future-phase measures will be implemented include the Aquatic Effects Management Plan (Volume 11, Appendix 37D), the Environmental Protection Plan (Volume 11, Appendix 37H) and its Water Management Plan (Attachment H6), and the Road Management Plan (Volume 11, Appendix 37A). Component-specific groundwater monitoring program details (including monitoring well locations, monitoring frequencies, and adaptive management triggers) will be dependent on detailed design and pre-construction baseline data collection.

Excerpts describing how these adaptive management strategies will be developed in the future are provided below:

> "*As part of follow-up and adaptive management, which will be addressed within the individual environmental management plans (Volume 11), mitigation measures will be regularly reviewed and updated to verify and improve their effectiveness. If environmental degradation is observed during follow-up or monitoring activities, intervention mechanisms will be triggered through the adaptive management process. WKR will continue to respond to questions and concerns from Kitikmiut, other Indigenous groups, and other potentially affected communities through its ongoing engagement efforts and information provided following submission of the IS will be reviewed in the context of the IS and for incorporation into Project planning, including adaptive management and monitoring, as appropriate.*" (Volume 7, Section 19.7, document page 19-98, PDF page 4074 of 8171).

Continued community engagement on climate is identified in Volume 10, Section 35.2.1:

> "*The Climate Change Risk Assessment also includes adaptive measures and long-term resilience strategy recommendations. WKR commits to continued engagement on weather and climate and the influence on the Project as applicable during the advancement of project design, planning, and monitoring throughout the life of the Project.*" (Volume 10, Section 35.2.1, document page 35-3, PDF page 7743 of 8171).

KIA-IR56 (IR-126)

Subject

Freshwater Quality Baseline Coverage

Issue / Concern

The freshwater quality baseline is based on a relatively limited number of stream and sediment quality stations distributed across a large study area. While we consider this level of study detail reasonable given the length of the corridor and site access constraints, it is not clear that the dataset fully characterizes spatial and seasonal variability of site conditions along the Project alignment.

Information Request

Please provide the rationale for monitoring locations, discuss seasonal and interannual variability, and confirm whether additional baseline monitoring is planned.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

As these plans are advanced, potential gaps in the availability of site-specific information are expected to be addressed through pre-construction data collection and refinement of Project design (Volume 7, Section 19.6.3, Page 19-96). In addition, the Impact Statement identifies the follow-up and monitoring program for surface water quality: as set out in Volume 7, Section 19.7, surface water quality will be monitored during watercourse crossing construction and borrow and quarry operations, and monitoring will include sampling of water quality parameters (e.g., turbidity, metals, and nutrients) at representative locations, as required (Volume 7, Section 19.7, Page 19-97).

Building on this framework, the specific monitoring program requirements are expected to be developed through the Nunavut Water Board (NWB) Water Licence application and refined in the Aquatic Effects Management Plan (Volume 11, Appendix 37D) and Water Management Plan (Volume 11, Attachment H6 of Appendix 37H), where required, consistent with the mitigation and monitoring framework in Volume 11, Section 37.1.4, Page 37-3.

KIA-IR57 (IR-127)

Subject

Naturally Elevated Copper and Monitoring Implications

Issue / Concern

The baseline dataset identifies elevated dissolved copper concentrations at multiple locations, including concentrations exceeding applicable guideline values. While these appear to reflect background conditions, they may complicate interpretation of future monitoring results.

Information Request

Please describe how naturally elevated copper concentrations will be considered when evaluating future Project-related changes.

Proponent Response

The IS characterizes elevated copper concentrations as a feature of regional background conditions. Appendix 19C identifies dissolved copper exceedances at all stream sites and at all lake sites sampled, including at the reference lake site (HLC3) located outside Project influence. For streams, Appendix 19C Section 3.2.4 identifies exceedances of dissolved copper at up to 9x the FEQG of 0.0002 mg/L for all sites, with one marginal exceedance of the CCME guideline of 0.002 mg/L for total copper. Appendix 19C Section 3.3.5 indicates that dissolved copper exceedances of up to 995x the FEQG guideline of 0.0002 mg/L were observed.

Combined with the circumneutral field pH values recorded at the High Lake area sites (7.16 to 7.91) and at the reference lake HLC3 (7.94), these concentrations are consistent with metal leaching under natural weathering conditions rather than acid rock drainage, which would be expected to produce lower pH values.

The Aquatic Effects Management Plan (Volume 11, Appendix 37D, Draft) is the mechanism by which changes in naturally-occurring copper concentrations will be monitored. The draft AEMP describes use of reference and exposure sites and accepted study designs to distinguish Project-related changes from natural variability. The combination of Appendix 19C baseline characterization documenting copper exceedances at both project-area and reference sites, Volume 7, Section 19.1.6.3 significance definition requiring changes to exceed natural variability, and Volume 11, Appendix 37D AEMP framework for reference / exposure comparison through before-after / control-impact design provides the basis on which naturally elevated copper will be considered when evaluating future Project-related changes.

The detailed AEMP study design for freshwater water and sediment quality, including final selection of reference and exposure stations, parameter-specific action thresholds, and statistical detection methods, will be developed in the pre-construction permitting phase and finalized as part of the NWB Type A Water Licence and Fisheries Act application processes.

KIA-IR58 (IR-128)

Subject

Applicability of Historical ML/ARD Assessments

Issue / Concern

The geochemical assessment relies substantially on historical investigations completed for the Izok Corridor. It is not clear to the review team how these results have been updated to reflect the current Project alignment, quarry locations, borrow sources, and construction footprint.

Information Request

Please summarize updates completed to validate historical ML/ARD datasets and provide updated risk classifications where available. A clearer description of how the Izok Corridor results have been incorporated into the current Project alignment would be beneficial.

Proponent Response

As provided in the response to KAA-40 (IR-40), the ML/ARD Risk Assessment Framework is provided in Volume 7, Section 19.3.3.3:

> "An ML/ARD Risk Assessment for the Izok Road alignment determined moderate-low and higher-risk road sections are primarily located in the northern portion of the Izok Road alignment, particularly within the Hood River and Kennarctic River watersheds, where both quarries and rock cuts are planned. […] Most of the road (55% 129.3/230 km of all-season road and 3 km of winter road) is considered low risk for ML/ARD, based on low ratings for stressors, pathways, and receptors. However, due to geological variability and low sampling density, additional testing will be conducted near proposed development sites with moderate geological ratings, as part of the Borrow Pits and Quarry Management Plan (see Volume 11)." (Volume 7, Section 19.3.3.3, document page 19-69, PDF page 4045 of 8171)

An additional sampling program for ML/ARD at locations identified along the Grays Bay Road and within the port PDA was conducted in July 2026, to validate previous sampling and support further design and construction of the Project. Once analysis of these samples have been completed and reviewed, the potential quarry locations will be updated and refinements to the Borrow Pits and Quarry Management Plan will be made. Sample results will also inform plans for resource management and ML/ARD material use for the Project.

KIA-IR59 (IR-129)

Subject

Unresolved Geochemical Risk Areas

Issue / Concern

The ML/ARD assessment identifies multiple sections with variable or uncertain geochemical risk and recommends additional investigation. It is unclear whether these investigations have been completed and incorporated into the current or future project characterization and environmental management plans.

Information Request

Please identify remaining geochemical risk areas and describe how uncertainty has been incorporated into Project planning. Describe any future work planned to reduce uncertainty around ML/ARD risks.

Proponent Response

See response to KIA IR-58 (IR-128).

KIA-IR60 (IR-130)

Subject

Geochemical Management of Quarries and Borrow Sources

Issue / Concern

The Project will require development and long-term use of quarries and borrow sources. At many locations, limited information is provided regarding how potentially acid-generating or metal-leaching materials will be identified, segregated, managed, and monitored.

Information Request

Please describe geochemical screening criteria, material management procedures, and runoff/seepage monitoring that are planned to be implemented during later project phases.

Proponent Response

Geochemical screening criteria, material management procedures, and runoff/seepage monitoring that are planned to be implemented are described in Volume 7, Section 19:

> "To limit the interaction of ML/ARD material with oxygen and surface water, an ML/ARD Management Plan will include managing ML/ARD material exposed during construction (e.g., road fill, platforms, borrow sources, etc.). Any rock material sourced for use above the high water mark will be subject to acid rock drainage/metal leaching testing, with only acceptable material used in construction. ML/ARD material that cannot be avoided will be further evaluated by assessing the site-specific conditions including, but not limited to, the geochemical results, the volume of material to be used, the proximity to sensitive receptors, and the grain size of the material. This evaluation will help identify if the material can be mitigated through measures such as site-specific planning, designated use of material, and water management. Designated use of the material may include encapsulating ML/ARD material (if encountered)." (Volume 7, Section 19.3.3.3, document page 19-69, PDF page 4045 of 8171)

The IS recognizes that quantified contaminant leaching loadings depend on site-specific characterization that will be developed as Project design advances and through the regulatory authorization process.

The Volume 11 Borrow Pit and Quarry Management Plan (Attachment H1) records that *"Pre-Development characterization programs will be conducted on each borrow pit or quarry prior to use to identify and characterize these features"* and that *"geochemical characterization information and additional sampling plans (where required)"* will be developed for each site-specific borrow pit or quarry management plan (Volume 11, Attachment H1, Section 2.1, document page 3, PDF page 7989 of 8171).

Site-specific characterization of contaminant leaching, quantified loadings, and blasting-derived contaminant risks for each borrow pit and quarry will be developed through the Borrow Pits and Quarry Management Plan refinement, and the Aquatic Effects Management Plan refinement, and will be confirmed through CIRNAC and KIA Quarry and Borrow Pit approvals. This is a standard process that is conducted as quarry locations and suitable material for infrastructure projects are developed, with a focus on environmental considerations for each quarry location. Standard mitigation measures that are effective to avoid, reduce and mitigate for contaminant leaching will be employed, as appropriate for each quarry location based on site-specific conditions. Mitigation and testing will be used to certify that appropriate material is used with consideration of contaminant leaching.

KIA-IR61 (IR-131)

Subject

Water Management Plan Development

Issue / Concern

Water management is identified as a key component of the environmental management framework; however, many supporting details appear to be deferred to future project planning and development.

Information Request

While is recognized that additional detail regarding water sources, discharge locations, treatment requirements, monitoring criteria, and contingency measures will be provided in subsequent submissions, the project would benefit at this stage from receiving a more detailed framework or outline of what can be expected to be implemented to protect water quality and the aquatic environment.

Proponent Response

Volume 7, Section 19 of the IS evaluated the potential changes in surface water and sediment quality, considering:

- sediment and turbidity
- chemical parameters in water and sediment comparing baseline conditions to applicable guidelines (CCME, FEQG, Health Canada) for aquatic life and human receptors
- Dust deposition findings from the Air Quality VC (Volume 5, Section 11) to evaluate the potential for dustfall to increase sediment-bound contaminants in waterbodies adjacent to the roadway.
- Drainage patterns using terrain and hydrology mapping to identify areas where changes in flow paths could mobilize sediments or contaminants.
- The ML/ARD risk ratings for potential leachate pathways to surface water and sediment

Water license conditions will incorporate environmental flow needs which considers quantity, timing, and quality of water flows required to sustain aquatic ecosystem functions. In the absence of a territorial-specific Environmental Flow Needs (EFN) policy, the DFO Central and Arctic Region framework will apply (DFO 2013).

Mitigation measures include (but are not limited to):

- cumulative water withdrawals (from all users) will not exceed 10% of instantaneous streamflow
- streamflows must remain above 30% of the mean annual discharge (DFO 2013)
- under-ice withdrawals will follow the DFO Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut (DFO 2010).

- Runoff control will be implemented to avoid entry to waterbodies including: installing drainage per design specifications; diverting water from entering watercourse; and controlling of flow velocity
- Erosion and sediment control measures are effective mitigation measures to manage water and sediment quality include measures such as silt fencing along drainage pathways, watercourses, and waterbodies. Implementing erosion and sediment control practices during construction and operation will facilitate runoff management by reducing ground, vegetation, permafrost disturbance and maintaining runoff infiltration capacity in the local region
- Culverts will be placed to convey drainage and flow and reduce potential effects related to altered drainage patterns and surface water runoff.
- Special considerations for surface water management will be addressed for borrow pits and quarries in the Borrow Pits and Quarry Management Plan. Non-contact runoff will be directed around development areas to the extent possible. Contact water resulting from direct precipitation or snowmelt within borrow pits and quarries will be intercepted, contained, and released downstream after water quality objectives have been met
- Treated sewage effluent discharged by the Project will meet the discharge limits based on the receiving environment (e.g., land discharges will meet freshwater environment limits or marine environment limits).
- Sewage treatment and disposal will be via a packaged Wastewater Treatment Facility, located at the Port. Treated sewage will not be discharged until acceptable limits are reached and will be discharged to a location on the tundra that is appropriate based on maximizing the attenuation distance, non-channelized areas.
- Greywater will be treated through oil and grease separator prior to discharge; discharge will be in an area where there is low slope to minimize velocities, encourage sheet flow and minimize channelization

Water withdrawal and discharge will be regulated under NWB licensing requirements. Licenses will be required for both construction activities (temporary licenses), and for the permanent potable water supply. License conditions will define approved water sources, discharge locations, and operational requirements. While these site-specific details have not been identified, the conditions in the approval will consider authorized withdrawal and discharge points, maximum daily withdrawal volumes and maximum daily withdrawal rates based on system capacity. Monitoring requirements are commonly included as conditions of the licenses to confirm compliance with limits, which will be incorporated into the Aquatic Effects Management Plan.

Freshwater near the port is limited, therefore a desalination plant using reverse osmosis is likely to be used for water needs. Saline water will be returned to the marine environment and will not be released without being within the acceptable salinity CCME guidelines for the protection of marine life and will not cause the salinity of the receiving environment to fluctuate by more than 10% of the natural expected salinity.

While freshwater near the port is limited, the two closest waterbodies to the port were analysed as the main potential sources for potable water (intake lake 1 and 2). Assessments of these two waterbodies included water chemistry, bathymetry and fish and fish habitat assessments, as described in the Freshwater Fish baseline assessment (Volume 7, Appendix 20A).

KIA-IR62 (IR-132)

Subject

Integration of Water Quality, Geochemistry and Adaptive Management

Issue / Concern

The freshwater quality, geochemistry, and environmental management documents each identify monitoring and mitigation commitments. These commitments are intrinsically related, however, the linkage between these programs is not clear in the EMP.

Information Request

Please describe how ML/ARD risk areas and sensitive freshwater environments will be linked in the EMP to monitoring locations, action thresholds, and adaptive management responses.

Proponent Response

Mitigation measures identified in each VC assessment are organized into ecosystemic and socio-economic mitigation and monitoring plans. These measures may be implemented through Project design, VC-specific plans, or the Environmental Protection Plan. The design of all environmental monitoring programs will be relevant to the potential effects of the Project on the environment, and the specific purpose of the monitoring in reference to measurable parameters and will verify compliance with conditions of regulatory authorizations and other legal requirements.

Where monitoring is proposed, indicators will be selected to evaluate mitigation effectiveness and/or identify unanticipated effects to inform adaptive management and feed back into adjusting mitigation measures or activating backup mitigation measures. Where necessary, proposed criteria or thresholds will be identified to trigger additional mitigation if monitoring results warrant, identify next steps, and monitor the effectiveness of mitigation and management responses." (Volume 11, Section 37.1.4, document page 37-3, PDF page 7768 of 8171). This includes ML/ARD risk areas, sensitive freshwater environments (water resources and aquatic species).

As provided in Volume 7, Section 19.3.3.3:

> "*Fully developed management plans (Volume 11) will document these measures and guide implementation. These management plans include:*
>
> - *Erosion and sediment control measures will be outlined in the ESCP.*
> - *Dust management and suppression measures will be outlined in the Air Quality Monitoring and Management Plan.*
> - *Water management infrastructure (i.e., culverts) will be outlined in the AEMP (WMP).*
> - *ML/ARD management measures will be outlined in the Borrow Pits and Quarry Management Plan and AEMP (WMP).*

- *Reduce spillage of explosives, improve blast efficiency, and reduce or eliminate the risk of nitrogen mobilization to the aquatic environment as outlined in the Explosives Management Plan (EMP).*
- *Hydrocarbon and chemical spill prevention measures as outlined in the Fuel Management Plan and Spill Contingency Plan.*" (Volume 7, Section 19.3.3.3, document page 19.66, PDF page 4042 of 8171).

Volume 7, Section 19.7 states:

"*Surface water quality will be monitored during watercourse crossing construction and borrow and quarry operations. Monitoring of construction and operations practices will occur to assess the effectiveness of mitigation measures employed and their functionality. Monitoring will include:*

- *Sampling of water quality parameters (e.g., turbidity, metals, nutrients) at representative locations, as required.*
- *Periodic inspection of erosion and sediment control structures during high-flow periods.*
- *Verification of ML/ARD management effectiveness through water quality monitoring, where required.*
- *Dustfall monitoring near sensitive waterbodies during construction and operations, where required.*" (Volume 7, Section 19.7, document page 19-97, PDF page 4073 of 8171).

Volume 11, Appendix 37D, Freshwater Section (Study Areas and Sampling Locations) states:

"*The study area for the freshwater AEMP monitoring programs will be comprised of areas anticipated to be potentially influenced by Project activities (exposure areas), and those areas beyond Project influence (reference areas). For the purpose of the freshwater AEMP monitoring programs, exposure areas will be defined as 'all fish habitat and waters frequented by fish that have the potential to be adversely affected by Project activities' and a reference area is defined as 'fish habitat and waters frequented by fish, not subject to adverse affects from Project activities, that is most similar in characteristics to the exposure area.' The exposure areas selected for the freshwater AEMP monitoring programs will encompass the Project activities during the construction, and operation and maintenance phases.*" (Volume 11, Appendix 37D, Section 2.2.1, document page 6, PDF page 7878 of 8171).

KIA-IR63 (IR-133)

Subject

Fish and Fish Habitat (Benthic Invertebrates Community, Periphyton)

Issue / Concern

There are 171 watercourse crossings across five watersheds within the LAA (Table 20.5). Of those, 91 watercourse crossings are identified as having fish species present (Table 20.6). The Fish and Fish Habitat baseline report (Appendix 20A) characterizes fish habitat and presence at the watercourse crossings.

However, there is no baseline data or descriptive information for aquatic resources, namely benthic invertebrate and periphyton communities for the watercourse crossings. The NIRB concordance table (section 8.1.9.1) lists this as required baseline information.

Information Request

Please provide baseline information as per section 8.1.9 of the concordance table, including characterization of aquatic resources (benthic invertebrates and periphyton).

Proponent Response

Aquatic resources, including benthic invertebrates and periphyton, are included within the Impact Statement (IS) in Volume 7, Section 20 (Freshwater Fish and Fish Habitat) and Appendix 20A (Grays Bay Road and Port Project Fish and Fish Habitat Baseline Report). As described in Volume 7, Section 20.1, the Freshwater Fish and Fish Habitat Valued component includes “fish and fish habitat as defined by the *Fisheries Act*, as well as aquatic vegetation and benthic invertebrates".
The Freshwater Fish and Fish Habitat VC therefore treated fish and fish habitat (i.e., freshwater fish, benthic invertebrates, aquatic vegetation) as a single integrated VC for the effects assessment and residual effects characterization.

Baseline characterization of aquatic resources within the LAA relies primarily on historical sampling at the Kennarctic River (Wolfden 2006) and the compiled Izok Corridor Project dataset (MMG 2013). Benthic invertebrate data within these assessments were primarily related to mine site discharge locations or substantive changes to water quality or flow regimes, rather than activities which are part of the Grays Bay Port and Road Project. Site-specific aquatic resources (benthic invertebrates and periphyton) data is not required for the IS assessment at this time because watercourse crossings will be designed and constructed to maintain water quality, water flow, drainage patterns, and fish passage, which is the primary Project pathway through which these components could be affected. Watercourse crossings which may result in significant changes to instream habitat are not anticipated. Locations which may result in larger changes to benthic invertebrate communities such as diversion of the watercourse near the aerodrome may require additional sampling to support anticipated DFO Fisheries Act Authorization process. WKR supports ongoing aquatic resources monitoring

(e.g., monitoring of flow regime, water quality, and habitat structure), and potentially direct benthic invertebrate monitoring if required, through the Aquatic Effects Management Plan (Volume 11, Appendix 37D) and the DFO *Fisheries Act* authorization process.

References

MMG (Minerals and Metals Group Resources). 2013. Izok Corridor Project – Fish and Fish Habitat Baseline Appendix Report.

Wolfden (Wolfden Resources Inc.). 2006. High Lake Project Proposal. Prepared for Nunavut Impact Review Board, Cambridge Bay, Nunavut.

KIA-IR64 (IR-134)

Subject

Fish and Fish Habitat (Fish Health)

Issue / Concern

There are 171 watercourse crossings across five watersheds within the LAA (Table 20.5). Of those, 91 watercourse crossings are identified as having fish species present (Table 20.6).

However, there is no baseline data or descriptive information for the fish health data or information of freshwater fishes that will be impacted by the Project within LAA.

Information Request

Please provide baseline data and information for the fish health and contaminant loadings that will be impacted by the Project for all freshwater fish found within a total of 171 watercourse crossings that are identified to be affected by the Project within LAA, as per section 8.1.9 of the concordance table.

Proponent Response

Baseline characterization of fish health within the LAA relies primarily on historical sampling at the Kennarctic River (Wolfden 2006) and the compiled Izok Corridor Project dataset (MMG 2013). Volume 7, Appendix 20A includes the characterization of fish health which were evaluated as part of the development of the IS: “Description of non-fish aquatic life, including zooplankton, phytoplankton, benthic invertebrates, and periphyton (from the Kennarctic River). Collection of fish life history information such as species, sex, maturity, fork length, weight, age, stomach contents, condition, and fish tissue metal concentrations. Characterization of stream habitat, including substrate composition, gradient, flow velocity, cover, riparian vegetation, and bank stability. Characterization of fish habitat for lakes and the Kennarctic River, including bathymetry and substrate composition." (Volume 7, Appendix 20A, Section 3.1.1, High Lake Project (Wolfden 2006).

The historical baseline characterization of fish health and tissue metal concentrations included tissue metal concentrations as part of the High Lake Project (Wolfden 2006) and the Izok Corridor Project (GLL 2008; RC Bio 2012; Golder 2013; MMG 2013; NHC 2013). Contaminant loading data within these assessments was primarily related to mine-effluent discharge locations, rather than activities which are part of the Grays Bay Port and Road Project. The Project does not include a discharge to the freshwater environment and activities which have the potential to change water chemistry such as blasting will be located away from watercourses and waterbodies to limit potential for such changes. As the Project has low potential to result in chemical changes to water quality, which may change fish tissue chemistry, additional invasive sampling (e.g., lethal sampling) required to collect tissue chemistry data was not completed in the 2024 and 2025 assessments. If tissue contaminant data is a requirement for the permitting phase (i.e., Nunavut Water Board Water Licence application or DFO Fisheries Act Authorization application) additional field assessments may be completed prior to construction.

Site-specific characterization of fish health and tissue contaminant loadings at individual watercourse crossings is anticipated to be advanced primarily through the Aquatic Effects Management Plan (Volume 11, Appendix 37D) study design, if required.

References

MMG (Minerals and Metals Group Resources). 2013. Izok Corridor Project – Fish and Fish Habitat Baseline Appendix Report.

Wolfden (Wolfden Resources Inc.). 2006. High Lake Project Proposal. Prepared for Nunavut Impact Review Board, Cambridge Bay, Nunavut.

KIA-IR65 (IR-135)

Subject

Fish and Fish Habitat (Noise/blasting)

Issue / Concern

Section 13 (Assessment of Potential Effects on Noise and Vibration) does not list Freshwater Fish and Fish Habitat in the bullet list of ecosystemic and socio-economic environments that noise and vibration effects can affect.

Information Request

Please add Freshwater Fish and Fish Habitat (Volume 7, Section 20) to the Noise and Vibration Valued Component (Section 13) for the potential effects of Project.

Proponent Response

WKR acknowledges that Section 13 (Assessment of Potential Effects on Noise and Vibration) does not include Freshwater Fish and Fish Habitat (Volume 7, Section 20) in the list of ecosystemic and socio-economic environments potentially affected by noise and vibration. This will be addressed and added to the section.

Wildlife Conservation Society Canada

West Kitikmeot Resources Corp. (WKR), thanks the Wildlife Conservation Society Canada (WCS) for its Information Requests (IRs) dated June 22, 2026 (NIRB Document 260623-24XN038-WCS Comments Re Impact Statement-IR3E (1)) and June 23, 2026 (NIRB Document 260624-24XN038-WCS Comments Re Impact Statement-IR3E (2)), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the WCS's IRs are provided below.

WCS IR-01 (IR-144)

Subject

Assessment of future sensitivity of permafrost

Issue / Concern

The impact statement guidance document requires that the vulnerability of valued components to climate change is described, including how this may change into the future. During our review of the Impact Statement, we found that this was not addressed in the main report or within Appendix 14A. Numerical modelling of permafrost conditions around relevant infrastructure is explicitly identified under 8.1.4.2, item vii, where short-term and long-term predictions of permafrost evolution are required where permafrost thaw is anticipated. Given the high likelihood of infrastructure development altering the thermal regime of permafrost, it is therefore necessary to anticipate permafrost thaw. At present, any numerical simulations of future permafrost conditions are absent from the Impact Statement, which is a critical omission in relation to the Guidance document.

Information Request

Therefore, we request that to meet the requirements of the Guidelines, projected response of permafrost to climate change and infrastructure development is included in the Impact Statement.

Proponent Response

A discrete, location-specific numerical permafrost evolution model with short-term and long-term predictions of ground temperature, active layer thickness, and thaw settlement under each Project component (Road, Port, Aerodrome, Jericho Station, camps) as a stand-alone deliverable was not produced for inclusion in Appendix 14A. The IS approach to permafrost response is consistent with the Project's approximately 10% (conceptual) engineering design stage and integrates climate-projection inputs, PIEVC-based risk evaluation, and Basis of Design embankment specifications, with component-specific numerical thermal modelling identified as a detailed design-stage activity.

Future permafrost response is addressed in the IS through:

- Climate projections (Appendix 12A). Quantitative projections for annual mean air temperature; winter warming; precipitation increase; reductions in frost days, ice days, and freeze-thaw cycles; and projected change in permafrost extent.
- CCRA permafrost risk evaluation (Appendix 12B). The Climate Change Risk Assessment applies the PIEVC Protocol and is consistent with the Government of Canada's Strategic Assessment of Climate Change and ISO 31000:2018 / ISO 14091:2021. Permafrost thaw is evaluated as a climate hazard against each Project asset grouping. Quantitative risk scores are presented for Project components, and risk scores increase from baseline through 2050s and 2080s for most permafrost-thaw-sensitive asset interactions.

- Volume 6, Section 14.2 (Baseline Conditions) and Appendix 14A. Baseline characterization of permafrost distribution, active layer thickness, mean annual ground temperature, ground ice content, taliks, and thaw sensitivity.
- Volume 6, Section 14.3.4 (Change in Terrain Stability) and Section 14.3.7 (Effects of Climate Change on Terrain, Soils, and Permafrost). Qualitative assessment of permafrost degradation pathways including effects of climate change exacerbating Project-related permafrost thaw, with mitigations discussion.
- Volume 10, Section 35.3.1 (Effects of Terrain Instability). Qualitative analysis of climate-driven thaw settlement, frost heave, thermokarst development, and embankment instability risks to Project infrastructure, with mitigation through geotechnical investigations, foundation siting on bedrock where feasible, and design approaches that maintain current thermal conditions.
- Basis of Designs. The Road Basis of Design provides terrain-type-specific embankment thicknesses calibrated to preserve the underlying permafrost thermal regime. The Aerodrome Basis of Design sets thermal stability performance requirements for embankments, with potential measures including insulating layers, select fill materials, surface treatment, thermal separation, and drainage control. Please refer to GC-IR 05 (IR-152) Addendum Appendix C for copies of those documents.
- Volume 1, Appendix B (Mitigations and Commitments) Items 133–139. Permafrost-related Project commitments.

The IS is based on approximately 10% (conceptual) engineering design. Quantitative numerical permafrost modelling at each Project component location requires inputs that are typically refined at the detailed (60% and 90%) engineering design stage, such as confirmed embankment geometries, surface treatment specifications, drainage and culvert design, foundation depths and types, and site-specific geotechnical borehole and ground temperature data sufficient to calibrate component-specific thermal models. Numerical thermal modelling is identified as a detailed-design activity supported by ongoing and future geotechnical investigations. Outputs from this future modelling will inform subsequent regulatory submissions.

WCS IR-02 (IR-145)

Subject

Assessment of sensitivity of permafrost to past climate change

Issue / Concern

In order to understand sensitivity of permafrost to future climate change (required under 8.1.4.2, item vii), a thorough understanding of how permafrost has responded to past climate change is required.
The impact statement provides mean annual ground temperature (MAGT) for only a minimal number of locations along the LAA/RAA. Further, it contains no analysis of if or how MAGT has changed through time -- a critical gap in understanding how permafrost has been responding to climate change.

Information Request

We request that more information on the thermal regime of permafrost be presented, including an analysis of MAGT change through time, how MAGT differs by surficial material units within the LAA/RAA, and projections of how trends in warming may progress into the future around proposed infrastructure.

Proponent Response

As engineering design for the Project advances, additional studies will be completed to inform site specific thermal regimes that need to be incorporated into the design of infrastructure. As the landscape for the Project is varied (e.g., of bare and massive rocks, forming broad treeless uplands, plateaus, and lowlands), site specific conditions and permafrost building specifications for various infrastructure components are being incorporated into the design of the Project, including consideration of climate change resiliency. As provided in Volume 5, Section 12.5, adaptive strategies to be considered in the design include:

- Apply active and/or passive heat mitigation techniques such as thermosyphons, air convection embankments, air ducts and heat drains, reflective surfaces, insulation, and embankment thickening to help maintain thermal integrity and ground stability.
- Install woven geotextile to reinforce embankments and reduce differential settlement.
- Employ methods to reduce thermal disturbance (e.g., incorporating approaches to lowering the water table in the immediate vicinity of the roadbed by using ditches or similar components).
- Install remote monitoring equipment (e.g., thermistors, video cameras) to monitor permafrost conditions and track changes (e.g., settlement) to help make informed decisions. Consider establishing an alert system that can be triggered when sensors indicate exceedance of thresholds defined in an operations and maintenance policy – e.g., exceedance of a specific ground temperature triggers an inspection of the road section.

These measures will be applied as necessary for informing and monitoring effects from the infrastructure constructed and operated for the Project. Analysis of mean annual ground temperature (MAGT) will be conducted as necessary to inform design or monitor for permafrost changes through and after construction, based on site specific ground conditions and type of infrastructure to be built on the landscape.

WCS IR-03 (IR-910)

Subject

Component-specific permafrost regime information (required under 8.1.4.1, item ix)

Issue / Concern

While ranges of MAGT are provided, the Impact Statement and Appendix 14A do not adequately address ground temperatures, sediment stratigraphy, or ground ice content from the approximate locations of each major facility, road segment, aerodrome area, or port area.

Information Request

While numerous geotechnical boreholes were identified within the LAA/RAA from previous studies, inadequate interpretation of the data is provided in Appendix 14A regarding how the results of boreholes relate to the thermal characteristics and behaviours of permafrost and what this means for sensitivity of permafrost to thaw and thaw subsidence potential, which should be included in the final version of the Impact Statement.

Proponent Response

See WCS IR-02 (IR-145) and WCS IR-04 (IR-911) for the response to additional geotechnical assessments and permafrost sensitivities, considerations and monitoring plans related to the Project design.

WCS IR-04 (IR-911)

Subject

Systematic sensitivity ranking of landscape units to permafrost thaw

Issue / Concern

Information on sensitive landforms, ice-rich permafrost, thaw sensitive terrain, and the potential impacts of project facilities and infrastructure on these valued components is required under Guidance item 8.1.4.2 (v and vi). The Impact Statement and Appendix 14A currently identify that regional ground-ice mapping may underestimate ground ice and marine sediments that can be ice rich. However, this does not satisfy the requirements of the Guidance document, and there is minimal discussion around spatial variability of ground ice content within the LAA/RAA, which does not resolve baseline uncertainty.

Information Request

In order to satisfy the requirement to identify thaw-sensitive terrain, we request that a systematic sensitivity ranking of landscape units (e.g. Scheer et al., 2024) is completed that takes into account physiographic characteristics (e.g. slope, aspect), modelled or measured permafrost characteristics (e.g. O'Neill et al 2024, Obu et al., 2019), landcover classification and/or vegetation composition, and spatial variability in climate. This is especially necessary as the proposed mitigation options for minimizing disturbance to permafrost is "avoid sensitive permafrost as much as possible", yet there is no systematic method, proposed or realized, that would allow for this avoidance.

Proponent Response

See response WCS IR-02 (IR-145).

WCS IR-05 (IR-912)

Subject

Implications of permafrost thaw on infrastructure sustainability

Issue / Concern

Information on the thermal regime of permafrost, sediment stratigraphy, and ground-ice content is required under 8.1.4.2 (v-vii) and 8.1.5.1 (viii) as it relates to the sustainability of infrastructure. We found that only high-level baseline information is provided on these factors. Given the indicated availability of geotechnical boreholes and ground temperature monitoring sites along the proposed route (Appendix 14A; Appendix B), information is not presented at a sufficient level of spatial or technical detail to evaluate the two way-interaction between the project and permafrost. Namely, how project construction and operation may affect permafrost conditions, and how permafrost thaw or degradation may affect the stability, safety, and long-term sustainability of project infrastructure.

Information Request

A more detailed synthesis of available geotechnical and ground temperature data relevant to proposed infrastructure is required, including how baseline conditions from boreholes can be used to evaluate the response of permafrost to future climate change and anticipated effects of infrastructure. At a minimum, this should include presenting available ground temperature profiles, ground-ice content, and thaw subsidence potential, and connecting these interpretations to the susceptibility of project infrastructure to permafrost thaw.

Proponent Response

See response WCS IR-02 (IR-145).

WCS IR-06 (IR-147)

Subject

Non-native species

Issue / Concern

We found that the following information described in NIRB's guidelines was missing from the Impact Statement:

Non-native species: Potential introduction of non-native aquatic species is a well-documented phenomena related to shipping and marine construction that can have significant negative impacts on local flora and fauna.

Information Request

We found that information on this issue was mostly lacking from the Impact Statement, and needs to be considered more thoroughly, including examples from other Arctic areas about non-native species that have been introduced, what the potential is for Grays Bay, what the ecological consequences of species introductions will be, and what avoidance and mitigative procedures would be carried out.

Proponent Response

See response DFO IR-30 (IR-253).

WCS IR-07 (IR-913)

Subject

Direct effects on marine wildlife

Issue / Concern

Direct effects on marine wildlife: *The Impact Statement did not adequately discuss the direct impacts of the project on distribution, abundance, migration patterns, species health, or reproduction of marine wildlife, other than occasionally saying that it would have non-significant impacts on distribution, for example.*

Information Request

A more thorough assessment of direct effects is required. Species health, for example, is effectively not examined at all, despite issues such as increased stress levels from disturbance or increased contaminant loads in marine wildlife brought on by the construction or contaminants from the ships.

Proponent Response

The assessment of direct effects on marine mammals included consideration of pathways that can influence individual health, behaviour, and survival, rather than limiting the assessment to physical habitat loss or mortality alone. Specifically, the marine mammal assessment (Volume 8, Chapter 23) evaluated potential effects through (1) changes in habitat, (2) changes in behaviour caused by sensory disturbance, and (3) changes in mortality and/or injury risk. These pathways encompass mechanisms through which stress and health-related effects may occur, including exposure to underwater noise, increased vessel activity, displacement from preferred habitat, reduced foraging opportunities, vessel interactions, and changes in environmental quality.

Potential effects relevant to marine mammal health associated with sensory disturbance were assessed through the analysis of behavioural responses to Project-related activities, such as vessel traffic, dredging, blasting, pile driving, and other in-water construction activities. The assessment considered the potential for disturbance-induced behavioural changes, including avoidance, displacement, altered movements, interruption of feeding or resting activities, and associated energetic costs. These effects were evaluated using available scientific literature, established underwater acoustic thresholds, baseline surveys, Inuit, Indigenous, and Community Knowledge, and species-specific sensitivity information.

With respect to contaminant-related effects, the marine mammal assessment relied on the findings of the Marine Water and Sediment Quality assessment (Volume 8, Chapter 21) and associated contaminant pathway evaluations. Potential contaminant sources from construction activities, vessel operations, wastewater management, and hazardous materials handling were assessed, together with proposed mitigation measures designed to prevent or minimize releases to the marine environment.
The assessment concluded that, with the implementation of mitigation, management plans, spill prevention measures, and regulatory controls, Project-related contaminant concentrations are not

expected to result in exposure pathways capable of causing ecological risks. Accordingly, indirect effects on marine mammal health resulting from contaminant uptake through the food web were not predicted to be significant. The assessment therefore evaluated the potential for Project-related contaminants to enter marine food webs through water and sediment exposure pathways and considered whether those pathways could result in increased contaminant exposure to marine mammals.

In addition, the assessment incorporated a suite of mitigation measures specifically intended to reduce stressors affecting marine mammals, including marine mammal monitoring programs, hydroacoustic and visual monitoring during in-water works, vessel speed restrictions, avoidance measures, wildlife mitigation planning, water quality monitoring, and the authority for qualified environmental professionals to modify or stop work activities if required. The effectiveness of these measures was considered in evaluating residual effects on marine mammals and their health.

Overall, potential effects relevant to species health were considered through the assessment of behavioural disturbance, habitat alteration, injury and mortality risks, and contaminant exposure pathways. The assessment determined that, after the application of mitigation measures, residual effects on marine mammals, including effects linked to potential physiological stress and contaminant exposure, are expected to be low and not significant.

WCS IR-08 (IR-914)

Subject

Indirect effects on marine wildlife

Issue / Concern

Indirect effects on marine wildlife: *While the project described direct effects on marine wildlife behaviour, the proponent did not discuss indirect effects other than in passing (e.g., loss of foraging opportunities for marine mammals when prey species such as fish are disturbed). Indirect impacts such as prey field scattering are a known phenomenon and can often have more severe impacts than direct impacts, especially with large batch-feeding marine mammals such as bowhead whales where prey concentration is critical.*

Information Request

A more thorough assessment that includes indirect effects as well as direct effects is needed.

Proponent Response

The assessment focused primarily on direct effects to marine wildlife, such as behavioural disturbance, displacement, sensory disturbance, and vessel interaction (Volume 8, Section 23.3.3; 23.3.4). However, the Project also recognizes that indirect effects may occur through changes to prey availability or distribution, including temporary alterations in fish aggregations resulting from underwater noise and vessel activity (Volume 8, Section 23.3.3.4). The potential for prey-field disruption, including localized prey scattering, is therefore considered an indirect pathway by which marine mammals could experience reduced foraging opportunities. This concern may be of particular relevance for species that rely on dense prey aggregations during feeding periods, such as bowhead whales. The assessment recognized that marine mammals may respond not only to direct disturbance from Project activities, but also to indirect changes in prey distribution and availability. In the case of bowhead whales and other species that exploit localized concentrations of prey, temporary disruption or dispersion of prey aggregations could reduce foraging efficiency within the vicinity of Project activities. However, any such effects are expected to be localized and temporary given the limited spatial footprint of Project activities relative to the available marine habitat within Coronation Gulf and the transient nature of most underwater noise and vessel-related disturbances.

Fish and invertebrates' responses to underwater noise are generally localized and temporary, with individuals often returning to baseline distribution and behaviour once the disturbance has ceased (Volume 8, Section 22.3.3.4). Project-related vessel movements are expected to be transient, occur within a large marine environment, and affect only a small proportion of available habitat at any given time. Consequently, although short-term changes in prey distribution or aggregation may occur, including localized prey-field scattering, these effects are not expected to result in sustained reductions in prey availability, prey abundance, or foraging opportunities at the local or regional population level.
Marine fish residual behavioural responses predicted in the assessment are primarily limited to

short-term startle responses, localized avoidance, temporary changes in distribution, and masking of acoustic cues, rather than long-term displacement or reductions in population abundance (Volume 8, Section 22.3.3.4).

The Marine Fish and Fish Habitat assessment further concluded that no permanent or long-term changes in marine fish populations, habitat availability, or prey productivity are anticipated (Volume 8, Section 22.3.2.4). As a result, indirect effects on marine mammals through changes in prey availability are expected to be temporary, localized, and reversible. Habitat losses are not expected to affect the long-term persistence of fish populations, behavioural effects are predicted to be reversible, and increases in mortality or injury risk are not expected to threaten population viability. Therefore, while temporary changes in prey distribution may occur, the Project is not predicted to result in measurable reductions in the abundance or productivity of marine prey resources at the population level.

WCS IR-09 (IR-146)

Subject

Current knowledge on marine mammal abundance and distribution

Issue / Concern

Current knowledge on marine mammal abundance and distribution: *Marine mammal abundance and distribution data can be complimented by Inuit, Indigenous, and community observations.*

Information Request

For example, people in Cambridge Bay have observed beluga, narwhal, and bowhead whales very close to Cambridge Bay within the last 5 years, suggesting that these species may be more common in the Regional Assessment Area than currently shown by the aerial survey data. Moreover, the acoustic data collected near the project area (presented in Appendix A of the Marine Volume), was insufficient for detecting larger patterns in species presence, given that only a single month of data was collected. The acoustic analysis also did not assess beluga whale presence, despite beluga being sighted during the aerial surveys. Finally, the acoustic analysis was not sufficient for determining patterns in ringed seal presence based on vocal behaviour. Ringed seals generally remain vocally active during summer months in nearshore areas such as this (e.g., Halliday et al. 2018a, 2019, 2020), but full manual acoustic analyses may be required to detect them due to their faint vocalizations.

Proponent Response

Marine mammal baseline conditions and the subsequent effects assessment were developed using a weight-of-evidence approach that integrated Inuit, Indigenous, and Community Knowledge, published scientific literature, historical information, government and regional datasets, and Project-specific field studies, including aerial and vessel-based surveys and hydroacoustic monitoring completed during the 2025 field program.

The assessment was not limited to species detected during the Project-specific surveys or hydroacoustic monitoring program. Rather, all marine mammal species known or reasonably expected to occur within the LAA and RAA, as identified through the combined lines of evidence summarized in Table 23.6 and supporting baseline information presented in Volume 8, Section 23, were considered in the assessment. This approach recognizes that the absence of a species during a particular survey period does not indicate absence from the Project area and may reflect seasonal occurrence patterns, temporary movements, environmental conditions, survey timing, detectability, or naturally low population densities.

Accordingly, the assessment conservatively considered marine mammal species known to occur within the assessment areas regardless of whether they were observed during the Project-specific aerial surveys, vessel-based surveys, or hydroacoustic monitoring program. Potential Project effects were therefore evaluated for the full suite of marine mammal species identified through Inuit, Indigenous, and Community Knowledge, scientific literature, historical records, regional datasets, and Project-specific field studies, including species that may occur infrequently, seasonally, or at low densities within the LAA and RAA.

WCS IR-10 (IR-915)

Subject

Marine Birds

Issue / Concern

Marine birds can be impacted by both in-air and underwater noise from vessels. Moreover, the project has not appropriately considered vulnerable stages of some species of marine birds when they are moulting on the ocean. Especially during the wing-moult stage, their ability to avoid vessels will be greatly diminished, putting them at greater risk of mortality.

Information Request

The section on marine birds should explicitly include sensory disturbance as in the section on marine wildlife.

Finally, marine birds were not considered at all in the section on transboundary issues (see below).

Proponent Response

The Change in Mortality Risk identifies the potential increase in mortality risk to birds through interactions with marine vessels. This is presented in the Project Effects Pathways located in Volume 6, Section 17.4.2.2, page 17-45. The residual effects section on waterbirds (Volume 6, Section 17.4.2.4, page 17-48) explicitly notes that increased mortality risk to seabirds, and that birds may interact with marine vessels or barges operating at the port site and/or when lighting from the vessel is being used (e.g., birds may be disoriented and/or attracted to the lights). The residual effects characterization identifies the residual effects may overlap with sensitive bird breeding and migration periods; these time periods will also include the bird moulting period.

Marine birds were considered in the transboundary effects section as “migratory birds”. A summary of the transboundary effects section can be found in Volume 10, Section 33.4.4, page 33-18.

WCS IR-11 (IR-916)

Subject

Ice-breaking

Issue / Concern

Clarification on ice-breaking activities is important. The Impact Statement mentions that shipping will only occur during the ice-free season, but different sections use different ranges of dates. For example, the bird section states early June to November, whereas the marine wildlife section states late June to October. Clarity is needed on which timeframe is expected, especially since the early June to November range would have to include ice-breaking or at least ice management.

Information Request

Is the proponent explicitly committing to no ice-breaking, both during construction and operation? Will the port allow users to break ice when traveling to or from the port? If there is the possibility of ice-breaking to occur in the future, it should be explicitly considered in this Impact Statement (see appended caribou brief).

Proponent Response

As provided in the IS, open-water-only shipping is a key component of the Project description (see Volume 2) and a binding limitation on the Project as assessed. Project-operated shipping (operated by WKR) is open-water only (late June through October), does not include icebreaking, and is conducted on a marine approach route approximately 40 nautical miles south of the Northwest Passage shipping lane. Please refer to the response to Information Request KAA-20 (IR-20) for additional discussion. The relevant regulators are expected to provide details on regulatory terms/conditions and enforcement mechanisms.

WCS-IR 12 (IR-917)

Subject

Vessel impact avoidance and mitigation

Issue / Concern

Vessel impact avoidance and mitigation: *More information on the mitigation of vessel noise and strike risk needs to be provided, specifically around why the 14-knot speed limit was chosen. The proponent references older studies (e.g., Laist et al. 2001) to justify the 14-knot speed limit, yet more recent studies suggest lethal strike can occur at much lower speeds (e.g., Kelley et al. 2020, Keen et al. 2023), and many modern vessel slowdowns in Canada use lower speed limits.*

Information Request

Were alternative speed limits considered, and can this justification be provided?

Proponent Response

The assessment concluded that residual vessel strike risk is expected to be low because of the relatively limited shipping frequency, use of established navigation routes, vessel speed management measures, marine mammal observation procedures, and avoidance requirements implemented throughout Project operations.

Alternative vessel speed limits and location-specific speed management measures were considered during Project planning and effects assessment. The selected speed restriction was determined by balancing the objective of reducing potential interactions with marine fauna, including vessel strike risk and acoustic disturbance, with operational safety requirements, navigational constraints, Arctic operating conditions, and Project logistics. While lower vessel speeds may further reduce vessel strike risk and underwater noise, no single speed threshold completely eliminates the potential for vessel interactions. Accordingly, the Project applies a risk-management approach that combines vessel speed management with marine mammal monitoring, observation procedures, avoidance measures, and adaptive management.

Vessel speed management will continue to be discussed and refined through ongoing engagement with regulators, Indigenous organizations, communities, vessel operators, and other interested parties during permitting, implementation of the Wildlife Mitigation and Monitoring Plan, and adaptive management reviews. WKR will continue to review applicable scientific literature, regulatory guidance, monitoring results, Indigenous Knowledge, and consultation input during development and implementation of the Wildlife Mitigation and Monitoring Plan and will consider whether additional vessel speed restrictions or location-specific speed management measures are warranted based on marine mammal monitoring results and adaptive management requirements.

WCS IR-13 (IR-918)

Subject

Reconciling Vessel Impact Assumptions across Sections

Issue / Concern

The Impact Statement currently states that vessel traffic supporting construction and operations will have minimal impacts because there will only be a few vessels per year, and this will allow for large amounts of time for marine wildlife to resume normal behaviour following disturbance. However, in sections on cumulative effects, the Impact Statement assumes that up to 45 non-project vessels per year may use the port, leading to roughly one vessel every 1.4 days throughout the season on average.

Information Request

The proponent should explain whether the assumption that animals will have sufficient time to resume normal behaviour remains valid under the cumulative vessel traffic scenario. These cumulative effects must be considered in statements around project vessels, since the project vessels will not be in isolation of the other vessels. While it is treated appropriately in the cumulative effects section, it must be considered earlier in the Impact Statement, especially when assessments assume that animals will have time to recover before subsequent disturbance events.

Proponent Response

WKR acknowledges the concern regarding the assumption that marine mammals and other marine wildlife will have sufficient time to resume normal behaviour between vessel transits. The assessment recognizes that Project-related vessel traffic will occur within the context of other marine users and that Project vessels will not operate in isolation. Accordingly, cumulative vessel traffic was evaluated separately to account for potential increases in disturbance frequency associated with both Project and non-Project vessel movements.

While the cumulative effects assessment considers a scenario in which up to 45 non-Project vessels per navigation season could use the port, vessel activity would be within the open-water season. Under this scenario, periods between vessel transits would be reduced relative to a Project-only case; however, vessel traffic would still be intermittent rather than continuous. The assessment of residual effects therefore considered the potential for repeated disturbance events, including the possibility that some individuals may be exposed to multiple vessel passages over a season.

The assessment also recognizes that the degree of behavioural recovery between disturbance events is unlikely to be uniform across all species, individuals, locations, or seasons. Recovery opportunities may be reduced during periods of increased vessel activity, particularly where vessel movements from multiple operators occur over relatively short timeframes or where marine mammals are concentrated in important feeding, migration, or seasonal use areas. Accordingly, the assessment considered not only the effects of individual vessel passages, but also the potential for repeated or overlapping disturbance events

associated with cumulative vessel traffic within the region. The assessment concludes that marine wildlife are expected to have opportunities to resume normal behaviour following disturbance events. Marine mammals in the region are naturally exposed to disturbance from environmental conditions and vessel activity and are expected to exhibit behavioural responses such as localized movement, temporary avoidance, or short-term changes in behaviour. These responses are anticipated to be temporary and reversible once the disturbance source has passed. Nevertheless, the frequency of disturbance events may be greater under the cumulative vessel traffic scenario than under the Project-only scenario, and this context is reflected in the assessment.

The conclusion of a low residual effect is not based solely on the time between vessel transits. It also reflects the relatively limited number of annual vessel movements, the large geographic extent of available marine habitat, the temporary nature of vessel passage, implementation of vessel speed management measures, adherence to established shipping routes, marine mammal avoidance procedures, and the absence of continuous underwater noise sources associated with vessel operations. These factors reduce both the magnitude and duration of disturbance and support the conclusion that marine mammals will continue to have access to alternative habitat and opportunities to resume normal activities following vessel passage.

The assessment of behavioural disturbance recognizes that marine mammals may experience multiple disturbance events from different vessel sources over time. Consequently, the assumption that animals will have sufficient time to resume normal behaviour following a Project-related disturbance is not universally applicable under all cumulative vessel traffic scenarios. Recovery time will depend on several factors, including the frequency and timing of vessel encounters, species-specific behavioural responses, habitat use patterns, seasonal distribution, and existing traffic levels.

While Project vessel transits are expected to be intermittent and represent a relatively small contribution to total regional vessel activity, repeated exposures from multiple vessel sources could reduce the intervals available for behavioural recovery in some locations and time periods. As a result, the assessment does not rely exclusively on complete recovery between individual Project vessel encounters. Instead, it considers the potential for Project-related disturbances to occur within an already disturbed environment, where cumulative vessel traffic may increase the frequency, duration, and spatial extent of behavioural disruptions. The assessment therefore evaluates whether the Project could contribute meaningfully to cumulative disturbance effects, recognizing that behavioural recovery may vary depending on species, season, habitat use, and overall vessel activity levels.

WCS IR-14 (IR-919)

Subject

Transboundary issues for marine wildlife

Issue / Concern

Finally, we reassert that this Impact Statement needs to include the impacts of vessel traffic beyond the regional study area, both with vessels servicing the port during construction and operations and with the cumulative effects of other vessels in the region, especially those that are induced by this port development. The Transboundary Effects section of Volume 10 does describe some of the issues for the Inuvialuit Settlement Region, but it applies assumptions from the Regional Assessment Area (e.g., whales are at low density and therefore impact will be low), many of which are not valid for this broader transboundary issue. It also does not include an assessment of transboundary issues for marine birds. Vessels will travel through many important habitats for marine wildlife along the Northwest Passage to the east in Nunavut and to the west in the Inuvialuit Settlement Region. For example, if half of the expected 45 vessels using the new port every year travel through the Inuvialuit Settlement Region, that would increase current traffic levels by roughly one third (Halliday et al. 2025). Vessels traveling through the Inuvialuit Settlement Region travel directly through concentration areas for beluga whales and bowhead whales on the Mackenzie Shelf and near Cape Bathurst (Halliday et al. 2018b) and will increase acoustic disturbance to these species and cause increased risk of vessel strikes to bowhead whales in particular (Halliday et al. 2022a). Vessels travelling to the east through Nunavut will similarly travel through bowhead whale concentration areas near Isabella Bay and the Gulf of Boothia (Halliday et al. 2022a) and narwhal and beluga areas in Lancaster Sound (Halliday et al. 2022b). There are also important concentration areas for marine birds (e.g., king and common eider, thick-billed murre) in both the Inuvialuit Settlement Region and further east in Nunavut, which would include moulting areas at sea.

Information Request

Given the importance of these species to Inuit in these other regions, including concerns raised by Inuvialuit, we strongly suggest that the section on transboundary effects requires much more information on vessel impacts in other regions, and should not apply assumptions from the Regional Assessment Area to these other regions, but rather needs to properly assess impacts within those other regions. For example, this section states that risk of vessel strike should be considered low, yet the ocean north of Tuktoyaktuk in the Inuvialuit Settlement Region is considered a potential hotspot for vessel strike risk to bowhead whales based on current vessel traffic levels and bowhead distribution (Halliday et al. 2022). The final statement on marine mammals in section 33.4.9 states that mitigation measures for the project area could be applied to other regions to deal with transboundary affects. However, mitigation measures for the project area do not consider existing management measures in other regions, which should be thoroughly outlined in this document. For example, the Inuvialuit Settlement Region has a voluntary Notice to Mariners (Canadian Coast Guard 2025) in place which requests that vessels travel 10 knots or less in identified marine mammal areas. Information should be provided on how the proponent will work to ensure that project vessels follow those recommendations in areas outside the Regional Assessment

Area, and should ideally describe a plan for more thorough engagement with Inuvialuit and other Inuit groups (e.g., Victoria Island Waterway Safety Committee) to identify appropriate vessel management strategies to reduce the impacts of underwater noise and vessel strikes on marine mammals and broader vessel impacts on marine wildlife such as marine birds.

Proponent Response

Spatial assessment boundaries were "*selected based on the geographical extent over which project activities and their effects are likely to occur (i.e., the zone of influence) and may vary among VCs*" (Volume 4, Section 9.2.4.1). The Regional Assessment Area (RAA) for each VC "*depends on physical and biological conditions and the type and location of other past, present, or reasonably foreseeable projects or activities,*" and represents the area within which cumulative effects on that VC may occur (Volume 5, Appendix 11A). Boundaries were "*selected in consideration of engagement feedback, including feedback from communities located in NWT, and Inuit Knowledge, where available*," and each VC assessment provides "*a rationale if they were not adopted*" where Inuit identified alternative spatial boundaries (Volume 4, Section 9.2.4.1). Ecological ranges were considered, where available, in defining VC-specific RAAs, particularly for wide ranging wildlife species (Volume 6, Section 16.1.4.1, Section 18.1.4.1). The rationale for the boundary delineations for each RAA is provided in each VC assessment.

It is important to note the spatial definition of an RAA for a VC does not preclude consideration of transboundary effects to that VC beyond the boundaries of the RAA, please see further discussion below. Please see the Transboundary Effects Addenda for further details on methodology.

The assessment of potential transboundary effects as a result of marine activities are not constrained by the marine RAA. Figure 33.1 included in the marine mammals transboundary effects assessment (Volume 10, Section 33.4.9) indicates recorded shipping routes extending west to the Alaskan Beaufort Sea and east to Davis Strait and Northern Quebec. The shipping routes illustrated in Figure 33.1 were compiled by the Northern Marine Transportation Corridors (NMTC) initiative, an interdepartmental government initiative within the Department of Fisheries and Oceans (DFO), Canadian Coast Guard (CCG) and the Canadian Hydrographic Service (CHS). The vessel routes data was categorized into Primary and Secondary routes. The primary routes represent “The main traffic highways in the Arctic, which provide a means to enable secondary access to ports”. The secondary routes represent “Corridors characterized by medium-low density traffic levels, which can provide access to navigational ports to fulfill supply links and the movement of passengers.” Although the exact routes of future vessels associated with the Project is unknown, third-party bulk ore carriers will take the most directly available route to the Port, based on weather (ice) conditions. Smaller vessels may take less direct routes, particularly when engaged in community resupply.

WCS IR-15 (IR-136)

Subject

Scenario analysis for future, larger, or shifted Bathurst seasonal ranges

Issue / Concern

The Impact Statement appropriately recognizes that Bathurst caribou seasonal ranges, including calving and post-calving areas, have shifted over time. This is well documented through collaring data and Kitikmiut Knowledge, including in Section 16.2.2.4. However, the assessment appears to rely heavily on recent mapped seasonal ranges and recent collar-based spatial-use patterns, much of which reflects a period when the Bathurst herd was already severely depleted. The record does not clearly show whether the Proponent tested how its conclusions would change under plausible future range expansion or range shift scenarios. Because the Project is permanent infrastructure intended to operate over many decades, this is a material information need. It is reasonable to consider whether the Bathurst calving ground, post-calving range, or other seasonal ranges could shift westward or northward toward the road and Jericho Station over the life of the Project. It is also reasonable to consider whether adjacent herd distributions, such as Bluenose-East, could shift in ways that increase interaction with the Project area. We did not identify information in the assessment that evaluates the potential consequences of greater future overlap between core calving or other seasonal ranges and the LAA, or that identifies additional or more restrictive mitigation that would be triggered if such shifts occurred.

If the Bathurst herd recovers, expands its seasonal ranges, or shifts calving, post-calving, or late-summer distribution westward or northward, the degree of overlap with the road, Jericho Station, associated infrastructure, and induced development could change materially. The information request is not based on predicting any specific future shift with certainty. Rather, it is intended to help NIRB determine whether the assessment conclusions remain robust under plausible future caribou-range scenarios.

Information Request

The Proponent should provide a spatial sensitivity analysis that tests future caribou-range scenarios, including:

1. *enlarged seasonal ranges reflecting possible population recovery;*
2. *shifted seasonal ranges, including westward or northward shifts toward the road and Jericho Station;*
3. *specific analysis of calving, post-calving, and late-summer ranges;*
4. *comparison with earlier periods when the Bathurst herd was more abundant, to the extent available collar or other data allow;*
5. *estimates of range disturbance, habitat overlap, movement interactions, and mortality-risk implications under each scenario; and*
6. *identification of any additional or more restrictive mitigation, monitoring, or enforceable conditions that would be required if calving, post-calving, or late-summer use shifted closer to Project infrastructure.*

The Proponent should provide the results in a format that allows NIRB and reviewers to understand how each scenario affects the assessment conclusions, including maps, tables, assumptions, and a clear explanation of whether the significance conclusion would remain unchanged under each scenario. This analysis would materially improve NIRB's ability to assess whether the Proponent's conclusions are robust over the life of the Project and whether additional mitigation, monitoring, or enforceable conditions may be required under plausible future caribou-range scenarios.

Proponent Response

WKR maintains that additional "spatial sensitivity analysis" for the Bathurst Caribou Herd is unnecessary because the current Impact Statement already relies on 28 years of robust collar data that accounts for historical variations and potential future herd expansion. While these specific seasonal ranges are used to assess habitat impacts, other critical factors like movement, mortality, and disturbance are evaluated over a broader, unrestricted area. Furthermore, should the herd's range shift in the future, WKR is committed to an adaptive management approach—using mobile conservation measures, trigger action response plans, and potential temporary work pauses—to adjust mitigations and ensure ongoing protection.

The official Bathurst Caribou Herd (BCH) seasonal ranges developed by GNWT-ECC and used in the Impact Statement (IS) are derived from 28 years of collar data (1996 to 2023), accounting for interannual variation in caribou space use over nearly three decades. These collar data include locations from years when the herd was substantially larger (>150,000 caribou), even compared with the late 1970s. In other words, the seasonal ranges used in the IS have sufficient temporal breadth to capture likely seasonal space use if the herd were to increase in size.

Furthermore, seasonal ranges are only used to assess direct and indirect effects on BCH caribou habitat. Other potential effects and measurable parameters are not bound by seasonal ranges. Change in range disturbance is assessed within BCH-RAA1, which spans the Nunavut portion of the herd's annual range. Change in movement is assessed using all collar-based movement paths and potential interactions in BCH-RAA1. Changes in mortality risk and health, though primarily qualitative, are also not explicitly bound by seasonal ranges.

If seasonal range use shifts or expands in the future, proposed mitigations will be refined using an adaptive management approach. Please refer to the response to Information Request IR-109 (KIA-IR39) for a discussion on the Mobile Caribou Conservation Measures (MCCM) and Trigger Action Response Plan (TARP), and Information Request IR-429 (YKDFN-IR-18) for a discussion on the current early design stage of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) and WKR's commitments to developing the details of measures to mitigate Project effects on caribou through consultation with co-management parties. Post-construction monitoring results will be compared to the predictions in the IS. Where mitigation measures do not achieve the desired result, adaptive management is triggered and may include additional work pauses or temporary shutdowns at locations/times coinciding with frequent crossings or migration pinch-points (Volume 11, Appendix 37B, Sections 8.3.1, 8.2.2.4, Section 9).

WCS-IR 16 (IR-137)

Subject

Treatment of population-level effects and the Russell and Gunn (2025) vulnerability assessment

Issue / Concern

Appendix 16B of the Impact Statement includes the Russell and Gunn (2025) vulnerability assessment for the Bathurst, Beverly/Ahiak, and Dolphin and Union caribou herds (referred to in Section 16.6.3 as the Caribou Herd Vulnerability Model). That assessment applies the Caribou Cumulative Effects model -- a specialized modelling framework built on published, peer-reviewed caribou energetics and movement modelling that has been applied in multiple northern caribou assessment contexts -- to evaluate how development-related exposure, associated roads and infrastructure, mitigation, and climate change may affect caribou energetics and demography.

For the Bathurst Caribou Herd, the assessment provides an important herd-level line of evidence because it links road exposure to body condition, pregnancy rates, calf survival, and projected population trend. Although the results are reported by the Proponent in Section 16.6.3 of the Impact Statement, population-level effects do not appear to be carried forward as an explicit effect measure or core line of evidence in the Section 16 significance determination. This creates a material information need for NIRB, because the record does not clearly explain how population-level evidence was considered in determining significance. Population-level effects are not commonly incorporated into project-level significance determinations, mainly because the empirical basis for modelling demographic consequences is usually unavailable for most species. In this case, however, Appendix 16B provides an empirically-based project-specific analysis of whether the Project and associated development could affect herd-level demographic outcomes, recovery potential, or population trajectory.

As with any population-level modelling, the projections in Appendix 16B involve assumptions and uncertainty. However, the relative evidence is directly relevant to significance, particularly because several of the effect measures used in Section 16, including habitat, movement, mortality risk, and health, rely on thresholds that are at least partly qualitative or judgement-based. If uncertainty in Appendix 16B affected the weight assigned to population-level results, the Proponent should explain how that uncertainty was evaluated and why it supports the role assigned to the model results in the significance determination.

Information Request

To support technical review, the Proponent should explain:

1. *whether, and on what basis, it decided not to treat predicted population change, demographic risk, recovery potential, or population trajectory as an explicit effect measure or core line of evidence in the Section 16 significance determination;*

2. *how the Appendix 16B results regarding body condition, pregnancy rates, calf survival, and projected population trend are reconciled with the conclusion that residual and cumulative effects on the Bathurst Caribou Herd are not significant;*
3. *what weight was assigned to the relative comparisons in Appendix 16B among development, climate change, and mitigation scenarios, recognizing that relative model outputs may be informative even where absolute population projections involve uncertainty; and*
4. *whether the mitigation scenarios assessed in Appendix 16B correspond to enforceable Project commitments, including traffic management, road closures, hunting controls, and other measures relied on to reduce effects.*

If the Proponent considers that population-level effects should not be treated as a core line of evidence for significance, despite the analysis presented in Appendix 16B, the Impact Statement should clearly explain and justify that position, so that NIRB and reviewers can understand how the Appendix 16B results were used, limited, or excluded in the assessment conclusions.

Proponent Response

Clarifying Purpose of the Caribou Herd Vulnerability Model

The purpose of the Caribou Cumulative Effects (CCE) model—referred to as the Caribou Herd Vulnerability Model (CHVM) in Volume 6, Section 16—is to identify the main drivers of change of caribou herds (e.g., climate, development-related disturbance), particularly the Bathurst Caribou Herd (BCH), in order to make inferences about potential Project-related and cumulative effects, and to identify the potential effectiveness of mitigations in reducing those effects. The CHVM is not intended to quantify or predict exact outcomes. The CHVM shows how exposure affects caribou body condition and population vital rates, and the hypothetical predictions help illustrate relative changes in herd dynamics under different exposure levels.

1. Please consider the purpose of the CHVM as described above. Further rationale on why the CHVM is primarily used as a support tool rather than a predictive model is provided in the Impact Statement (IS, Volume 6, Section 16.6.3.3, document page 16-156)):

   "*The CHVM is useful for exploring the relative outcomes in herd dynamics under different scenarios (i.e., comparisons among scenarios), but there is substantial uncertainty in the absolute outcomes (e.g., predicted exposure, changes in body condition, and population decline rates). Specifically, while the physiological component (energy-protein submodel; see Figure 16.18) has been well-validated (White et al. 2014), the projection of herd dynamics has not. This additional component (population submodel; see Figure 16.18) lacks precision, and is mostly hypothetical, but can be a useful decision support tool to calculate risk (Russell et al. 2021). For this reason, the results presented in Section 16.4.7.3 focused on the relative outcomes of human development and mitigation scenarios, not numerical predictions (i.e., annual decline rates).*"
   (Volume 6, Section 16.6.3.3, document page 16-156)

The rationale provided in Section 16.6.3.3 describes why the CHVM model results (i.e., hypothetical population change, demographic risk, population trajectory) are not used as measurable parameters in the caribou assessment and, ultimately, the significance determination.

Significance is described in the IS (Volume 6, Section 16.1.7, document page 16-26) as follows:

"Significant: The Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management, and enhancement measures." (Volume 6, Section 16.1.7, document page 16-26)

2. Please refer to the response to NTI-5 (IR-402) for a discussion of how the CHVM drastically overestimates exposure, changes to body condition, and population vital rates in all the scenarios assessed in Volume 6, Appendix 16B. The more accurate exposure levels calculated in the caribou assessment (Volume 6, Section 16), though still overestimated, are considerably lower and are unlikely to result in population changes deemed significant, as per the definition used in the assessment.

3. WKR is unclear on the request. Weights are not assigned to the relative comparison of scenarios. The relative outcomes of scenarios are discussed in the IS, particularly with reference to climate versus development factors: "*The results demonstrated that climate change effects can be 1.76-times greater than the effects of development on the BCH's hypothetical 10-year population trajectory (see Appendix 16B)*" (Volume 6, Section 16.4.7.3, document page 16-124). Additional comparisons can be made using Figures 23 and 24 in Volume 6, Appendix 16B.

4. The mitigations discussed in Appendix 16B are directly applicable to the Project's commitments as outlined in the Wildlife Mitigation and Monitoring Plan (WMMP). Please refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on Mobile Caribou Conservation Measures (MCCM), including adaptive road closures and traffic management (e.g., convoying). Please also refer to the response to GN-IR-20 (IR-300) for a discussion of controlled access along the Grays Bay Road, particularly for harvesting, which will require permits aligned with the current tagging system and TAH for each herd. Additional mitigations are discussed in the WMMP, summarized in Table 7.1 (Volume 11, Appendix 37B, Section 7.1, document pages 14 to 17).

   Justification for how the hypothetical population-level predictions of the CHVM are—and are not—used in the caribou assessment is provided throughout Volume 6, Sections 16.1.5 and 16.6.3.

WCS-IR 17 (IR-138)

Subject

Cumulative effects from reasonably foreseeable and induced development

Issue / Concern

The cumulative effects assessment is especially important because the Project is not framed only as a transportation project serving existing activity. The Impact Statement describes substantial economic benefits, including benefits associated with "unlocking the critical mineral wealth" of the region. That stated purpose makes the treatment of reasonably foreseeable and induced development central to the caribou assessment. If the Project's benefits depend in part on enabling future mines, roads, and related infrastructure, then the cumulative effects of that enabled development need to be clearly identified, bounded, and explained in the assessment record.

The proposed corridor should also be understood in the context of Nunavut's broader land-use planning and governance framework. The Nunavut Planning Commission submitted the 2023 Recommended Nunavut Land Use Plan for approval, but the plan has not yet been approved and brought into force. Nunavut devolution is scheduled to take effect on April 1, 2027, transferring responsibilities over public lands, natural resources, and water from Canada to Nunavut. In the absence of an approved territory-wide land-use plan before that transfer of land and resource responsibilities, NIRB's review will require a clear project-level record to test whether the Project's corridor-opening implications, including induced development and cumulative effects on caribou, have been adequately assessed.

We are requesting additional information to explain how the Proponent reaches a conclusion of no significant cumulative effects on the Bathurst Caribou Herd, given that the assessment itself indicates that the Project, in combination with reasonably foreseeable and induced physical activities, moves range disturbance in BCH-RAA1 into the cautionary range identified in the Bathurst Caribou Range Plan.

This is a material information gap because range disturbance is the most clearly benchmarked of the Proponent's caribou effects measures. Unlike some other effects measures, it is tied to a pre-existing range-planning framework and disturbance-risk categories. If the cumulative effects analysis shows movement from a desirable to a cautionary disturbance condition, NIRB and reviewers require a clearer explanation of why that result does not alter the significance conclusion, particularly given the current vulnerability of the Bathurst Caribou Herd.

Information Request

The Proponent should provide:

1. *a clear explanation of how the movement of BCH-RAA1 from the Bathurst Range Plan "desirable" range to the "cautionary" range under Project-plus-RFI conditions was considered in the significance determination;*
2. *confirmation of which reasonably foreseeable and induced physical activities are included in the BCH-RAA1 range-disturbance calculation, and whether any known future or induced activities were excluded;*
3. *confirmation of the ZOIs used for mines, roads, and other physical activities included in the cumulative range-disturbance calculation, including whether Bathurst Caribou Range Plan ZOIs or alternative ERM-derived ZOIs were applied; and*
4. *an explanation of whether the shift into the cautionary range triggers additional mitigation, monitoring, adaptive-management thresholds, or enforceable conditions.*

The purpose of this request is to clarify the logic connecting the Proponent's own cumulative-effects results to its significance conclusion. Without that explanation, NIRB and reviewers cannot determine how the assessment treated a cumulative disturbance condition that is materially more concerning than the direct Project effects alone.

Proponent Response

1. A change from "desirable" to "cautionary" disturbance levels within BCH-RAA1 does not, on its own, imply a significant effect on the Bathurst Caribou Herd (BCH). The *Bathurst Caribou Range Plan* identifies these thresholds as triggers for management responses: "*The intention of using tiered thresholds with increasingly stringent management responses is to reduce, and ultimately reverse, the negative trend of land disturbance effects as early as possible*" (page 3, GNWT 2019). The assessment of change in range disturbance calculates disturbances levels, including Zones of Influence (ZOIs), without the application of mitigations, as stated in the Impact Statement (IS): "*The ZOI buffer applied around the Project is 5 km (which assumes no application of mitigation, management, and enhancement measures) to be consistent with the buffers for all-season access roads and ports identified in the 2018 Bathurst Caribou Range Plan Supporting Report (GNWT 2018)*" (Volume 6, Section 16.4.1.1, 16-86). However, WKR has committed to implementing mitigations that are expected to substantially reduce effects on caribou; please refer to the response to Information Request KIA-IR39 (IR-109). Similarly, the ZOIs applied to all reasonably foreseeable induced (RFI) physical activities also account for similar mitigations: "*All existing and proposed projects in NU are required by law and regulation to implement appropriate environmental safeguards and project-specific mitigation plans. It is assumed that mitigations required for active RFI mines would exceed the mitigations proposed for the Project*" (Volume 6, Section 16.5.4.2, document page 16-138).

2. All reasonably foreseeable and RFI physical activities considered in the BCH-RAA1 range-disturbance calculation are listed in Table 16.17 (Volume 6, Section 16.5.1.1, document page 16-130), including the type of activity, footprint size (km²), and ZOI buffer (i.e., column "BCRP ZOI [km]" for range disturbance calculations). No RFI physical activities occurring within the BCH-RAA1 and identified in the Project Inclusion List (Volume 4, Appendix 9A) were excluded.

3. The "BCRP ZOI (km)" buffers associated with the *Bathurst Caribou Range Plan* are used for range-disturbance calculations; see Table 16.8 for past/present physical activities (Volume 6, Section 16.2.2.6, document page 16-78) and Table 16.17 for RFI physical activities (Volume 6, Section 16.5.1.1, document page 16-130).

4. The shift from "desirable" to "cautionary" under RFI conditions triggers additional mitigation and monitoring. The IS states that "*a caribou [Trigger Action Response Plan] TARP, including MCCMs like adaptive road closures and traffic management like convoying, are likely required for all RFI access roads. Some regional-level coordination among the Project and RFI physical activities is expected during key time periods, such as BCH spring migration, calving, and post-calving*" (Volume 6, Section 16.5.4.2, document page 16-138).

WCS IR-18 (IR-139)

Subject

Durability of the open-water-only port assumption

Issue / Concern

For Dolphin and Union caribou, the assessment appears to rely on the assumption that Project-related marine activities will occur only during the open-water season and will not involve icebreaking or activities that affect sea-ice migration. We understand that icebreaking is not currently proposed, and we are not requesting an assessment of icebreaking as a currently proposed activity. Rather, we are requesting clarification of how the open-water-only shipping assumption functions in the assessment of Dolphin and Union caribou effects, and whether any future change to that assumption would fall outside the Project as assessed and require further review.

This clarification is important because the open-water-only assumption appears to help define or limit the assessed effects on Dolphin and Union caribou in the draft Impact Statement, including effects related to sea-ice migration and any associated carryover or transboundary effects. Dolphin and Union caribou depend on seasonal sea-ice movement across Coronation Gulf. If future Project operations were to include icebreaking, ice management, shoulder-season shipping, or a material extension of the shipping season into periods relevant to sea-ice migration, the effects pathway for Dolphin and Union caribou could well be different from the one assessed by the Proponent.

The information gap we highlight here is that the current version of the Impact Statement does not clearly state the status of the open-water-only shipping assumption, or the implications of that status for the Project as assessed, enforceable conditions, and future review requirements. The key question is whether the assumption constrains future operations, and if not, what further review would be required before operations could change in ways relevant to Dolphin and Union caribou sea-ice migration.

Information Request

The Proponent should clarify:

1. *whether open-water-only shipping is a binding limitation on the Project as assessed and, if so, how that limitation would be secured through project design, regulatory terms and conditions, or other enforceable mechanisms;*
2. *how the open-water season would be defined for Project shipping, including whether that definition could change over the life of the Project as climate conditions change;*

3. *whether icebreaking, ice management, shoulder-season shipping, or other shipping activity that could affect Dolphin and Union caribou sea-ice migration is outside the scope of the current assessment; and*
4. *whether any future change to shipping operations that could affect Dolphin and Union caribou sea-ice migration would require additional regulatory review, effects assessment, and engagement before proceeding.*

NIRB and reviewers need to know whether the open-water-only assumption constrains future operations, and if not, what review process would apply before operations could change in a way that affects sea-ice migration.

Proponent Response

1. It is confirmed that open-water-only shipping is a key component of the Project description (see Volume 2) and a binding limitation on the Project as assessed. Please refer to the response to Information Request KAA-20 (IR-20) for additional discussion. The relevant regulators are expected to provide details on regulatory terms/conditions and enforcement mechanisms.

2. The open-water season is defined as the ice-free period, which typically occurs from late June through October. If future climate-change conditions extend the ice-free period, the open-water season may be redefined, and doing so would not disrupt the Dolphin and Union Caribou Herd (DUH) migration over sea ice.

3. Ice breaking, ice management, or other shipping activity that could affect the DUH sea-ice migration is outside the scope of the current assessment. However, with regard to shoulder-season activity, the Impact Statement (IS) states:

   > "*Grays Bay Port will be made available during the shoulder season (i.e., early June and into November) to the Canadian Coast Guard, which carries out icebreaking services from June to November for search and rescue, environmental response, community resupply, breakouts, ship escorts and marine communications and traffic services and other approved vessels during this time, as necessary. Ice breaking during this period is not anticipated to affect human or wildlife transiting trails to and from the mainland. Marine-based infrastructure at the Grays Bay Port will not be available for use between December to May, annually*." (Volume 2, Section 2.6.3.3, document page 2-51)

4. Based on WKR's understanding, proposals for shipping activities by future proponents will need to be submitted for regulatory review, effects assessment, and engagement before proceeding. The requirement and decision ultimately lies with the relevant regulators, not WKR.

WCS IR-19 (IR-140)

Subject

Use of Inuit, Indigenous, and Community Knowledge

Issue / Concern

In addition to the four priority information gaps above, we recommend that the NIRB seek additional information from the Proponent on the following:

A. Use of Inuit, Indigenous, and community knowledge

The Impact Statement includes substantial Inuit, Indigenous, and community evidence regarding caribou calving areas, migration routes, disturbance from roads and mines, cumulative effects, and concern for the long-term survival of caribou herds. The current version of the Impact Statement, however, does not clearly show how that knowledge affected the structure and conclusions of the caribou assessment.

For example, where Inuit, Indigenous, or community knowledge identifies calving areas, movement routes, areas of heightened sensitivity, concerns about road disturbance, or concerns about cumulative effects, it is not always clear whether that information changed assessment boundaries, future range scenarios, effects pathways, mitigation design, or the interpretation of uncertainty. In several places, concerns appear to be summarized, but the record does not clearly show how they were carried through into the technical assessment.

Information Request

The Proponent should provide a clear explanation, preferably in a table or crosswalk, showing how Inuit, Indigenous, and community knowledge informed assessment boundaries, future scenarios, effects pathways, significance thresholds, mitigation commitments, and cumulative-effects conclusions. Where relevant knowledge was summarized but did not affect the technical assessment or mitigation design, the Proponent should explain why. This would allow NIRB and reviewers to understand how this evidence was considered, not only where it was reported.

Proponent Response

The table below connects Inuit, Indigenous, and Community Knowledge input with key outcomes in the Impact Statement (IS) for representative mainland caribou (Bathurst Caribou Herd [BCH]) and island caribou (Dolphin and Union Caribou Herd [DUH]). All input was integrated into the technical assessment and mitigation design, and a description of how the input affected the assessment is provided.

Table IR-140.1 Summary of Inuit, Indigenous, and Community Knowledge and Engagement Feedback Regarding the Caribou Effects Assessment

Assessment Component	Inuit, Indigenous, and Community Knowledge Input	Impact Statement Location	How the Input Affected the Assessment
Assessment Boundaries	Kitikmiut mapping of mainland caribou travel routes and corridors; calving areas (*irniurviit*); wintering grounds (*ukiuviit*); water crossings (*nadlok*) at lake/river narrows; DUH sea-ice crossing locations near Kogloktoakyok (Grays Bay); Bluenose-East distribution. Indigenous and Community Knowledge shaped the Bathurst Caribou Range Plan (BCRP) on which BCH-RAA1 is based.	Volume 6, Section 16.1.4 and Section 16.2.2 (Influence on Assessment Boundaries); Figures 16.4, 16.6, 16.8, 16.10; Appendix 16A	Northern, southern, eastern, and western boundaries of the BCH-RAA1 and DUH-RAA were informed by Kitikmiut descriptions of distribution (Banci and Spicker 2024). The BCRP—itself informed by Indigenous and Community Knowledge—forms the BCH-RAA1 boundary. Inuit Knowledge of *nadlok*, eskers, and shoreline staging areas was used to refine the LAA and to identify high-use areas for the effects assessment.
Baseline Conditions	Kitikmiut observations of historical and current calving areas (e.g., Bathurst Inlet east/west coasts, Kent Peninsula, Queen Maud Gulf coast, Beechey Lake, Contwoyto Lake regions); migration timing and routes; DUH ice-crossing risk under later freeze-up; historical and current population trends; harvest history (1916-onwards).	Volume 6, Sections 16.2.2.2–16.2.2.5 (Influence on Baseline Conditions); Table 16.7 (document page 16-31); Appendix 16A (Wildlife Baseline Report) Sections 4.2 (BCH) and 4.3 (DUH)	Baseline characterizations of BCH and DUH population status (Section 16.2.2.2), mortality (Section 16.2.2.3), space use (Section 16.2.2.4), and seasonal habitat and forage (Section 16.2.2.5) integrate Inuit Knowledge alongside collar and survey data. Section 16.2.2.4 cites Inuit Knowledge identifying important calving areas and DUH winter range extension southward. Appendix 16A integrates NTKP and IAG inputs into the Wildlife Baseline Report (Appendix 16B).
Assessment of Project Effects — Effects Pathways and Measurable Parameters	Kitikmiut observations of caribou avoidance of roads, sensitivity to noise/dust, vulnerability of cows and calves, importance of cow-calf movements during calving and post-calving; predator interactions near roads; mortality risk near roads (IAG 2025a).	Volume 6, Sections 16.4.2 (Habitat), 16.4.3 (Movement), 16.4.4 (Mortality Risk), 16.4.5 (Health); Table 16.3 (Effects pathways and measurable parameters)	The IS states: "*Inuit, Indigenous, and Community Knowledge helped to identify potential effects pathways on caribou range disturbance, habitat, movement, mortality, and health (see Section 16.4)*" (Volume 6, Section 16.1.1.3, document page 16-6). Inuit and Community Knowledge on caribou predation by wolves and grizzly bears (Banci and Spicker 2024), including increased mortality risk near roads (IAG 2025a), are reflected in the mortality risk assessment.

Assessment Component	Inuit, Indigenous, and Community Knowledge Input	Impact Statement Location	How the Input Affected the Assessment
Significance Thresholds and Significance Determination	Inuit Advisory Group (IAG) criteria for "non-significant"/acceptable outcomes (proactive protection of high-risk activities; incorporation of knowledge in management; Inuit monitors; adaptive management; holistic approach to benefits); IAG emphasis on healthy caribou populations and Inuit harvesting; concern for long-term persistence and viability.	Volume 6, Section 16.1.7 (Significance Definition); Table 16.6 (document pages 16-26 to 16-27); Section 16.7 (Significance of Effects); Section 16.2.2.1 (Influence on Significance)	Significance criteria were informed with consideration of priorities and values identified through Inuit, Indigenous, and Community Knowledge (see Volume 3). The Section 16.1.7 significance definition focuses on *"exceedance of conservation-based thresholds or threats to long-term persistence and viability of the BCH*", which is explicitly aligned with IAG-identified values. IAG criteria for "non-significant"/acceptable shaped the Project's approach to mitigation, monitoring, and access management.
Mitigation, Management, and Enhancement Measures	IAG advice to avoid recreating mitigation frameworks ("not re-create the wheel"); cow/calf and ≥25-animal group road-closure triggers; predator management at the Project; controlled harvester access; Inuit monitors; speed and snowbank controls; access controls via KIA-HTA permits.	Volume 6, Sections 16.4.2.3, 16.4.3.3, 16.4.4.3 (Mitigation); Volume 1, Appendix B Items 295–299 (Mitigations and Commitments); Volume 11, Appendix 37A (Road Management Plan); Appendix 37B (WMMP)	The caribou TARP/MCCM design (lead cows or cows with calves; ≥25-animal groups; collar-data trajectory triggers) directly reflects IAG input on caribou sensitivity periods and on the value of Inuit monitor involvement. The WMMP states: "*best practices […] along with information shared with WKR in workshops with the Inuit Advisory Group (IAG) and engagement with communities, form the basis of the mitigation measures and monitoring strategies presented in this document*" (Volume 11, Appendix 37B, Section 3, document page 7). Access controls via KIA-HTA permit requirements (Volume 6, Section 16.4.4.3; Volume 10, Section 32) reflect IAG and community concerns about illegal harvesting and non-local harvester pressure.

Assessment Component	Inuit, Indigenous, and Community Knowledge Input	Impact Statement Location	How the Input Affected the Assessment
Cumulative Effects	Kitikmiut Knowledge of cumulative effects of multiple developments on BCH and DUH; IAG concern about cumulative effects of road, mines, climate change, predation, and harvest; community emphasis on long-term monitoring with Inuit co-developed/co-implemented data collection.	Volume 6, Section 16.2.2 (Influence on Cumulative Effects Assessment [CEA]); Section 16.5 (CEA); Section 16.9 (Follow-up and Monitoring)	The IS states: "*Inuit, Indigenous, and Community Knowledge are used to inform the CEA in the same way they are used to inform the Project effects assessment (see Section 16.1.1.3) […] IAG members have advocated for real-time 'boots on the ground' Inuit monitors and tracking caribou behaviour and health using Inuit Knowledge and scientific data (IAG 2025b)*" (Volume 6, Section 16.1.1.4, document page 16-6). Section 16.5 CEA applies the cumulative land disturbance framework (CLDF) tier system that integrates Indigenous and Community Knowledge through the BCRP. Section 16.9 is structured to incorporate Inuit co-developed monitoring.
Transboundary Effects	Gwich'in and Inuvik community comments on the importance of flexible mitigation and on caribou tolerance variability; Yellowknife concerns on BCH and Bluenose herd populations, calving grounds, and migration routes; BQCMB, Caribou Guardians Coalition, WRRB, GNWT, and Tłı̨chǫ Government concerns on BCH calving grounds and movement; Athabasca Denesųłiné concerns on equity and intergenerational impacts.	Volume 6, Section 16.6 (Transboundary Effects); Volume 10, Section 33.4.3 (Caribou Transboundary Summary); Table 33.1	Transboundary feedback is summarized in Volume 10, Table 33.1 and integrated into the transboundary effects assessment in Volume 6, Section 16.6 and Volume 10, Section 33.4.3. Inuit, Indigenous, and Community Knowledge directly supports the IS recognition that "*effective co-management among the jurisdictions within the BCH annual range*" is required, including engagement with the Bathurst Caribou Advisory.

WCS IR-20 (IR-141)

Subject

Adaptive Management and TARP details

Issue / Concern

A. Adaptive management and TARP details

The Proponent relies on the TARP, mitigation and monitoring measures, adaptive road closures, traffic management, convoying, speed limits, wildlife right-of-way, and related measures to support its conclusion that residual and cumulative effects on caribou will not be significant. These measures may be appropriate in principle, but NIRB and reviewers require additional information to understand how they would operate in practice and how they would be secured, implemented, monitored, and escalated.

Information Request

The Proponent should provide more specific information on the TARP and related mitigation measures. This information should address circumstances in which caribou approach or attempt to cross the road, hesitate near infrastructure, deflect from the road, aggregate near the Project, or monitoring shows greater-than-predicted effects. The Proponent should also identify what additional or more restrictive measures would be implemented if Bathurst caribou distribution shifts closer to the Project, particularly during calving, post-calving, migration, or late-summer periods.

Proponent Response

Please refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on the current "early design stage" of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B). WKR is committed to developing the details of the caribou Trigger Action Response Plan (TARP) and Mobile Caribou Conservation Measures (MCCM) through consultation with co-management parties. WKR plans to initiate such consultation in the near future and update the WMMP prior to the Technical Review stage.

Monitoring results post-construction will be compared to the predictions in the IS. Where mitigation measures do not achieve the desired result, adaptive management is triggered and may include additional work pauses or temporary shutdowns at locations/times coinciding with frequent crossings or migration pinch-points (Volume 11, Appendix 37B, Sections 8.3.1, 8.2.2.4, 9).

If BCH seasonal range use shifts closer to the Project in the future, proposed mitigations will be refined using an adaptive management approach if required. Please refer to the response to WCS-IR-15 (IR-136) for further discussion.

WCS IR-21 (IR-142)

Subject

Transparency around zones of influence and spatial boundaries

Issue / Concern

A. Transparency around zones of influence and spatial boundaries

Because ZOI assumptions affect range disturbance calculations and related effects conclusions, the Proponent should provide a consolidated explanation of the zones of influence used for each caribou disturbance calculation. This should include the ZOIs used for roads, mines, port infrastructure, aerodromes, camps, and other relevant physical activities; the source and rationale for each ZOI; and whether the ZOI differs from those used in the Russell and Gunn (2025) Appendix 16B vulnerability assessment or recommended in the Bathurst Caribou Range Plan, including the 5 km ZOI for all-season roads and the 4 km ZOI for the Tibbitt to Contwoyto Winter Road.

Information Request

The Proponent should also clarify whether any smaller ZOIs depend on assumed mitigation effectiveness. Where alternative defensible ZOIs are available, the Proponent should provide sensitivity analyses showing how different ZOI assumptions affect range disturbance, habitat effects, movement effects, and significance conclusions.

Proponent Response

The Impact Statement (IS) describes the Zone of Influence (ZOI) buffers used for different types of past/present and reasonably foreseeable induced (RFI) physical activities. As stated in multiple locations in the IS and summarized in Section 16.5.1.1:

> "*ZOI buffers from the Bathurst Caribou Range Plan are only meant to be used in the context of that range plan. Whereas more defensible, ecologically relevant ZOI buffers derived from recent studies are provided in ERM Consultants Canada Ltd. (2025a).*" (Volume 6, Section 16.5.1.1, page 16-129)

The "BCRP ZOI (km)" buffers associated with the *Bathurst Caribou Range Plan* are used for range-disturbance calculations; see Table 16.8 for past/present physical activities (Volume 6, Section 16.2.2.6, document page 16-78) and Table 16.17 for RFI physical activities (Volume 6, Section 16.5.1.1, document page 16-130). As stated in the IS: "*ZOI buffers from the Bathurst Caribou Range Plan are used specifically for comparison to the plan's range disturbance thresholds*" (Volume 6, Section 16.4.1.1, page 16-86).

The “ERM ZOI (km)” buffers associated with the ERM (2025) report are used for indirect habitat effects calculations; also see Tables 16.8 and 16.17, reference above. As stated in the IS: “*The assessment of change in habitat relies on defensible, ecologically relevant ZOI buffers grounded in recent studies (ERM Consultants Canada Ltd. 2025a); see the “ERM ZOI (km)” columns […]*” (Volume 6, Section 16.4.2.1, page 16-89).

Regarding reduced ZOIs due to mitigations, the IS provides the following rationale:

> “*The ZOI applied for the Project considered the effectiveness of proposed mitigation, management, and enhancement measures such as the caribou TARP, which includes MCCM-based adaptive road closures and traffic management (see Sections 16.4.2.3 and 16.4.3.3). Given these mitigation, management, and enhancement measures, the ZOI of the Project Road is expected to be 1 km (see ERM Consultants Canada Ltd. 2025a). ERM Consultants Canada Ltd. (2025a) recommended a 1-km ZOI for all-season roads where traffic is managed or the road is closed when caribou are present. Since activities will occur continuously and year-round at the Project Port, its ZOI is expected to be 4 km (see ERM Consultants Canada Ltd. 2025a)*.” (Volume 6, Section 16.4.2.1, page 16-89)

The same rationale is provided for RFI roads, as identified and described in Table 16.17: “*1-km ZOIs for transportation features considers the application of mitigation, management, and enhancement measures consistent with the Project (see Section 16.4)*” (Volume 6, Section 16.5.1.1, page 16-130).

The ERM ZOIs used to assess habitat effects in the IS are not consistent with the ZOI used in Appendix 16B (i.e., 5-km buffer around infrastructure).

Please refer to the responses to Information Request NTI-1 (IR-398) and NTI-2 (IR-399) for further discussion and justification of the ZOIs used in the caribou assessment. WKR contends additional sensitivity analysis is not warranted given the justification of the ZOIs, the Project's proposed mitigation regime and expected mitigations for RFI physical activities.

WCS IR-22 (IR-143)

Subject

Precautionary treatment of already vulnerable caribou herds

Issue / Concern

A. Precautionary treatment of already vulnerable caribou herds

Information Request

The Proponent should provide additional information on how the current status and vulnerability of the Bathurst and Dolphin and Union caribou herds were incorporated into the significance determination. This should include how herd status, demographic resilience, recovery potential, cumulative disturbance, and climate-related vulnerability were considered in evaluating residual and cumulative effects.

In particular, the Proponent should clarify whether current herd vulnerability affected the characterization of effect magnitude or the level of mitigation required. If herd vulnerability did not affect those elements of the significance determination, the Proponent should explain why.

Proponent Response

The current status and vulnerability of the representative mainland (Bathurst Caribou Herd [BCH]) and island (Dolphin and Union Caribou Herd [DUH]) caribou herds are key considerations driving the Project's proposed mitigations. These mitigations are intended to reduce potential effects to levels that would not "[…] excee[d] conservation-based thresholds or threate[n] the long-term persistence and viability of the population […]" (Volume 6, Section 16.1.7, page 16-26).

As a point of clarification, cumulative disturbance is already considered in the BCH (Volume 6, Sections 16.5.2 and 16.5.3) and DUH (Volume 6, Section 16.5.3) assessments. Several climate-related vulnerabilities are identified for mainland and island caribou that need to be addressed through adaptive management and monitoring throughout the Project's life (Volume 6, Section 16.4.7).

Factors such as current herd status, demographic resilience, recovery potential, and climate-related vulnerability were not directly incorporated into measurable parameters for the assessment (e.g., habitat loss [ha, %], exposure levels [days] and migration corridor interactions [% overlap]), which are the key metrics used to inform ratings of the assessment criteria (e.g., direction, magnitude, timing). However, those factors provided context for understanding the potential consequences of Project-related effects in the absence of mitigation. This approach is reflected in the structure of the Impact Statement (IS) and the assessment process applied to each potential effect: (1) identifying analytical assessment techniques based on the measurable parameter; (2) identifying how the Project might affect caribou based on well-documented effects pathways; (3) considering the risks associated with each pathway, and determining the level of mitigations needed to reduce those risks; and (4) assessing the residual effects remaining after mitigation has been applied.

WKR acknowledges that without the mitigations proposed in the Wildlife Mitigation and Management Plan (WMMP), the risk to the BCH and DUH would be high. For this reason, WKR has committed to mitigations that have proven to be effective, including adaptive road closures and traffic management (e.g., convoying) (see the response to Information Request GN-IR-11 [IR-291]) and will refine and implement measures through consultation with co-management parties.

Government of Canada

West Kitikmeot Resources Corp. (WKR), thanks the Government of Canada (GoC) for its Information Requests (IRs) dated June 30, 2026 (NIRB Document 20260630 - GoC to NIRB - IRs - Grays Bay Road and Port-Final signed), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038). WKR's responses to each of the GoC's IRs are provided below.

GC-IR 01 (IR-148)

Subject

Ice-breaking

Issue / Concern

Throughout the Impact Statement, the Proponent indicates that the Port facilities will only be used during the open-water season. For example, "WKR does not plan to receive vessels outside of the open-water season. Furthermore, all third party user groups, including those listed as Reasonably Foreseeable Induced (RFI) projects/activities, have committed to using the port only during open-water season." This premise has been used as rationale for certain assessment considerations, including with respect to marine mammal disturbance and potential interactions with island caribou.

These statements differ somewhat from previous Proponent information on this topic, which indicated that, "The Port facility is expected to be open year-round and… will additionally be made available for docking by third-party vessels that have obtained necessary approvals – outside of this application – to travel during the ice season."

These statements also appear to differ somewhat from others in the Impact Statement, which indicate that the Project enables a "year-round" strategic presence in the region, with the capability of berthing and resupplying, "…Coast Guard ships, Royal Canadian Navy Offshore Patrol Ships, Canadian Patrol Submarines, and Polar Icebreakers."

Such inconsistencies make it difficult to assess the potential impacts and benefits of the Project. If the Port is open year-round and may be available to ice-breaking vessels outside the open-water season, consideration of ice-breaking is required in the assessment of potential cumulative effects.

Information Request

To support Technical Review, the Proponent should conclusively confirm whether ice-breaking associated with use of the Port facilities may occur. If so, additional cumulative effects assessment is required for relevant Valued Components. If not, limitations regarding the use of Project components (in terms of Project purpose and benefits) should be clarified.

Proponent Response

WKR confirms that ice-breaking associated with the use of the Port facilities is not part of the Project. The Project contemplates vessel arrivals and departures at the Grays Bay Port during the open-water season only. On this basis, the cumulative effects assessment (Volume 10, Section 32) is scoped to Project-related and Reasonably Foreseeable Induced (RFI) vessel activity during the open-water season. Use of the Port landside facilities will be year-round, even though the Port marine (vessel) infrastructure will be closed in the non-open water season.

GC-IR 02 (IR-149)

Subject

Caribou Cumulative Effects Assessment

Issue / Concern

The Proponent has assessed impacts to the Bathurst and Dolphin-and-Union herds as "representative" of mainland and island caribou, respectively. While these herds are likely to be the most impacted, there may nonetheless be impacts to other herds, particularly with respect to cumulative effects.

Further, the Proponent's assessment methodology with respect to cumulative effects on caribou is non-comprehensive. Functionally, the Proponent has only assessed cumulative effects within the BCH-RAA1 and DUH-RAA areas. This has resulted in the exclusion from consideration of cumulative interactions with other relevant projects/activities that may affect caribou herds, such as the Arctic Economic and Security Corridor.

Information Request

To support Technical Review, additional assessment or rationale for exclusion should be provided by the Proponent with respect to other potentially affected herds, such as the Bluenose-East and Beverly/Ahiak. It is insufficient for the purposes of Technical Review to only state that such herds, "…interact infrequently with the Project; however, when they do, their space use and movements are similar to those of the BCH."

Further, the Proponent should update their spatial scope of assessment for caribou cumulative effects to ensure that reasonably foreseeable and reasonably foreseeable induced activities are appropriately considered, and not excluded from assessment based on non-biologically-relevant boundary restrictions, such as the Nunavut-Northwest Territories border.

Proponent Response

Other Mainland Caribou Herds

The Impact Statement (IS) assesses the potential Project effects and cumulative effects on mainland and island caribou, which is "*consistent with the Kitikmiut perspective, which only recognizes three types of tuktuit: mainland caribou (Photo 16.1), island caribou, and Peary caribou (Banci and Spicker 2024)*" (Volume 6, Section 16, page 16-1). Representative herds were chosen because of their greater potential to interact with the Project. In particular, the Bathurst Caribou Herd (BCH) is expected to interact substantially with the Project, whereas other mainland herds (e.g., Bluenose East, Beverly/Ahiak) are not. The limited interaction with other mainland herds is described in Volume 6, Appendix 16A, Section 4. Thus, the assessment of effects on mainland caribou is conservative by evaluating the largest potential effects from the Project and cumulative land disturbances.

Though not explicitly assessed in Volume 6, Section 16, the Bluenose East and Beverly/Ahiak herds are included in the IS in the following ways:

- Baseline characterization — Volume 6, Appendix 16A (Wildlife Baseline Report), including herd classification framework, range description, survey history, Kitikmiut Knowledge integration, and the spatial distribution of collared caribou.
- Existing conditions assessment — Volume 6, Section 16.3.5 (Other Mainland Caribou Herds), including collar data-based interactions with the Project.
- Vulnerability modelling — Volume 6, Appendix 16B, where the Caribou Herd Vulnerability Model (CHVM) framework is applied to the Beverly/Ahiak herd (see Figure 11 seasonal distribution analysis 2010–2024).

The IS documents that potential interactions between the Bluenose East and Beverly/Ahiak herds and the Project are limited:

> "*The limited potential interactions between the Project and other mainland caribou herds (e.g., Bluenose East and Beverly/Ahiak) was the basis for using the BCH as the representative mainland herd for this assessment.*" (Volume 6, Section 16.3.5, page 16-84)

> "*GPS collar data for the Bluenose-East caribou herd (1996 to 2025) GNWT 2025c) confirms that most caribou remain west of Takijuq Lake and southwest of Contwoyto Lake, limiting interactions between the herd and the Project.*" (Volume 6, Section 16.3.5, pages 16-84 to 16-85)

> "*GPS collar data of Beverly/Ahiak caribou (2008 to 2025) provided by the GN (GN 2025) suggests no interaction between the herd and the Project; caribou remain east and south of the Project alignment. However, GPS collar data of Beverly caribou (2006 to 2024) provided by the GNWT (GNWT 2024b) suggests their range extends west of the Project to the western shore of Takijuq Lake and as far north as the Hood River.*" (Volume 6, Section 16.3.5, page16-85)

Regardless of limited interactions, Volume 6, Section 16.3.5 documents that *"If or when individuals from these herds interact with the Project, their space use is similar to the BCH. Application of Project mitigation, management, and enhancement measures are consistent for any caribou interacting with the Project, regardless of herd"* (Volume 6, Section 16.3.5).

Cumulative Effects Framework

The spatial scope of the Cumulative Effects Assessment (CEA) for the BCH (i.e., BCH-RAA1) and Dolphin and Union Caribou Herd (DUH) (i.e., DUH-RAA) is sufficient to provide regional context for these herds. The herd assessment areas cover vast landscapes and account for the interaction between Project residual effects and cumulative land disturbances. Though the BCH and DUH may interact with other sources of disturbance well beyond the herd-specific assessment areas, these very distant disturbances are not included for two reasons:

1. The CEA is a regional assessment that focuses on the Project. The CEA is not a caribou range assessment. Range-level assessments are beyond the scope of a single project and are led by well-established co-management regimes. For example, the *Bathurst Caribou Range Plan* guides the management of the BCH across its annual range, including other biologically-relevant range assessment areas (e.g., RAA2) that consider seasonal range use, traditional territories, human land use patterns, and administrative boundaries, and cover existing and future developments like the Arctic Economic and Security Corridor. The cumulative land disturbance framework (CLDF) in the Plan "*provides over-arching landscape-level management benchmarks that identify management tool responses based on the importance of habitat areas and the levels of habitat disturbance*" (page 3, GNWT 2019). The *Bathurst Caribou Range Plan* CLDF develops range-wide disturbance thresholds to help inform land use planning, and the IS adopts the Plan's RAA1 (i.e., the Nunavut portion of the annual range) to guide the caribou assessment—particularly for cumulative effects—in the region surrounding the Project.

2. It is sufficient to infer the state of caribou (e.g., body condition) upon their arrival in BCH-RAA1 and DUH-RAA using known ecology, peer-reviewed literature, and the relative contribution of natural (climate) and human-related (development) factors considered in the CHVM (Volume 6, Appendix 16B). The CHVM identified negligible effects of human development on DUH body condition and population vital rates based on potential interactions in the herd's annual range. In contrast, the CHVM clarifies that both natural and human-related factors can influence BCH body condition and population vital rates. The IS acknowledges that BCH caribou "carry" these effects as they interact with developments in their winter range in the Northwest Territories. Once the BCH arrives in BCH-RAA1, WKR aims to reduce potential effects the Project may contribute to the herd's already affected state. Specifically, the proposed Trigger Action Response Plan framework will allow WKR to implement Mobile Caribou Conservation Measures (Volume 6, Section 16.5 and Volume 11, Appendix 37B, Section 7.1, Table 7.1), including adaptive road closures, to lessen additional effects on the state of BCH caribou.

GC-IR 03 (IR-150)

Subject

Costs and Liability

Issue / Concern

The Proponent estimates the current construction cost for the Project to be $1.2B. It is unclear what the annual operating/maintenance costs of the Project would be thereafter. This information is required to support Technical Review, particularly given the Proponent has indicated that they have no plans for closure and reclamation of Project components considered permanent infrastructure. Further, the Proponent indicates that they expect, "…a government entity will assume long-term responsibility – and ultimate liability – prior to construction."

Information Request

To support Technical Review, the Proponent should provide an estimate of the Project's annual operating/maintenance costs and clarify its expectations regarding a government entity assuming liability.

Proponent Response

The Impact Statement's treatment of cost estimation, financial security, and long-term ownership is set out in Volume 1 (Executive Summary and Main Document), Volume 1, Appendix A (Concordance Table), Volume 1, Appendix B (Mitigations and Commitments), Volume 2 (Project Description, Sections 1.1.2, 2.6.3, and 2.6.4), and Volume 11 (Management Plans, including Appendix 37F Progressive Reclamation Plan and Appendix 37H Environmental Protection Plan).

1. Annual operating and maintenance expenditure for the Project is estimated at $38.2 million, covering the combined operations and maintenance of the port and road. This estimate is provided in IS Volume 9, Section 27.3.6.3 (p. 27-88). WKR notes that this figure is presented in the context of the Employment and Economy assessment and reflects SCIPIOPM modelling. WKR will continue to refine this estimate as the project's design, procurement, and costing advances towards a final investment decision.

2. WKR's expectations with respect to government liability are set out in Volume 1 (Executive Summary and Main Document) and Volume 1, Appendix A (Concordance Table). As recorded in the Impact Statement, the Project consists primarily of permanent infrastructure, with no planned closure or decommissioning phase (Volume 2, Sections 1.1.2 and 2.6.4; Volume 11, Section 37.1.8; Volume 11, Appendix 37F, Section 1.1). This means that WKR will be the operator and maintainer of the infrastructure during an initial concession phase of approximately 30 years, after which time ownership will be transferred to an indigenous or public government. WKR cannot make a final investment decision on the project until the full financial model for construction, operations and maintenance, and ultimate liability are agreed with project funders including the Government of Canada.

GC-IR 04 (IR-151)

Subject

Road Use Transboundary Effects Assessment

Issue / Concern

Both NIRB's Final Scope List and MVEIRB's Supplemental Transboundary Report request that road use estimates be included in the Impact Statement with respect to transboundary impacts. The Proponent provides road use estimates in the context of transboundary effects on air quality only, noting that, "During Construction, approximately 1000 truckloads/year will utilize the TCWR" and that, "given current traffic volumes on the TCWR […], the addition of project-related vehicles is limited and transboundary effects from Project vehicles are considered negligible."

Of note, the GNWT's Highway Traffic Report (2023) indicates between approximately 6000-9000 annual truckloads (one-way) on the TCWR for the period 2014-2024. Given the closure of diamond mines in the region in the coming years, use of the TCWR will be greatly diminished, and traffic related to the construction of the Project will likely account for a far greater proportion of total traffic volume. The Proponent's estimate of 1000 truckloads/year for the Project may very well represent a significant proportion of total traffic along the TCWR during the construction phase.

Information Request

To support Technical Review, the Proponent should provide additional rationale regarding why anticipated TCWR use during construction is considered "negligible" and why road use estimates were not considered further in assessing transboundary effects for other Valued Components (e.g., caribou).

Proponent Response

a) **Scope of the "Negligible" Characterization in the Air Quality Transboundary Assessment**

The "negligible" characterization applied to Project vehicle transboundary effects on the TCWR (Volume 10, Section 33, Page 33-13) is specific to the air quality Valued Component. It is derived from the Volume 5, Section 11 (Air Quality) assessment methodology, which evaluates changes in ambient air quality against established ambient air quality standards, objectives, and guidelines (SOGs) for the air contaminants of potential interest (ACPI) — total suspended particulate (TSP), inhalable particulate matter (PM10), respirable particulate matter (PM2.5), sulphur dioxide (SO_2), nitrogen dioxide (NO_2), and carbon monoxide (CO).

WKR acknowledges the reviewer's identification of the GNWT Highway Traffic Report (2023) figure of approximately 6,000–9,000 annual truckloads (one-way) on the TCWR for the period 2014–2024, and the anticipated decline in TCWR use associated with the closure of NWT diamond mines.
The "negligible" determination for transboundary effects on air quality as a result of truck traffic during construction is not driven by the ratio of Project truckloads to baseline truckloads.

It depends on whether Project incremental emissions are predicted to exceed applicable SOGs at receptor locations, considering emissions dispersion, background concentrations, and cumulative loading.

b) **Treatment of Road Use Estimates in Transboundary Assessment for Other Valued Components**

Road use was considered in the transboundary assessment for other valued components (VCs) in Volume 10, Section 33. Although road use estimates were not specifically stated, the potential for disturbance from Project activities, including use of the TCWR, was considered.

The assessment of potential transboundary effects to caribou (Volume 6, Section 16.6, Volume 10, Section 33.4.3) included consideration of the TCWR. Transboundary effects were evaluated using a hypothetical modelling framework—the Caribou Herd Vulnerability Model (CHVM). The CHVM incorporated multiple parameters related to caribou ecology to identify the main drivers of change in caribou hers, including mainland (BCH) and island (DUH) caribou under the following different hypothetical development and climate scenarios (Volume 6, Section 16.6.3.1):

- Scenario (1) current climate and no new developments;
- Scenario (2) current climate and the Project (and Tibbitt to Contwoyto Winter Road);
- Scenario (3) current climate, the Project, and the Arctic Economic & Security Corridor (AESC), referred to as the Slave Geological Province Corridor in Appendix 16B (see Section 16.5.1);
- Scenario (4) future climate and no new developments;
- Scenario (5) future climate and the Project (and Tibbitt to Contwoyto Winter Road); and
- Scenario (6) future climate, the Project, and the AESC.

GC-IR 05 (IR-152)

Subject

Geotechnical and Permafrost Characterization, Thermal Preservation, and Historical Design Bases

Issue / Concern

The Impact Statement relies on geotechnical mitigation measures (such as preserving the ground thermal regime and active layer preservation) without defining the standards, procedures, or industry best practices used to plan future field programs. Current information indicates residual uncertainty in subsurface characterization, which limits the ability to evaluate thaw settlement and embankment stability risk assessments (section 35). Additionally, historical design parameters from the BGC Engineering (2013) report for the Izok corridor were not provided with the Impact Statement, leaving the engineering basis for the current road design unverified. The Impact Statement also indicates that environmental baseline, geotechnical, and geophysical field programs were undertaken to support Project planning and design, but the related reports, supporting datasets, and baseline soil quality information are not clearly provided, limiting review of the technical basis for current assessments and design assumptions.

The Proponent has summarized existing information on terrain conditions, including information from geotechnical borehole logs and ground temperature measurements (Vol 6, App. 14A). Data sources include geotechnical investigations conducted between 2002 and 2012 associated with resource development projects, as well as data compilations and landform mapping done by the Geological Survey of Canada. Terrain mapping has also been conducted by the Proponent (App. E in App. 14A).
The location of boreholes and the associated geotechnical and/or ground temperature information obtained from them, is clustered in specific locations with limited investigations conducted along the proposed road alignment. In addition, there are no recent ground thermal data presented. Additional geotechnical investigations, including more recent ground thermal data, are required to better understand terrain stability conditions along the proposed route, inform project design, and to ensure potential environmental effects are minimized. It is understood that site specific investigations are not normally done at the early design stage. However, clarification is required regarding any recent geotechnical investigations the Proponent has conducted or planning to conduct to improve assessment of terrain conditions, particularly in critical sections of the alignment (e.g., slopes and approaches to water crossings).

Information Request

Provide comprehensive Geotechnical and Thermal Engineering Designs addressing the following:

- *Identify the industry procedures, standards, and best practices that will be followed for the planning, execution, and reporting of the geotechnical investigation program.*
- *Detail the guidelines, standards, and best practices used to develop permafrost protection measures, preserve ground thermal regimes, and manage vegetation or surface organics removal, alongside a verification monitoring program.*

- *Clarification regarding any recent geotechnical investigations conducted along the road alignment, including collection of more recent ground thermal data (volume 6).*
- *Reference all geotechnical investigations completed to date, explain how they informed the current impact assessments and siting decisions, and provide a clear outline of future planned investigations (methods, general locations).*
- *Information on plans for additional geotechnical investigations to inform project design and environmental management and monitoring plans (volume 6).*
- *Describe how subsurface uncertainty (including thaw settlement and slope failures) will be systematically managed through studies and adaptive management.*
- *Provide a copy of the BGC Engineering Inc. (2013) report on geotechnical design criteria for the Izok corridor project, describe how it was used to inform the current design, and confirm if its assumptions remain applicable under contemporary climate horizons.*

Provide available reports, summaries, and accessible datasets from the 2024 and 2025 environmental baseline, geotechnical, geophysical, and soil quality field programs, including baseline soil quality information for the proposed development area (including relevant Jericho Mine Site areas), describe how this information informed the Project description, design, and assessments, and confirm whether additional field programs or baseline studies were completed but not described in the Impact Statement.

Proponent Response

To provide clarity on the basis of design for the Port (marine and landside), Aerodrome, and the Road, see the Reference Design Concept Memos in Appendix C, Engineering Design Memos, to the Addendum to the Information Request Proponent Response Package. Each memo includes the details on the required design scope, the site conditions that must be considered in the design, codes, standards and design guidelines, reference documents, functional requirements, constraints, risks, and interdependencies, the reference design considerations, and future expansion considerations.
The memos also include environmental commitments, risks and constraints (including climate resiliency) that must be incorporated into the advancement of the design. The Impact Statement and basis of design relied on existing baseline data, historical geotechnical information, conceptual engineering assumptions, and conservative permafrost protection measures.

Additional investigations will be completed during detailed engineering design, starting in 2027, and are expected to focus on critical road sections, water crossing approaches, slopes, ice-rich or thaw-sensitive terrain, major infrastructure foundations, borrow and quarry sources, ground thermal monitoring locations, and numerical thermal modelling requirements.

The BGC Engineering Inc. (2013) report on geotechnical design criteria has been incorporated into the design criteria included in the basis of design memos. Any remaining uncertainty that exists from the existing geotechnical assessments completed to date will be incorporated into the plans for additional work as noted above.

GC-IR 06 (IR-153)

Subject

Dredging during Operations and Maintenance phase

Issue / Concern

Dredging will be required during the port construction, as discussed in Section 21.3.2.2. Dredging to create navigable channels for medium and large vessels is also proposed as a potential impact to the marine environment. However, no projections on spatial extent or marine environment impacts from dredging navigable channels are provided, due to a lack of data collected thus far. Additionally, the Impact Statement states "No dredging is anticipated during the Operations and Maintenance phases."

This is unexpected given operations are proposed to continue indefinitely and sediments deposited over time could make dredging necessary to maintain safe vessel access to port facilities. In particular, as noted in the Impact Statement:

- *The Project-specific Inuit Knowledge report includes several observations of lowering sea levels;*
- *The nearby Kennarctic River "heavily influences water quality and stratification within Grays Bay. Freshwater runoff from the river further decreases salinity at the surface and introduces suspended sediments into the marine environment.", and*
- *Climate change has the potential to "alter sediment deposition patterns, increase turbidity, and affect marine habitat conditions".*

Many port facilities occasionally require maintenance dredging, and if this will be the case at Grays Bay, the dredging and disposal methods of dredged materials, as well as necessary mitigation measures, should be considered in the environmental assessment.

The Proponent considers a range of relative sea level projections developed and now published by NRCan (Brierly-Green and James, 2026) and indicates that depending on the choice of projection, relative sea level could continue to fall, stabilize, or begin to rise, potentially rapidly (5- App. 12A-5.9). This presents a design challenge of considerable importance in planning future wharf elevations and under-keel clearance. For the dredging that may occur in navigation channels, it is not clear for which sea level projection(s) the Proponent is planning.

Reference:

Brierley-Green, C. & James, T. S. (2026). Relative sea-level projections for Canada based on the IPCC Sixth Assessment Report and the NAD83v70VG national crustal velocity model. Geological Survey of Canada, Open File, 9337, 17. Natural Resources Canada. https://doi.org/10.4095/pdmpu1k9ep

Information Request

ECCC requests that the Proponent provide the following information:

- *discuss the information that led to the conclusion that the possible sources of sediment to the marine environment and sea level changes will not create a need for dredging during the Operations phase of the Project; and*
- *if maintenance dredging around the port facilities is a possibility during Operations, present a description of the dredging method (including timing and spatial extent), proposed disposal location for material, mitigation measures, and estimated frequency of occurrence.*

NRCan requests that the Proponent provide:

- *clarification on strategy and rationale for selecting the sea level projection (or projections) to be used in determining elevations of infrastructure and depths of berths and navigation channels.*

DFO requests that the Proponent provide details on the proposed dredging activities associated with the creation and maintenance of navigable channels, including:

- *whether in-water blasting (or other in-water works) may be required to support dredging of navigable channels; and*
- *the potential impacts to marine mammals and marine fish and fish habitat, including the cumulative effects, caused by project activities associated with dredging for navigable channels*

Proponent Response

1. **ECCC — Basis for "no maintenance dredging anticipated," and contingency**

   The IS states that dredging and blasting will be conducted during construction to create platforms for port and harbour infrastructure, and that no ongoing maintenance dredging is expected during the Operations and Maintenance phase (Volume 8, Section 21.3.2.4). No maintenance dredging is supported by the ocean depths confirmed through bathymetric surveys within the port vicinity, geotechnical drilling within the port vicinity, and Inuit Knowledge observations (Volume 8, Section 21.3.2.2). Further, the Kennarctic River freshwater and suspended-sediment influence on Grays Bay is characterized in Volume 8, Section 21 and A`ppendix 21A, which describe the river's high suspended-sediment plume and the low-density surface layer over denser seawater, which limits the extent that sediment will have on the port berthing pocket. The IS also records the sheltering effect of Hepburn Island as a wind break limiting fetch, tidal range of up to approximately 0.69 m, and an ice-free period from mid-July to late October — physical-setting factors relevant to the depositional regime at the Port.

   Should Port operations monitoring identify sediment accumulation or depth changes that would warrant maintenance dredging over the Operations and Maintenance phase, such dredging would be undertaken under the applicable regulatory framework at that time — Fisheries Act authorization (DFO), the Canadian Navigable Waters Act (Transport Canada), and, for any at-sea disposal,

a Disposal at Sea Permit under the Canadian Environmental Protection Act, 1999 — with mitigation developed under the Aquatic Effects Management Plan (Volume 11, Appendix 37D) and Port Management Plan (Volume 11, Appendix 37I). The IS does not project a maintenance-dredging frequency because the current design and monitoring information does not support one.

2. **NRCan — Sea-level projection selection and design adaptability**

The IS provides relative sea level for the Grays Bay Port in Volume 5, Section 12 and Appendix 12A, Section 5.9, considering the range of NRCan-published projections (Brierley-Green and James 2026), under which relative sea level at Grays Bay could continue to fall, stabilize, or rise. During the advancement of the engineering design, considerations for the potential sea-level changes will be considered and adequate clearance, in consideration of climate change, will be incorporated in the final level of the wharves relative to sea level. The conceptual Port design based on the existing bathymetry, confirms that there is [more than] adequate under-keel clearance for the design vessel classes over the Project design life horizon; consistent with the Project's open-water-season vessel operations scope, should relative sea level fall.

3. **DFO — Navigable-channel dredging, in-water works, and marine effects**

Navigable-channel dredging in the marine environment is in the IS as a potential construction activity however, it was included based on the conceptual level of engineering design and planned additional bathymetry surveys. Additional bathymetry surveys have been completed as of September 2026, over a larger area surrounding the Port to confirm the underwater depths and inform engineering design and vessel approaches for the Port. Official depth charts for the Coronation Gulf in Nunavut, Canada are published by the Canadian Hydrographic Service (CHS). The area is covered by two primary navigational paper and digital charts at a scale of 1:150,000. More detailed bathymetry assessments are ongoing for the approaches to the port and will inform the Fisheries Act authorization application and, as required, Canadian Environmental Protection Act disposal at sea permit application.

During the construction-phase, blasting and dredging to create a flat surface for port and harbour infrastructure to be anchored to the bedrock will occur (Volume 8, Section 22.2.2.2). Effects on marine fish and fish habitat are assessed in Volume 8, Section 22 and effects on marine mammals in Volume 8, Section 23, including consideration of these planned activities. No further dredging is planned beyond the construction-phase once the marine-based wharf construction is completed in the marine environment.

GC-IR 07 (IR-154)

Subject

Subsistence Harvesting Locations within the Local and Regional Assessment Area

Issue / Concern

Guideline 8.2.6.1 of the Guidelines for the Preparation of an Impact Statement for West Kitikmeot Resources Corp's Gray's Bay Road and Port Proposal requires baseline information for Traditional Activity and Knowledge, including: "Descriptions, including maps, of traditional and current hunting ranges and patterns in the Local Study Area." While the Government of Canada acknowledges the narrative information provided in the Impact Statement (IS) in Section 24.2.2 on historical and current Traditional Land, Marine, and Resource Use (TLMRU) for potentially impacted Inuit and Indigenous groups, complementary maps identifying representative traditional or subsistence harvesting locations were not provided. The Inuit, Indigenous, and Community Knowledge and Engagement Feedback section of the baseline conditions description identified locations of cultural and ecological importance, but locations were not mapped, nor was there a description of the Proponent's integration of this information into the project design.

The assumption that traditional or subsistence harvesting (e.g., hunting, fishing, gathering, etc.) occurs throughout the region may be considered a conservative approach, but a more precise identification of key areas within the Local Assessment Area (LAA) and Regional Assessment Area (RAA) (including the near-field marine environment, as shown in Figure 24.1 of the IS) would enable more targeted and efficient monitoring and mitigation, and better support technical review. This information may also help address concerns shared by communities about the potential impacts of the project on harvesting (e.g., Volume 9, Table 24.4) and would be consistent with the guideline requirements to consider priority issues raised by potentially impacted communities.

An assessment of the impacts of Project activities on identified harvesting, hunting, and fishing locations should also be completed. This assessment should include direct impacts on hunting/fishing through decreased presence or populations of marine mammals and fish in the LAA and RAA, as well as impacts on access to harvesting, hunting, and fishing locations by Project activities caused by the controlled access to the port and road during construction and operations. A discussion on how these locations were incorporated into project design should also be included.

Information Request

To support Technical Review, the IS should identify locations of cultural importance for hunting and fishing as identified by local Inuit and Indigenous communities within the Project area. Locations of ecological importance, as identified by Inuit and Indigenous consultation, should also be identified. Additionally, the IS should include an assessment of the potential impacts to harvesting, hunting, fishing, and ecological functions (such as migration, spawning, rearing, nursing, feeding, etc.) at the identified locations.

The baseline description and assessment should include:

i) description (including mapping) of terrestrial, freshwater, and marine harvesting locations within the LAA and RAA (representative of locations identified by local Inuit and Indigenous communities); and,

ii) discussion on whether additional considerations were made for locations of cultural and/or ecological importance, how this information was incorporated into project design, and what avoidance and mitigation measures will be implemented to reduce impacts on these locations.

Proponent Response

The Impact Statement's (IS) treatment of subsistence harvesting locations of cultural and ecological importance reflects the terms of the Naonaiyaotit Traditional Knowledge Project (NTKP) licence between WKR and the Kitikmeot Inuit Association, governing use of NTKP-derived location-specific Inuit Knowledge in the IS public record (licence was signed on August 7, 2024, as recorded in Volume 2, Section 1.2).

Providing additional detail on specific terrestrial, freshwater, and marine harvesting locations beyond their treatment in Volume 9, Section 24 and related sections is dependent on authorization by KIA (see Addendum Appendix E, Supplemental Figures). Additional/future authorization protocols may be developed through Volume 11 Management Plan implementation, and continued engagement with rights-holders, consistent with Inuit Knowledge protocols.

As part of the IS, the development of Local Assessment Areas (LAAs) and Regional Assessment Areas (RAAs) integrated subsistence harvesting location information available to WKR through the NTKP database. Additionally, consideration of harvesting locations was applied in accordance with the methodology set out in Volume 3, Section 4 and Volume 9, Section 24 (Traditional Land, Marine, and Resource Use). Specific examples of engagement- and Knowledge-informed Project design decisions are provided therein in relation to subsistence harvesting. For example:

- Project location selection. Volume 2, Section 2.4 notes the Grays Bay location was identified as the preferred alternative by KIA and the Government of Nunavut in 2017 based on connectivity and a centrally located port location for marine transportation and safety. The location between Kugluktuk and Cambridge Bay provides a centrally located hub relevant to both communities' harvesters.

- Alternate road alignment consideration to avoid mapped caribou calving habitat. An alternate road alignment was evaluated to avoid mapped Bathurst caribou core calving habitat. This alignment was not carried forward for the reasons set out in Volume 2, Section 2.4, and the preferred alignment (Option 3) is characterized as being "west of the observed Bathurst caribou core calving area, outside of Bluenose East calving area and annual range entirely" (Volume 2, Section 2.4, Table 2.2). This design decision reflects consideration of caribou herd sensitivities of importance to Kitikmiut harvesters.
- Construction timing adjustments for fish and caribou seasonal sensitivity. Volume 3, Section 5.4.7 records that Kugaaruk HTO feedback on avoiding construction during spring and fall when fish can be found in watercourses influenced the timing of planned road construction. Community feedback on caribou calving periods likewise influenced construction timing (Volume 3, Section 5.4.7).

The assessment of Project effects on subsistence harvesting and access to harvesting locations is provided in the following IS locations, consistent with the VC-specific effects pathways for direct and indirect effects on harvested species and access:

- Volume 6, Section 16 (Caribou), Section 17 (Birds), Section 18 (Other Terrestrial Wildlife— VC-specific effects assessments for harvested terrestrial species.
- Volume 7, Section 20 (Freshwater Fish) — VC-specific effects assessment for harvested freshwater fish
- Volume 8, Section 22 (Marine Fish), Section 23 (Marine Mammals) — VC-specific effects assessments for harvested marine species
- Volume 9, Section 24 — Assessment of effects on Traditional Land, Marine, and Resource Use, including access to harvesting areas, continued use of cabins and culturally important areas, and effects on changes in land use patterns. Section 24 evaluates effects assessed through Project effects on caribou, marine mammals, fish, birds, and other species of harvesting importance (assessed in Volume 6, Volume 7, and Volume 8).
- Volume 9, Section 25 — Assessment of effects on Food Security and Food Sovereignty, including country food availability and harvester economic conditions.
- Volume 9, Section 26 and Appendix 26A — Assessment of effects on Community Health and Well-being, including country food consumption pathways.

WKR is available to work with KIA, KAA, other applicable HTOs, and other Inuit and Indigenous rights-holders to develop further management and mitigation measures where necessary within an authorized framework. Consistent with the NTKP licence, engagement-based confidentiality, and the rights-holder role of KIA and HTOs, further discussions/presentation of location-specific information for regulatory review purposes requires a collaborative process with KIA and HTO direction.

GC-IR 08 (IR-155)

Subject

Aquatic Effects Monitoring Program

Issue / Concern

The draft Aquatic Effects Management Plan provided in Volume 11 includes both the marine environment and the freshwater environment in a single plan. Marine and freshwater monitoring programs are often presented separately, as they are required under separate jurisdictions, include monitoring of different organisms, and require comparison of results to different benchmarks.

The draft AEMP is presented largely as an outline indicating where future information will be provided, but it lacks sufficient detail to properly evaluate its effectiveness in detecting, evaluating, and managing Project-related impacts. Given that monitoring is critical to the success of mitigation measures, the lack of detail raises concerns over the Proponent's ability to monitor and respond to potential effects during the Construction and Operations phases. Key details are not included, such as clearly defined monitoring endpoints, spatial and temporal design, thresholds for action, and data interpretation methods. These details are needed to assess the effectiveness of proposed monitoring and mitigation measures and to ensure protection of aquatic ecosystems through the life of the Project.

The proposed monitoring programs also include several differences between the Construction and Operations phases; however, in some cases, the rationale for these differences is unclear. For example, the marine monitoring program proposes analysis of effluent characteristics in the Operations phase, presumably related to discharge from a permanent outfall pipeline, but not during Construction, when a temporary discharge pipeline will be implemented.

The marine program also proposes to monitor underwater noise during Construction but not during Operations, even though noise-generating activities (i.e. shipping) will continue and potentially even increase during the Operations phase.

Lastly, the freshwater monitoring program proposes to monitor the effectiveness of mitigation measures (water intake screens, erosion and sediment control measures, and fugitive dust mitigation) during Construction, but not during Operations. It is unclear why these mitigation measures would not be monitored during the Operations phase.

Information Request

DFO and ECCC request that the Proponent:

1. *Provide separate draft monitoring plans for the freshwater environment and the marine environment.*
2. *Provide updated marine and freshwater AEMPs that include project-specific details on proposed monitoring. This should include monitoring endpoints and objectives, sampling design, methodology and analysis, action levels, and adaptive management.*

3. *If the updated AEMPs include exclusions for monitoring of project effects that are expected to occur across both the Construction and Operations phases, provide a rationale for these exclusions.*

Proponent Response

The Aquatic Effects Management Plan (AEMP) provided in Volume 11, Appendix 37D of the Impact Statement (IS) is a draft plan submitted with the IS and is a conceptual document appropriate for the Project at the IS submission stage. WKR agrees to divide the conceptual AEMP into separate marine and freshwater environment AEMPs during their next planned revision.

These plans will be developed and refined as the Project progresses through permitting and as detailed engineering design and construction planning is progressed. As they are developed, they will include detailed monitoring program design including monitoring endpoints and objectives, sampling design, methodology and analysis, action levels, and adaptive management triggers. Differences in effects monitoring across Project phases in the draft AEMP reflects the current conceptual-level treatment of Construction phase and Operations phase monitoring. The revised AEMPs will clarify which effects and endpoints will be monitored in each Project phase and, where suitable based on final Project design, will extend monitoring to the applicable phases where required to detect residual aquatic effects. The AEMPs will be developed in detail through the regulatory processes that follow the NIRB Project Certificate, including the Nunavut Water Board (NWB) Water Licence process, the DFO Fisheries Act authorization process, the Kitikmeot Inuit Association land use licence process, and Canadian Environmental Protection Act authorizations where applicable.

The scope and timing of the marine monitoring programs were determined based on the magnitude of residual impact, anticipated effectiveness of mitigation measures, and technical feasibility. As such, effluent characteristic analysis is proposed during Operations and Maintenance to verify that the combined desalination and wastewater treatment discharge meets applicable water quality guidelines because the rate and duration of discharge are greater during this phase of the Project compared to Construction. Based on similar logic, underwater noise monitoring during Construction because impact pile driving and other high-energy construction activities represent the Project activities with the greatest potential to generate underwater noise levels associated with injury, mortality, or significant behavioural disturbance. During Operations and Maintenance, underwater noise is expected to be dominated by vessel traffic. Operational vessel noise was assessed in Volume 8, Sections 22 and 23 using established modelling approaches and is predicted to result primarily in temporary behavioural disturbance rather than injury or mortality. Given the relatively low volume of Project vessel traffic, the implementation of vessel-speed restrictions, and the predicted effectiveness of mitigation measures, routine underwater noise monitoring during Operations was not identified as necessary in the draft AEMP. The need for any additional operational underwater noise monitoring will be further evaluated during development of the final marine AEMP.

WKR will continue to revise the AEMPs during the detailed design and pre-construction permitting phase, including through the Fisheries Act authorization application process in consultation with DFO and applicable Indigenous groups.

Crown-Indigenous Relations and Northern Affairs Canada

CIRNAC-IR 01 (IR-156)

Subject

Climate design basis for Project infrastructure

Issue / Concern

The Impact Statement presents climate information, Project infrastructure descriptions, and mitigation commitments; however, it does not clearly define the design basis linking environmental and climate conditions to infrastructure design, including design parameters, return periods, and incorporation of future climate scenarios.

Specifically, the Impact Statement does not define:

- *The environmental design conditions (e.g., extreme water levels, waves, ice) used to inform infrastructure design.*
- *The return periods or scenarios considered (including future climate conditions).*
- *How climate change projections have been incorporated into design assumptions.*

While Appendix B includes commitments to apply best practices and consider climate conditions, these commitments are expressed at a high level and do not provide detail to understand the engineering design basis.

Clarification of the design basis is important to evaluate the following:

- *Assessment of climate risks is consistent with the proposed mitigation and design approach*
- *Effectiveness of mitigation measures and the likelihood of adverse effects.*

Information Request

Please provide clarification of the following:

1. *Key environmental design parameters (e.g., water levels, waves, ice).*
2. *Design events/return periods and applied climate scenarios, including future conditions and time horizons.*
3. *How climate information (Volume 5) has informed infrastructure design (Volume 2).*
4. *How mitigation commitments (Appendix B) have been incorporated into design, including any additional design criteria.*
5. *Identification of any outstanding design elements and how uncertainty in climate projections will be addressed.*

Proponent Response

Please refer to GC-IR 05 (IR-152).

CIRNAC-IR 02 (IR-157)

Subject

Terrain Stability, Quarry Operations, and Unique Landform Avoidance

Issue / Concern

The proponent commits to developing Quarry/Borrow Pit and Road Construction Management Plans, as well as avoiding unique landforms where possible. However, the guidelines, standards, and monitoring approaches for permafrost protection at aggregate sources are not described, and no operational definitions or localization methods are provided for identifying unique landforms. This limits the ability to assess how sensitive landforms will be identified, avoided, and monitored, including in relation to permafrost protection.

Information Request

Please provide a Terrain and Material Extraction Management Framework addressing the following:

1. *Identify the guidelines, standards, and best practices that will be used to develop the Borrow Pit and Quarry Management Plans and the Road Construction Management Plans.*
2. *Provide explicit, operational definitions and localization methods (including mapping) for unique landforms (such as kames, eskers, and moraines) within the project footprint.*
3. *Describe how unique landform avoidance is integrated as a design consideration in road alignment and quarry design, and specify the monitoring activities that will verify permafrost controls.*

Proponent Response

The Grays Bay Road and Port Project Impact Statement (IS) is based on approximately 10% (conceptual) engineering design. At this design stage, the IS establishes the terrain and material extraction management framework applicable to the Project through:

- Volume 2 (Project Description)
- Volume 6 (Terrestrial Environment)
- Appendix 14A (Terrain, Soils, and Permafrost Baseline Report)
- Volume 11, Appendix 37H (Environmental Protection Plan)
- Attachment H1 (Borrow Pit and Quarry Management Plan)
- Attachment H2 (Erosion and Sediment Control Plan)
- Volume 11, Appendix 37A (Road Management Plan)

1. Guidelines, Standards, and Best Practices used to develop the Borrow Pit and Quarry Management Plans and the Road Construction Management Plans include:

    - Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Quarrying Permits and Land Use Permits under the *Territorial Lands Act*
    - Kitikmeot Inuit Association Quarry Concession Permit process on Inuit Owned Lands
    - Northern Land Use Guidelines, Pits and Quarries (INAC 2009)
    - Department of Culture and Heritage, GN for Archaeological surveys
    - *Wildlife Act* and Regulations, as implemented by GN
    - *Explosives Use Act* and Regulations, as implemented by NRCan
    - *Mine Health and Safety Act* and Regulations, as implemented by the Worker's Safety and Compensation Commission
    - Nunavut Water Board licence, administered under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*
    - *Fisheries Act*, administered by DFO

2. Provide explicit, operational definitions and localization methods (including mapping) for unique landforms (such as kames, eskers, and moraines) within the project footprint.

    Terrain mapping was achieved at scales ranging from 1:5,000 to 1:10,000 in the LAA. Mapping was conducted in the ArcGIS (Geographic Information System [GIS]) platform using available aerial photography, ortho-imagery, and LiDAR data available for the Project. A map book presenting the terrain mapping is included in the Baseline Report in Appendix 14A, along with distribution metrics within the PDA and the LAA. Table 14.5 in Vol 6, Section 14.2.2 provides the summary of surficial deposits classification and terrain types that have been identified in the LAA. For a map of eskers in relation to the Project RAA, see Figure AD1, as addended. As each quarry and borrow pit locations are identified, site specific mapping outlining all geological features will be created, including eskers and other unique landforms (as defined as eskers, wetlands, peatlands (Vol 6, Section 14.1.1.5, 14.2.2.3 and Appendix 14A)).

3. Describe how unique landform avoidance is integrated as a design consideration in road alignment and quarry design, and specify the monitoring activities that will verify permafrost controls.

    The road alignment is set within the Project PDA, however, final alignment adjustments within this corridor may be made to avoid unique features where possible. These adjustments will be made during advancement of engineering design.

    Final borrow and quarry locations will be selected based on:

    - Geotechnical and geochemical characteristics;
    - Archaeological and environmental constraints;
    - Proximity to the road;

- Ease of access;
- Input from local land users;
- Amount of available material (and type of material required).

As provided in response to GC-IR 05, geotechnical investigations and thermal considerations for the Project will include borrow and quarry locations. Permafrost considerations will be incorporated into monitoring programs for surface disturbance. Additional details on permafrost thermal regimes and monitoring considerations are provided in response WCS IR-02 (IR-145).

CIRNAC-IR 03 (IR-158)

Subject

Integrated Water-Wastewater Balance, Dilution Modeling, and Spill Contingency

Issue / Concern

Several discrepancies, gaps, and unresolved assumptions exist across the project's water supply, waste treatment, and outfall models. Specifically, potable water demand varies from 120 to 500 L/d per person, and wastewater generation (60 L/d per person) does not balance with these demands. The marine dilution model uses an effluent TSS of 120 mg/L, which contradicts the stated commitment to match federal Wastewater Systems Effluent Regulations (WSER) targets of 25 mg/L. Furthermore, grey water handling remains undefined, terrestrial sump or lagoon impacts are unassessed, and accident assessments omit truck-transported wastewater spill risks, marine outfall failures, treatment bypass events, and drinking water plant malfunctions.

Information Request

Please provide clarification on the following:

1. *Resolve the potable water demand discrepancies (120 L/d vs 500 L/d) and reconcile sewage flow rates, trucking frequencies, and dilution calculations in a consistent project water balance.*
2. *Provide the exact target effluent concentrations, explaining the contradiction between Table 2.18 (120 mg/L TSS) and WSER expectations (25 mg/L).*
3. *Clarify how grey water will be managed, define the design parameters of terrestrial sumps, and provide an assessment of biophysical impacts to terrestrial and freshwater environments if lagoons/wetlands are utilized.*
4. *Clarify the assumptions used for desalination brine salinity and combined effluent discharge rates in the dilution assessment, and update the assessment if required.*
5. *Assess risk, likelihood, and biophysical consequences of wastewater spills during truck transport (including construction capacity validations of existing infrastructure) and marine outfall malfunctions.*
6. *Assess the environmental impacts of a temporary or total failure of the potable water treatment system.*

Proponent Response

1. The 500 L per person per day rate is the estimated potable water consumption rate for planning purposes — inclusive of all uses (drinking, cooking, sanitary, laundry, and camp uses). This is distinct from the sewage/wastewater generation rate applied for the sizing of wastewater treatment and outfall discharge modelling. Reconciliation of the potable water demand (500 L/person/day), the wastewater generation rate, and the trucking frequencies referenced in Volume 2 (Section 2.6) will be developed in the Final Water Management Plan (Volume 11, Appendix 37H, Attachment H6) and the Final Water Balance during detailed engineering design as part of the Type A Water Licence, managed by the Nunavut Water Board.

2. Table 2.18 provides the proposed effluent discharge quality criteria (e.g., 120 mg/L TSS). The Federal Wastewater Systems Effluent Regulations under the Fisheries Act do not apply to Nunavut based on the unique Arctic operational conditions. The proposed criteria are in line with effluent criteria for mining operations within Nunavut. As stated in Volume 2 (Section 2.6.2) "WKR will strive to comply with the discharge requirements of the Wastewater System Effluent Regulation, despite it not being legislated in Nunavut, as there currently are no other regulations to guide discharge criteria."

3. The Water Management Plan (Volume 11, Appendix 37H, Attachment H6) establishes the framework for the management of water throughout the Project, including: Non-contact Water; Contact Water; Freshwater and Desalinized Water; and Treated Sewage Water. As provided in Volume 8, Section 22.3.2 terrestrial wastewater management options remain under consideration: in addition to desalination effluent, wastewater (including sewage and greywater) from the Grays Bay stationary and mobile construction camps will be treated and released to the marine environment during the Construction phase if a viable terrestrial option is not identified. Should a lagoon-based or wetland-based terrestrial wastewater management option be selected during the detailed engineering design phase, an assessment of biophysical impacts to terrestrial and freshwater environments will be developed and confirmed through the applicable regulatory authorization processes, including the Nunavut Water Board Type A Water Licence process and the Fisheries Act authorization process. A Wastewater Management Plan will be developed to include procedures for collection, handling, transportation, storage and disposal of wastewater (including sewage and greywater) (Volume 11, Appendix 37H, Attachment H7).

4. The desalination brine salinity and effluent discharge rates have been provided in both ECCC IR-09 and ECCC IR-10 (IR-169 and IR-170 respectively).

5. Volume 10, Section 34 Accidents and Malfunctions section assessed the risk, likelihood and consequences of Terrestrial and Aquatic Hazardous Materials Spills and Marine Hazardous Materials Spills, both of which could include an accidental spill of wastewater. This assessment also includes how emergency preparedness and response and management plans will be incorporated into work that is conducted during construction and operations and maintenance phases of the Project.

6. During the Operations and Maintenance phase, the primary potable water source is the freshwater lake source(s) along the northern portion of the Grays Bay Road, with desalination retained as a secondary source used as required. Retaining desalination as a secondary source during Operations and Maintenance provides supply redundancy for the Port potable water system — for example, in the event of a temporary interruption of the freshwater intake, treatment, or conveyance system, or where freshwater supply is otherwise constrained.

CIRNAC-IR 04 (IR-159)

Subject

Hydrology, Ice and Permafrost

Issue / Concern

The baseline characterization lacks detail regarding year-to-year hydrometric variability and groundwater-surface water interactions. In addition, the impact analysis does not clearly evaluate naturally occurring icings (aufeis) or spring ice damming risks at watercourse crossings. Where ice blockages or ponding occur, there may be implications for infiltration, permafrost and ground ice conditions, and regional drainage pathways that are not clearly assessed.

Information Request

Please provide clarification and assessment addressing the following:

1. *Characterize the year-to-year flow variability at the project hydrometric stations and provide an expanded discussion of groundwater-surface water interactions in the study area.*
2. *Describe known or potential locations of naturally occurring icings, including at potential water crossings, and provide available mapping where used.*
3. *Identify water crossings susceptible to spring ice damming, assess how proposed bridge/culvert structures may influence ice processes and backwatering, and outline mitigation and inspection plans.*
4. *Provide an assessment of how ponded surface water, ice blockage conditions, and altered infiltration rates could affect ground ice, permafrost stability, and regional drainage pathways, or identify where this assessment is provided elsewhere in the Impact Statement.*
5. *Assess whether altered drainage patterns could affect relevant drinking water locations and identify mitigation where needed.*

Proponent Response

Project specific hydrometric stations have not been installed to date, however regional hydrologic data from hydrometric stations were used to characterize the regional surface water hydrology near the PDA, including seasonal distribution of flows, peak flows and 7-day low flow conditions (Volume 7, Appendix 19A). As described in Section 19.2.2.4 of the IS, there are limited groundwater-surface water interactions anticipated to be affected based on the construction and operation and maintenance of the Project. The Project effects on the distribution of permafrost are expected to be limited and engineering design of the road and permanent infrastructure can be completed to avoid, reduce or mitigate for changes in groundwater-surface water interactions.

Site-specific hydrologic characterization at watercourse crossings will be advanced through subsequent design, geotechnical investigations, and permitting phases, including hydrologic input to the *Fisheries Act* authorization and Nunavut Water Board (NWB) Water Licence application processes. Design for each watercourse crossing will consider site-specific riverine ice thickness measurements, channel geometry surveys and site-specific flow conditions, including seasonal differences. Bridges and culverts will be sized and designed to handle a range of flow conditions at each location to limit likelihood of water or ice movement blockage. These additional geotechnical assessments will also be used to confirm where drainage culverts will be necessary along the road to manage local and regional drainage pathways, thus preventing ponded surface water and affects to ground ice and permafrost stability. Geotechnical assessments are planned for 2027 and will continue to support design through to construction and permit applications.

Routine inspections of culverts and bridges will be included in the Road Management Plan, as it gets further developed, including the frequency of inspections and the staff that will be responsible for inspections and management of culvert and bridge maintenance. Adaptive mitigation measures will also be included in the Road Management Plan to outline the planned and optional measures to manage water at watercourse crossings.

CIRNAC-IR 05 (IR-160)

Subject

Usage Scenarios, Regional Mine Transportation, and Dustfall Modeling

Issue / Concern

WKR's cargo logistics contain important inconsistencies between the road transportation assumptions and marine shipping assumptions: the port anticipates 30 bulk carriers/year (requiring 2.4 million tonnes of ore), but the transportation plans assume only 30 truck transits per year. This gap prevents any accurate evaluation of fugitive emissions from the 190,000 m^2 concentrate storage pad and the road. Furthermore, dustfall modeling completely excludes emissions from these induced regional mine developments. Omitting these emissions creates a material gap in the assessment of cumulative effects for soil, vegetation, water quality, and human health.

Information Request

Please provide a usage scenario for the Road and the Port operations, including the RFI activities.

Key elements of the scenario should include:

1. *A realistic road and port usage scenario that includes Reasonably Foreseeable Induced (RFI) activities (Izok, Hackett, High Lake mines) and resolves the contradiction between ship cargo capacity and road truck transit counts.*
2. *Exact shipping assumptions, truck numbers, and seasonal operating windows, establishing the upper credible operating limit.*
3. *Cumulative dustfall modeling to incorporate the RFI road transportation and port concentrate storage emissions.*
4. *Quantify and discuss the acid-generation and metal-leaching potential of the concentrate ore dust.*
5. *Dustfall impacts on surrounding soil, vegetation, sediments, surface water, and human health, identifying appropriate containment and mitigation measures based on updated modeling and leaching assays.*

Proponent Response

1. A realistic road and port usage scenario that includes Reasonably Foreseeable Induced (RFI) activities (Izok, Hackett, High Lake mines) was assessed. That scenario is described in Section 32.3 Regional and Future Perspectives in Volume 10, Section 32 Cumulative Effects Assessment Overview, and, in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, including Section 9A2.4.2 Operations (Cumulative Effects Case) in Attachment 9A.2 to Appendix 9A which provides details on road traffic use in Table 9A2.16 and details on port vessel traffic in Table 9A2.20.

   Table 9A2.16 identifies estimated annual numbers of "Concentrate Haul Trucks (e.g., Super B)" associated with the induced mine operations as an average of approximately 31 representative of a range from a minimum of 7 to a maximum of 60.

   These numbers represent the number of individual trucks using the Grays Bay Road and Port road during Project and mine operations travelling between the three RFI mines and the Grays Bay Port. They do not represent movement frequency and pattern (e.g., "round-trips", "one-way trips") or daily or annual transits as suggested in the issue/concern preamble to this information request, and therefore do not represent a gap or inconsistency. The corresponding number of "transits" per year (assumed by WKR as a "one-way trip" in which a truck passes a given point along the road, or twice for return trips) are provided in Appendix A, Cumulative Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package for the RFI activities.

   Addendum Appendix A also includes a new High Use Development Scenario which describes the Grays Bay Road and Port operating at maximum design capacity at the port, and includes details on port operation, shipping and truck traffic. The potential effects of this scenario are not assessed.

2. See Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, including Attachment 9A2 Spatial Metrics and Descriptive Information for RFI Physical Activities. Regarding the request's reference to an "upper credible operating limit", for clarification, the RFI scenario is assessed based on the Project design as described in Volume 2 Introduction, Project Description and Alternatives. Further summary and details are provided in Addendum Appendix A.

3. Cumulative dust fall modelling was not conducted for the RFI activities. Such activities would be by third-parties and not under the control of WKR beyond allocation of pad area at the Port. Also, relevant design details for those activities are not known at all or to the level of detail required with adequate certainty to support dispersion modelling, nor can reasonably be conjectured. Based on the nature of those activities the primary contributor to dust fall would be fugitive dust generated by the concentrate hauling from the RFI mines. The proponents of those mines would be conducting environmental assessments likely with monitoring and mitigation plans for controlling fugitive road dust. Those practices may be similar to the mitigation and monitoring measures described in Volume 5: Atmospheric Environment, Section 11: Assessment of Potential Effects on Air Quality, and Volume 11 Appendix 37C Air Quality Monitoring and Management Plan.

4. As stated in Volume 2, Section 2 Project Components and Activities, the future mineral concentrate storage area including concentrate storage pad(s) or building(s) and concentrate handling infrastructure will be developed by third parties. These facilities will be designed and constructed according to engineering standards to reduce the potential for acid rock drainage and direct metal leaching to soil, including the use of a canopy above the stockpile to reduce freezing of product that will also reduce acid and metal deposition. Deposition to soil may occur if fugitive dust generated by wind erosion of the concentrate stockpile contains acidifying sulphur compounds and metals and is deposited on the ground. Mitigation measures to reduce fugitive dust generated from the concentrate stockpile will however reduce the potential for such deposition (i.e., dust fall). CIRNAC-IR 05, Part 3 above identifies relevant management measures provided in the IS.

5. See response above to CIRNAC-5 Parts 3 and 4.

Environment and Climate Change Canada

ECCC-IR 01 (IR-161)

Subject

Laydown areas and contact water management

Issue / Concern

Laydown areas at Jericho Station and Grays Bay Port may be used to store commodities, including potential third-party concentrates, which could present a risk of contaminant mobilization via contact water (e.g., precipitation, snowmelt). It is unclear whether contact water management measures will be implemented to prevent release to the surrounding environment. ECCC recommends that the Proponent implement and describe a contact water management approach for laydown areas to prevent contaminant release to the environment.

Information Request

ECCC requests that the Proponent clarify:

1. *Whether laydown areas will include engineered controls (e.g., liners, berms, runoff collection);*
2. *Whether laydown areas will be used to store commodities that could release contaminants; and*
3. *Whether contact water will be collected, monitored, and treated, as required.*

Proponent Response

The Project's contact water management framework is established through the Water Management Plan (Volume 11, Appendix 37H, Attachment H6), which sets out the framework for the management of water throughout the Project, including non-contact water (Section 2.1.1), contact water (Section 2.1.2), and containment sumps (Section 2.2.6). Contact water — water that has come into contact with Project materials or disturbed areas — is managed through collection, containment, and, where required, treatment prior to release, in accordance with the Water Management Plan framework and applicable water quality criteria.

For fuel and hazardous materials handled at laydown areas, secondary containment areas will include a minimum capacity of 110% of the largest tank volume and 10% of the aggregate capacity of all containers. Fuel and hazardous material laydown areas will be set-back at least 31 m from the ordinary high water mark of any watercourse or waterbody. All Project personnel will be trained in fuel handling (Volume 10, Section 34.6.1).

Laydown areas may be used to store Project materials and equipment (Volume 2, Section 2.6.1.1). Laydown areas at the Grays Bay Port and Jericho Station may accommodate commodities, including potential future third-party concentrates, consistent with the Project's multi-user, multi-use purpose. The specific commodities to be stored at laydown areas, including any third-party concentrates, and the associated contaminant-mobilization risk and containment requirements, will be a function of the specific third-party use arrangements and the applicable regulatory authorizations. Containment and management measures applicable to the port concentrate storage pad and associated commodity storage are further addressed in the response to CIRNAC-IR 05 (IR-160). Examples of control measures include storage sheds, that prevent snow and rain from interacting with ore, surface contouring to direct contact water to the water management area, as directed in the Water Management Plan Volume 11, Appendix 37H, Attachment H6).

The Water Monitoring Plan will also coincide with the Aquatic Effects Management Plan (Volume 11, Appendix 37D), which applies to Water Resources (Volume 7, Section 19), Freshwater Fish and Fish Habitat (Volume 7, Section 20), Marine Water and Sediment Quality (Volume 8, Section 21), and Marine Fish and Fish Habitat (Volume 8, Section 22), with threshold-triggered adaptive management (Volume 11, Appendix 37D, Section 1.2). Monitoring through both plans will confirm the effectiveness of the Water Management Plan.

The specific contact water collection, monitoring, and treatment procedures — including sampling parameters, water quality criteria, treatment methods, and discharge criteria applicable to contact water at laydown areas and commodity storage areas — will be developed as the Water Management Plan and Aquatic Effects Management Plan are refined during the detailed engineering design phase and confirmed through the Nunavut Water Board Type A Water Licence process and, where applicable, the *Fisheries Act* authorization process.

ECCC-IR 02 (IR-162)

Subject

Secondary containment management

Issue / Concern

The management plans reference the use of secondary containment for the fuel farm, fuel and hazardous materials; however, it is unclear how the Proponent will ensure that adequate freeboard volume is maintained at all times to contain a worst-case release, particularly where precipitation and snowmelt may accumulate within containment systems.

The Proponent should provide clear procedures to ensure secondary containment systems maintain adequate capacity at all times, including routine inspection, removal and management of accumulated precipitation, and confirmation that containment remains capable of fully capturing a release under worst-case conditions.

Information Request

ECCC requests that the Proponent clarify:

1. *How the Proponent will ensure sufficient available capacity is maintained within secondary containment (e.g., inspection frequency, pumping/removal of accumulated water or snow);*
2. *Whether procedures are in place to monitor and manage precipitation accumulation to prevent loss of containment effectiveness; and*
3. *How collected water within containment will be assessed and managed (e.g., testing, treatment, disposal) prior to release.*

Proponent Response

1. **Ensuring Sufficient Available Capacity Within Secondary Containment**

   The Spill Contingency Plan (Volume 11, Appendix 37H, Attachment H5), including its Management Response provisions (Section 4.1.1), establishes the framework for the management of the Project's fuel and hazardous materials storage and secondary containment systems.

   The specific procedures for ensuring sufficient available secondary containment capacity is maintained at all times, including inspection frequency and the removal of accumulated precipitation, snow, or water, will be developed as the Spill Contingency Plan and Environmental Protection Plan are advanced from their current draft, conceptual form, and confirmed through the regulatory processes that follow the NIRB Project Certificate, including the Nunavut Water Board Type A Water Licence process.

2. **Monitoring and Managing Precipitation Accumulation**

   The management of precipitation and snowmelt accumulation within secondary containment systems, so as to maintain the containment capacity required to contain a worst-case release, will be addressed through the operational procedures developed in the Spill Contingency Plan and Environmental Protection Plan. These operational procedures, including monitoring of accumulation and scheduled removal, will be developed during the detailed engineering design phase and confirmed through the regulatory processes that follow the NIRB Project Certificate, including the Nunavut Water Board Type A Water Licence process.

3. **Assessment and Management of Collected Water Prior to Release**

   The assessment and management of water collected within secondary containment, including testing, treatment, and disposal prior to release, will be addressed through the Spill Contingency Plan, the Water Management Plan, and the Environmental Protection Plan, in accordance with applicable water quality criteria. Collected water within secondary containment that has come into contact with fuel or hazardous materials is managed as contact water, consistent with the contact water management framework addressed in the response to ECCC-IR 01 (IR-161). The specific testing parameters, treatment methods, and discharge criteria will be developed as these management plans are refined during the detailed engineering design phase and confirmed through the Nunavut Water Board Type A Water Licence process and, where applicable, the *Fisheries Act* authorization process.

ECCC-IR 03 (IR-163)

Subject

Marine Spill Response Preparedness

Issue / Concern

Vessel traffic presents a risk for the uncontrolled release of hazardous substances into the marine environment, and robust spill preparedness is essential to mitigate this risk. It is unclear whether the Proponent has conducted or plans to conduct pre-spill planning (e.g., spill modelling, sensitivity mapping, pre-shoreline clean-up assessment technique [PreSCAT], or equivalent) to identify environmental sensitivities and response priorities specific to the Grays Bay marine environment in the event of a worst-case spill (e.g., a large fuel release).

ECCC recommends that the Proponent undertake and document pre-spill planning for the marine environment to identify response priorities and ensure that appropriate, location-specific response strategies are in place for worst-case spill scenarios preparedness.

Information Request

ECCC requests that the Proponent clarify:

1. *Whether pre-spill assessments have been or will be completed to characterize environmental sensitivities, spill fate and behaviour, and priorities for the protection of the environment (e.g., shoreline habitats, marine mammals, migratory birds); and*
2. *How the results of these assessments will inform spill response decision-making and operational prioritization during a major marine incident.*

Proponent Response

1. **Pre-Spill Assessments (Environmental Sensitivities, Spill Fate and Behaviour, Protection Priorities)**

   The Impact Statement provides baseline characterization relevant to marine environmental sensitivities through the Volume 8 marine assessments, including marine water and sediment quality (Section 21 and Appendix 21A), marine fish and fish habitat (Section 22 and Appendix 22A), and marine mammals (Section 23 and Appendix 23A), and through the migratory bird and shoreline habitat characterization in Volume 6. This baseline provides the environmental-sensitivity information base from which pre-spill sensitivity mapping and response prioritization can be developed.

   The specific pre-spill assessments, including marine spill trajectory and fate modelling, environmental sensitivity mapping, and Pre-SCAT or equivalent, will be developed as the Spill Contingency Plan and Risk Management and Emergency Response Plan are advanced from their current draft, conceptual form, and confirmed through the regulatory processes that follow the NIRB Project Certificate,

including applicable Transport Canada approvals under the Canada Shipping Act, 2001 and the Nunavut Water Board Type A Water Licence process, in consultation with Environment and Climate Change Canada.

2. **How Pre-Spill Assessment Results Will Inform Response Decision-Making and Prioritization**

The results of pre-spill assessments will inform the marine spill response decision-making and operational prioritization framework established in the Spill Contingency Plan and Risk Management and Emergency Response Plan (Volume 11, Appendix 37H, Attachments H5 and H4). These plans establish the framework through which environmental sensitivities, spill fate and behaviour, and protection priorities (including shoreline habitats, marine mammals, and migratory birds) are translated into response strategies, resource positioning, and operational prioritization during a marine incident.

The specific integration of pre-spill assessment outputs into response decision-making, including the prioritization of environmentally sensitive areas, the selection of response strategies appropriate to spill fate and behaviour, and the operational sequencing of protection measures during a major marine incident, will be developed as the Spill Contingency Plan and Risk Management and Emergency Response Plan are advanced and confirmed through the regulatory processes that follow the NIRB Project Certificate, in consultation with Environment and Climate Change Canada, Transport Canada, and the Canadian Coast Guard.

ECCC-IR 04 (IR-164)

Subject

In-situ burning as a response method to spills

Issue / Concern

The Proponent identifies in-situ burning as a potential spill response strategy; however, it is unclear whether the use of this technique has been assessed for feasibility and regulatory compliance within the context of the Project. In-situ burning may result in the release of contaminants to air and water. ECCC would like to highlight that a smoke plume could potentially trigger prohibitions in the Migratory Birds Convention Act (MBCA) and Migratory Birds Regulations (MBR), particularly subsections 5.1(1) or 5.1(2) of the MBCA. Currently, there is not a pathway to the federal authorization of in-situ burning in a marine environment.

ECCC recommends that the Proponent describe the decision framework and regulatory considerations associated with in-situ burning.

Information Request

ECCC requests that the Proponent clarify under what conditions and decision-making framework in-situ burning would be considered.

Proponent Response

The Project's spill response framework, including the range of spill response methods that may be considered, is set out in the IS, specifically in Volume 10, Section 34 (Accidents and Malfunctions), Volume 1, Appendix B (Mitigations and Commitments), and the Volume 11 Environmental Protection Plan (Appendix 37H), including the Spill Contingency Plan (Attachment H5) and the Risk Management and Emergency Response Plan (Attachment H4). That framework prioritizes spill prevention (Volume 10, Section 34.6.1) and, where a spill occurs, response measures that "*focus on containment of the spill to limit the effects, cleanup of the spill, and remediation of the affected areas as quickly as possible*" (Volume 10, Sections 34.7.1 and 34.7.2).

The IS identifies burning as one of a range of potential spill response actions that may be considered in the event of a spill as recorded in Volume 10, Section 34. The selection of any spill response method in the event of a spill is governed by the Spill Contingency Plan and the Risk Management and Emergency Response Plan and is subject to the applicable regulatory framework and authorizations in effect at the time of the response. Situations where in-situ burning may be the most effective spill management process is being evaluated for inclusion in the plan. WKR acknowledges ECCC's advice that a smoke plume from in-situ burning could trigger the prohibitions under subsections 5.1(1) or 5.1(2) of the *Migratory Birds Convention Act, 1994* (MBCA) and the *Migratory Birds Regulations*, and that there is currently no pathway to the federal authorization of in-situ burning in a marine environment. WKR confirms its understanding that any spill response method employed for the Project — including in-situ

burning, if it were to be considered — would be subject to, and conducted in accordance with, the applicable federal and territorial regulatory framework in effect at the time of the response, including the MBCA and *Migratory Birds Regulations*. WKR further confirms that it would not employ in-situ burning in the marine environment in the absence of an applicable federal regulatory authorization pathway.

The decision framework governing the selection of spill response methods — including the specific conditions, decision-making criteria, and regulatory approvals that would govern whether in-situ burning could be considered — will be developed through the Spill Contingency Plan and Risk Management and Emergency Response Plan (Volume 11, Appendix 37H, Attachments H5 and H4). These plans will be advanced and confirmed through the regulatory processes that follow the NIRB Project Certificate, including the Nunavut Water Board Type A Water Licence process, applicable Transport Canada approvals under the *Canada Shipping Act, 2001*, and consultation with the applicable federal and territorial authorities, including ECCC in respect of the MBCA and *Migratory Birds Regulations*.

ECCC-IR 05 (IR-165)

Subject

Metal leaching / acid rock drainage (ML/ARD) potential

Issue / Concern

In Section 19.2.1.2, the Proponent indicates that the geochemistry information used to characterize geochemical conditions within the Local Assessment Area (LAA) and Regional Assessment Area (RAA) was compiled from existing datasets and a previous study, the 2013 Izok Corridor Project. The Izok study included a ML/ARD risk assessment related to the proposed roadway from Grays Bay to the Izok site.

The Proponent has identified criteria for classifying a sample as potentially acid generating (PAG) or non-PAG, along with the associated ML/ARD risk levels. For classification as non-PAG, the criteria include the following conditions: "Non-PAG: samples with carbonate NPR [neutralization potential ratio] <2 and total sulphur <0.05 wt.%"

ECCC notes that the NPR calculation is based on the neutralization potential as well as the amount of acid potential present in the geological material. If calculation using the acid-based accounting (ABA) method indicates that NPR < 2, it implies that the material has limited neutralization potential and should be classified as PAG or Uncertain, rather than Non-PAG, in accordance with Chapter 14 of MEND (2009). Clarification of the rationale for the PAG / Non-PAG classification is needed to support the review of potential impacts from ML/ARD.

Information Request

ECCC requests that the Proponent clarify why they classify material with low neutralization potential (i.e., carbonate NPR < 2) as non-PAG.

Proponent Response

Where the sample has both a carbonate neutralization potential ratio (NPR) of less than 2 and a total sulphur content of less than 0.05 weight percent (wt.%), the IS classifies the sample as non-PAG.

The operative basis for the non-PAG classification under this criterion is the total sulphur content of less than 0.05 wt.%, not the carbonate NPR value alone. Total sulphur content is a direct measure of the maximum acid-generating potential of a geologic material, because sulphide oxidation is the source of acid generation. Where total sulphur content is below a low threshold, the material contains insufficient sulphide to generate acid regardless of its neutralization potential, and the neutralization potential ratio is not the determinative parameter for such low-sulphur materials.

The classification applied in the IS is consistent with the MEND (2009) Prediction Manual for Drainage Chemistry for Sulphidic Geologic Materials framework where the non-PAG classification is driven by the low total sulphur content (less than 0.05 wt.%) rather than by the NPR. A material with very low total sulphur has a correspondingly low acid-generating potential, such that the ratio of neutralization potential to acid potential (the NPR) is not a reliable or determinative classifier for that material. Under the MEND (2009) framework, low-sulphur materials are commonly screened as non-acid-generating on the basis of the total sulphur (or sulphide) content.

ECCC-IR 06 (IR-166)

Subject

Freshwater quality baseline data

Issue / Concern

In the discussion of the freshwater quality baseline, the Proponent refers to data from historical sampling (2012), along with supplemental data (2024) to characterize baseline spatial and temporal variability in surface water quality. However, there is uncertainty as to whether this baseline dataset is sufficiently robust to adequately characterize the baseline conditions. ECCC notes the following potential limitations and areas of uncertainty associated with the compiled baseline water quality dataset:

1. *Limited number of samples: The total baseline water quality dataset is based on 39 samples, including lakes, streams, and rivers, spread across an area of 230 km.*
2. *Out-dated samples, >10 years old: The majority of data is compiled from historical sampling, with 33 samples collected in 2012, and 6 collected in 2024. Current conditions are therefore largely unknown.*
3. *Lack of temporal variability or seasonality: All sampling was completed in August of the given sampling year and no monitoring locations were sampled more than once. Temporal and seasonal variability is unknown.*
4. *Uneven spatial coverage of sampling across the Project Development Area (PDA): The Project spans five watersheds, and will require over 100 water crossings, but in some cases (e.g. James River) there is only one sample representing an entire watershed. In addition, the reliance on historic data has resulted in certain areas being overrepresented in the baseline dataset, potentially skewing results (e.g. 23/39 samples are from the High Lake Mine area in the High Lake Watershed).*
5. *Natural exceedances: Comparison of baseline monitoring data to aquatic life guidelines indicates the potential for natural exceedances of water quality guidelines; however, the lack of confirmatory sampling introduces uncertainty into these conclusions.*

It is acknowledged that it is not feasible to sample all creeks and waterbodies that intersect with the Project, but understanding the existing baseline water quality is an important component in the future ability to be able to detect and respond to potential changes and impacts associated with Project Construction and Operations. The limitations and shortfalls of the established baseline water quality dataset are not discussed in the Impact Statement, but should be acknowledged, along with any proposed plans to reduce data gaps and uncertainty.

In addition, Section 19.7 states that "existing baseline data can be used to support future monitoring efforts" but it is unclear how the Proponent would use the existing dataset in future analysis e.g., if it is the intention to use the baseline dataset to extrapolate to other waterbodies during future monitoring efforts to determine whether changes to water quality are occurring. The accurate characterization of baseline water quality data is particularly important if this data is proposed to serve as a proxy indicator for the assessment of Project-related effects for other unsampled waterbodies.

Information Request

ECCC requests that the Proponent provide the following information:

1. *Discussion on the limitations and uncertainties associated with the proposed baseline water quality dataset addressing topics 1 to 5 from the comment above. This may include a description of any plans to reduce data gaps and uncertainty; and*
2. *A description of how the baseline water quality dataset is proposed to be used to support monitoring during Construction and Operational phases, including whether the dataset will be extrapolated and assumed to represent baseline conditions in other waterbodies.*

Proponent Response

The Project's freshwater quality baseline is presented in Volume 7, Section 19.2 and Appendix 19C of the IS. The follow-up monitoring framework is provided in Volume 7, Section 19.7 and the Aquatic Effects Management Plan (Volume 11, Appendix 37D). The following response addresses each of the two sub-parts of the Information Request.

1. **Limitations and Uncertainties of the Baseline Water Quality Dataset**

   WKR acknowledges the ECCC observations regarding the freshwater quality baseline dataset and confirms the following characterization of the dataset and its limitations. The sample number is reflective of a screening level characterization, and the dataset relies on historical samples collected primarily at a single point in time.

   The baseline surface water quality dataset will be supplemented through the pre-Construction and ongoing monitoring programs developed under the Aquatic Effects Management Plan (Volume 11, Appendix 37D) and confirmed through the NWB Type A Water Licence process. This monitoring will include the collection of additional site-specific and seasonal surface water quality data at Project-relevant monitoring locations to strengthen the baseline characterization prior to and during Construction.

   The collected baseline data is not intended to be a proxy indicator for the assessment of Project-related effects for other unsampled waterbodies. Project-specific data will be collected along the alignment as part of pre-construction and design, in alignment with the AEMP and the Water Management Plan. Given the nature of the Project, Project-related effects are anticipated to be limited to erosion and sediment control influences during construction, which will be mitigated through design and adaptive management practices.

2. **Use of the Baseline Dataset to Support Construction and Operations Monitoring**

The Aquatic Effects Management Plan (Volume 11, Appendix 37D) is the instrument through which surface water quality monitoring will be conducted during Construction and Operations and Maintenance. The AEMP applies an exposure-and-reference-area monitoring design, in which monitoring at exposure areas (i.e., areas potentially affected by Project activities) is compared against reference areas (i.e., areas beyond Project influence that are most similar in characteristics to the exposure area), consistent with the framework set out in Volume 11, Appendix 37D, Section 2.2.1.

Under this exposure-reference framework, Project-related change is detected principally through the comparison of exposure-area monitoring against contemporaneous reference-area monitoring, rather than through extrapolation of the historical baseline dataset to represent baseline conditions in unsampled waterbodies.

WKR confirms that site-specific baseline characterization at Project monitoring locations will be established through the pre-Construction and Construction-phase monitoring developed under the Aquatic Effects Management Plan and confirmed through the NWB Type A Water Licence process, providing the site-specific baseline against which Project-related change will be assessed.

The specific level of detail requested, including the confirmed composition of the baseline dataset, the specific plans to reduce data gaps and uncertainty (additional sampling locations, seasonal coverage, and confirmatory sampling for natural exceedances), and the specific role of the existing baseline dataset in the Construction and Operations monitoring design, is dependent on the development of the Aquatic Effects Management Plan monitoring programs. These programs will be developed and confirmed through the regulatory processes that follow the NIRB Project Certificate, including the Nunavut Water Board Type A Water Licence process, with continued engagement with Kitikmiut and other Indigenous groups.

ECCC-IR 07 (IR-167)

Subject

Lake Water Quality Baseline Data

Issue / Concern

There are 29 samples included in the "lakes" baseline water quality dataset, the majority (>50%) of which are sourced from the 2012 High Lake Mine Dataset. No rationale is provided for how it was determined that this dataset was suitable to characterize baseline water quality for the larger Project Development Area. Areas where mining development occurs, such as the High Lake Mine, are usually highly mineralized and it would be expected that water quality in this area may exhibit elevated concentrations of metals relative to other non-mineralized areas in the region. Including the High Lake data in a broader regional dataset without accounting for the specific differences of this area may skew summary statistics, and lead to overestimation of regional metal concentrations and misinterpretation of overall baseline water quality. The data provided in Appendix E indicate that several parameters that exceed guidelines in High Lake (e.g. cadmium, cobalt, dissolved zinc), but not in other monitored lakes. The Impact Statement provides no discussion on the regional differences of the dataset.

In addition, all lake data was pooled into one dataset, regardless of lake size and sampling depth, with no rationale provided for this approach. As noted in the report, the lake depths ranged from 1 m to >30 m, and water quality samples were collected at depths ranging from 0.5 m to 30 m. Water quality often differs among lakes of varying depths because depth strongly influences thermal stratification, oxygen dynamics, and biogeochemical processes. The Impact Statement provides no discussion on the differences in lake depths and compilation of this data.

It is important to understand the methodology and rationale for how baseline was established to ensure that the existing environment is adequately characterized and to provide confidence in the Proponent's ability to predict and measure change.

Information Request

ECCC requests that the Proponent provide the following additional information:

1. *An assessment of how the High Lake data differ from other lake water quality data;*
2. *Rationale for inclusion of the High Lake Baseline water quality in the regional baseline water quality dataset; and*
3. *Rationale for pooling all lake water quality into one dataset, regardless of lake size and depth.*

Proponent Response

WKR acknowledges Environment and Climate Change Canada's observation that the High Lake area is a mineralized area associated with the potential for mining development, and that water quality in mineralized areas may exhibit elevated concentrations of metals relative to non-mineralized areas in the region. However, the water quality data from these lakes, combined with other lake water data was used for baseline understanding in the region. The compiled lake baseline dataset reflects the reliance on the best available existing data at the IS stage, including the 2012 High Lake dataset compiled from the previous Izok Corridor Project study.

Lake water use for the Project is limited. Two lakes within the vicinity of the Port have been identified as potential potable water sources for the operation and maintenance phase of the Project (Volume 7, Section 20.2). Assessment of these lakes have included bathymetry, site specific water quality, and recharge. Water balance for these lakes will be completed as part of the NWB Water Licence application to confirm recharge.

Water from lakes along the road alignment may be used during construction for temporary ice roads and surface development or for dust management. Other interactions with water from lakes during construction and operations and maintenance is not anticipated. The road alignment has been set to avoid lakes and mitigation measures will be employed to manage interactions from Project activities during construction and operations. Therefore, a water quality program to further refine the lake water quality for the Project has not been completed. Lakes that are identified as requiring site-specific monitoring during construction will be further evaluated to set baseline conditions to base monitoring parameters required to understand changes from the Project.

ECCC-IR 08 (IR-168)

Subject

Water Quality Guidelines - Ammonia

Issue / Concern

The tables provided in Appendix 19C include summaries of monitoring results compared to relevant water quality guidelines. However, no guideline is provided for ammonia, which is a potential contaminant of concern during Construction and Operations due to the use of Ammonium Nitrate/Fuel Oil (ANFO) blasting agents. It is important to identify water quality guidelines that will be used to inform the assessment of potential impacts on water quality that can cause effects to fish and fish habitat.

Information Request

ECCC requests that the Proponent provide information on the proposed freshwater water quality guideline for ammonia that will be applied to the Project to avoid or minimize effects to fish and fish habitat.

Proponent Response

As identified in Volume 7, Section 19.1.2.1 and Volume 7, Appendix 19C, Section 2.3, the IS applies the CCME Guidelines for the Protection of Freshwater Aquatic Life (WQG-FAL) (CCME 2025a) among the suite of guidelines used to characterize baseline conditions and assess potential Project effects on surface water quality; the WQG-FAL is used for evaluation of ammonia in surface water. The ammonia guideline value varies based on the pH and temperature at the time of sample collection (CCME 2010). Appendix 19C (Freshwater and Sediment Quality Data Summary Report); Appendix E: Compiled Laboratory Results for Surface Water and Sediment) provides screening results for WQG-FAL including ammonia. Some historical data could not be screened against the WQG-FAL ammonia guideline as the guideline requires both pH and temperature to calculate, and temperature was not available.

Reference

CCME. 2010. Canadian Water Quality Guidelines for the Protection of Aquatic Life - Ammonia. Available at: https://ccme.ca/en/res/ammonia-en-canadian-water-quality-guidelines-for-the-protection-of-aquatic-life.pdf

ECCC-IR 09 (IR-169)

Subject

Desalination plant

Issue / Concern

During the Construction phase, "The Project will require fresh water from a desalination plant that will be discharging brine to the marine environment through an outfall on the seabed near the barge landing area of the Port PDA." Fresh water requirements are based on an estimate of 100 people stationed at Grays Bay Port camp. During the Operations and Maintenance phase, the primary source of potable water "is planned to be withdrawn from suitable lakes and the desalination plant would be used as a secondary source as required."

Given that suitable lakes are proposed as the primary source of potable water during Operations, it is surprising that a desalination plant is proposed as a secondary source, considering the need to discharge desalination brine. Further information on the challenges of using local lakes would be helpful to explain the choice of potable water source.

Information Request

ECCC requests that the Proponent provide the following information:

1. *Identify suitable lakes being considered as potable water sources for the Operations and Maintenance phase; and*
2. *Discuss why desalination of seawater for use as potable water is preferred over utilizing freshwater during the Construction phase.*

Proponent Response

The Project's potable water supply framework is set out in the Impact Statement (IS) in Volume 2 (Project Description), Volume 8, Section 21.3.2 (Change in Marine Water Quality), and the Port Management Plan (Volume 11, Appendix 37I), with the potential freshwater intake lakes characterized in Volume 7, Section 20.2 and Appendix 20A (Fish and Fish Habitat Baseline Report).

Construction phase. During the Construction phase, desalination is proposed as the potable water source to meet the concentrated, high-volume, and time-limited water demand of the construction workforce (based on an estimate of approximately 100 people stationed at the Grays Bay Port camp), at a point in the Project schedule when the permanent freshwater intake and treatment infrastructure at the lake sources along the northern portion of the road, and the associated water conveyance infrastructure to the Port, are not yet constructed and commissioned. Desalination at the Port provides a potable water source co-located with the Port construction activity, independent of the freshwater intake and conveyance infrastructure that is itself being constructed during this phase.

Operations and Maintenance phase. During the Operations and Maintenance phase, the primary potable water source is the freshwater lake source(s) along the northern portion of the Grays Bay Road, with desalination retained as a secondary source used as required. Retaining desalination as a secondary source during Operations and Maintenance provides supply redundancy for the Port potable water system — for example, in the event of a temporary interruption of the freshwater intake, treatment, or conveyance system, or where freshwater supply is otherwise constrained — consistent with the dual-source potable water arrangement described in the response to CIRNAC-IR 03 (IR-158).

ECCC-IR 10 (IR-170)

Subject

Marine outfall modelling

Issue / Concern

In Section 21.3.2.2, the Proponent indicates that desalination brine and treated wastewater may be discharged to the marine environment through a marine outfall. The outfall is expected to be located near the barge landing area and would "extend approximately 100 m offshore to a minimum water depth of 10 m."

Mixing of effluent from the outfall was modelled using the CORMIX software. Inputs included: the lower (ebb tide) marine bottom current velocities measurements made in August 2025, estimated combined effluent flows, estimated salinity of discharged brine, estimated total suspended solids concentration in effluent, and measured ambient salinity in the receiving environment in July 2025. The modelled mixing zone sizes are 6 m and 28 m for the Construction and Operations phases respectively. Effluent discharge is planned year-round but there is no discussion of seasonal influences on bottom currents. For example, the 2 m thick landfast ice could conceivably alter the values measured in August.

Effluents were modelled for the Construction and Operations phases based on different estimates for the number of people using the facilities. For the Construction phase, the effluent combined brine from desalination of potable water for 100 people and treated wastewater from 200 people. For the Operations phase, the effluent volume estimate assumed 150 people for brine discharge and 350 people for wastewater discharge.

Estimates of the number of people generating effluent do not match the Project description. The permanent facilities would include accommodations for 80 and 40 people at the Port Site and Jericho Station respectively, with operational workforces of 42 and 12 people respectively. The Proponent acknowledges that the estimates are conservative, noting: "…average effluent discharge will be significantly less during operations than construction even though the modelling conservatively assumes a greater effluent discharge during operations." While it is typical to create conservative estimates, they should be plausible given the Project description.

Additional information on the CORMIX modelling is needed to evaluate the predictions of the models and the potential impacts from the marine effluent discharge.

Information Request

ECCC requests that the Proponent provide the following information:

1. *Additional detail on the CORMIX modelling, including a figure of the geometry used and the model results for the concentrations at different distances from the diffuser;*
2. *Discuss effects of ice cover on the mixing zone during winter; and*
3. *Explain how the number of people generating brine and wastewater effluent during the Operations phase was determined.*

Proponent Response

Direct disposal of snow on sea ice or into marine waters is not a proposed Project activity and was therefore not assessed as a direct marine effects pathway. Potential indirect effects associated with snowmelt runoff were considered as part of the broader surface-water runoff pathway assessed in Volume 8, Sections 21.3.2 and 21.3.3. The Impact Statement (IS) addresses runoff- and snowmelt-related effects on marine water quality through the assessment framework set out in Volume 8, Section 21.3.2 and Section 21.3.3.

As stated in Volume 8, Section 21.3.3.4 (Change in Marine Sediment Quality — Mitigation, Management, and Enhancement Measures):

> "*Surface runoff during rainfall and snowmelt events may continue to introduce fine sediments and pollutants into the marine environment; however, these inputs will be managed through engineered drainage systems and erosion control measures.*
>
> *Mitigation measures for the Project will be guided by a Project-specific Environmental Protection Plan, which will be aligned with applicable regulatory frameworks, as outlined in Section 21.1.2.*" (Volume 8, Section 21.3.3.4, document page 21-60, PDF page 5384 of 8171).

The Volume 8, Section 21.3.3.4 mitigation framework records:

> "*To mitigate impacts during both phases, measures such as silt fencing, sediment traps, and engineered drainage systems will be implemented to manage runoff and prevent sedimentation in marine areas*" (Volume 8, Section 21.3.3.4, document page 21-60, PDF page 5384 of 8171).

Consistent with the Project's objective of preventing contaminants from entering marine waters, snow generated during Port operations is expected to be stored and managed in designated onshore snow storage areas rather than disposed of directly into marine waters. Snow storage areas would be located a minimum of 31 m from the high-water mark, and snowmelt would be managed through applicable onshore water management and disposal measures, as required. Operational controls, runoff management measures, and any requirements for snow storage areas will be developed through refinement of the Port Management Plan, Road Management Plan, Environmental Protection Plan, and associated Water Management Plan.

Site-specific operational details for snow disposal at the Port and along the Road — including snow disposal locations, contaminant monitoring at snow storage areas, snowmelt collection and treatment requirements, and runoff treatment requirements — will be developed through the Port Management Plan, Road Management Plan, and Environmental Protection Plan refinement and confirmed through the Nunavut Water Board (NWB) Type A Water Licence process and applicable federal regulatory authorizations under the *Canada Shipping Act, 2001* and the *Fisheries Act*. The Aquatic Effects Management Plan (Volume 11, Appendix 37D) is the monitoring instrument applicable to marine water quality effects, with commitment to threshold-triggered adaptive management and *"continued engagement with Kitikmiut and other Indigenous groups, as part of the adaptive management plan"* (Volume 11, Appendix 37D, Section 1.2, document page 2, PDF page 7874 of 8171). The management plans are submitted in draft form with the IS and will be refined through subsequent regulatory processes.

ECCC-IR 11 (IR-171)

Subject

Practicality of mitigation measures

Issue / Concern

In Section 21.3.2.3, several mitigation measures are qualified with "where practical" or "where practicable". For example, "where practical, only material with low acid rock drainage and metal leaching potential will be used…" and "Silt curtains (or equivalent device) shall be used during nearshore dredging activities at the marine terminal (i.e., vessel berths), where practicable". It is not clear what alternatives will be used when the proposed measures are not practical. Clarification on any potential alternative measures is needed to allow for assessment of the proposed mitigation measures.

Information Request

ECCC requests that the Proponent provide the following information:

1. *Examples of conditions when it might not be practical to use "only material with low acid rock drainage and metal leaching potential (ARD/ML)" during Construction, and alternative mitigation measures proposed; and*
2. *Examples of conditions when it might not be practicable to use silt curtains (or equivalent devices) "during nearshore dredging activities at the marine terminal" and alternative mitigation measures proposed.*

Proponent Response

The Project's mitigation, management, and enhancement measures for marine water and sediment quality are set out in the IS Volume 8, Section 21.3.2.3, with related measures in Volume 7, Section 19 (Water Resources), the Borrow Pit and Quarry Management Plan (Volume 11, Appendix 37H, Attachment H1), and the Environmental Protection Plan and its other attachments (Volume 11, Appendix 37H). The following response addresses each of the two components of the Information Request.

1. **ARD/ML Low-Potential Material — Conditions and Alternative Measures**

   The phrase "where practical" was used to recognize that the Project is at a conceptual design stage and that final material source locations, quantities, haul distances, geochemical characteristics, and engineering specifications will be confirmed during detailed design. While the Project will preferentially use material with low ARD/ML potential, there may be circumstances where such material is not available in the required quantity, quality, or location for a specific construction application. The qualifier therefore provides flexibility for detailed design and construction planning, while maintaining the requirement that rock material be appropriately characterized and managed. It does not remove the requirement for ARD/ML testing or allow unsuitable material to be used

without controls. Where low-ARD/ML material cannot be used, alternative and complementary measures would include application of site-specific mitigation measures where required (e.g., buried and capped to reduce exposure).

2. **Silt Curtains During Nearshore Dredging — Conditions and Alternative Measures**

The "where practicable" qualifier and the "or equivalent device" language recognize that silt curtain deployment may not be effective or safe under certain conditions — for example, in higher current velocities, higher wave energy, or ice-affected conditions under which a silt curtain may not maintain its position or integrity. In such circumstances, measures that manage the effect will be employed by use of an equivalent sediment-control device or modified dredging equipment and/or dredging operations.

The broader sediment-control framework applicable to nearshore dredging is established through the Environmental Protection Plan (Volume 11, Appendix 37H) and its Erosion and Sediment Control Plan (Attachment H2), and marine turbidity effects are monitored through the Aquatic Effects Management Plan (Volume 11, Appendix 37D) receiving-environment monitoring, with threshold-triggered adaptive management.

ECCC-IR 12 (IR-172)

Subject

Marine water and sediment quality analyses detection limits

Issue / Concern

In order to measure the potential effect of Project activities on marine water quality and sediment, it is necessary to measure parameter concentrations with sufficient accuracy to be able to detect changes that could impact the aquatic environment. The CCME guidelines for the protection of marine aquatic life provide well-accepted benchmarks.

In several instances, the chemical analyses of baseline water and sediment samples have detection limits over the CCME guidelines. The Proponent assumes that parameters with detection limits over the guidelines have concentrations exceeding the guidelines. This may not be accurate and will not allow future monitoring to detect changes that might have an impact.

Examples of detection limits above the CCME guidelines are six PAHs (acenaphthene, acenaphthylene, anthracene, dibenzo(a,h) anthracene, fluorene, 2-methylnaphthalene) in August 2024 sediment samples. For water quality, cadmium and chromium detection limits were above guidelines for the August 2024, July 2025 and August 2025, but not the May 2025 sampling campaigns. Since adequately low detection limits were attainable in May 2025, it is not clear why they were not used for other campaigns.

Information Request

ECCC requests that the Proponent provide the following information:

1. *Explain why detection limits below CCME guidelines in marine water and sediment are not routinely used for all parameters in planned sample analyses; and*
2. *Discuss the uncertainty introduced into the baseline dataset by elevated detection limits, and how this uncertainty will be reduced.*

Proponent Response

The Project's marine water and sediment quality baseline is presented in the IS in Volume 8, Section 21 (Marine Water and Sediment Quality) and the Marine Water and Sediment Quality Baseline Report (Volume 8, Appendix 21A), with the receiving-environment monitoring framework established through the Aquatic Effects Management Plan (Volume 11, Appendix 37D).

In several instances in the baseline marine water and sediment quality dataset (Volume 8, Appendix 21A, Sections 5.2.2.2 and 5.4.2.2), the laboratory analytical detection limits for certain parameters were above the applicable CCME Canadian Environmental Quality Guidelines:

- Six polycyclic aromatic hydrocarbons (PAHs) — acenaphthene, acenaphthylene, anthracene, dibenzo(a,h)anthracene, fluorene, and 2-methylnaphthalene — had detection limits above the applicable guidelines in the August 2024 sediment samples; and
- Cadmium and chromium had detection limits above the applicable guidelines in the August 2024, July 2025, and August 2025 water quality sampling campaigns, but not in the May 2025 campaign, for which adequately low detection limits were attained.

Analytical detection limits are established by the accredited laboratory based on the analytical method used, sample matrix, and instrument capability. Where a laboratory detection limit is above the applicable CCME guideline, a non-detect result does not necessarily indicate that the parameter concentration exceeds the guideline. Rather, the actual concentration may be lower than both the laboratory detection limit and the applicable CCME guideline; however, this cannot be confirmed from that result alone. To reduce this uncertainty, future baseline and monitoring analyses will specify lower detection limits for the affected parameters, where analytically achievable, to verify whether concentrations are below the applicable CCME guidelines. Routine monitoring will be completed through the Aquatic Effects Management Plan to confirm receiving-environment conditions and support evaluation of potential Project-related changes over time.

ECCC-IR 13 (IR-173)

Subject

Baseline marine water quality data

Issue / Concern

Defining baseline conditions for marine water quality provides an understanding of how much the aquatic environment could change before any adverse impacts occur. It also provides a reference against which future monitoring can be compared to identify Project effects.

In Section 5.2.1 of the Marine Water and Sediment Quality Baseline Report, the Proponent provides a map of historical marine sediment/water quality sampling locations along with a table of ranges of measured metal concentrations. Insufficient information is presented to adequately compare the historical data with data collected in 2024 and 2025.

Certain tables of CTD (conductivity, temperature, depth) profiles (A.3-3, A.3-4, A.3-10 to A.3-18) are titled "Modified Phase III ESA at Sointula Small Craft Harbour, Sointula, Malcom Island, BC". It is not clear how this data is relevant to the Grays Bay Project.

The water quality data for August 2024 and July 2025 includes shallow and deep samples for most stations. In August 2025 all samples are shallow and in May 2025, all samples are deep. Samples from both depths are pooled together when calculating statistics, but no rationale was provided on how this was deemed appropriate.

Information Request

ECCC requests that the Proponent provide the following information:

1. *Details on historical baseline marine water quality including: which historical stations were sampled for water quality, periods of the year samples were collected, number of samples collected at each station, in each study, the depth at which samples were collected, detection limits for parameter analyses, data from all other parameters measured including salinity, temperature and total suspended solids, and discussion of if/how parameters varied among sampling locations;*
2. *Explain how and why CTD profile data from Malcolm Island BC should be considered for the Grays Bay Project; and*
3. *Discuss the method used to determine sample results from different depths were similar enough to be pooled together when calculating statistics.*

Proponent Response

The Project's marine water and sediment quality baseline is presented in the IS in Volume 8, Section 21 (Marine Water and Sediment Quality) and the Marine Water and Sediment Quality Baseline Report (Volume 8, Appendix 21A), including the historical water quality characterization (Section 5.2.1) and the CTD (conductivity, temperature, depth) profile and water quality results appendices (Appendices A.3 and A.4). The following response addresses each of the three components of the Information Request.

1. **Details on Historical Baseline Marine Water Quality**

   Volume 8, Appendix 21A, Section 5.2.1 presents a map of historical marine sediment and water quality sampling locations and a table of measured metal concentration ranges.
   The historical site data were included to provide general context for the Project-specific baseline, support broad comparison of historical conditions in the Grays Bay area, and identify general patterns or trends over time. They were not intended to provide a direct, one-to-one comparison with the 2024 and 2025 Project-specific sampling results, given differences in sampling locations, timing, depths, analytical parameters, and detection limits among the historical studies.

   Historical baseline information is summarized in Volume 8, Appendix 21A, with additional detail available in the supporting source studies. Baseline characterization will continue to be strengthened through environmental monitoring under the Aquatic Effects Management Plan (Volume 11, Appendix 37D).

2. **Relevance of Malcolm Island, BC CTD Profile Data**

   Certain CTD profile tables in Volume 8, Appendix 21A, Appendix A.3 (Tables A.3-3, A.3-4, and A.3-10 to A.3-18) are titled *"Modified Phase III ESA at Sointula Small Craft Harbour, Sointula, Malcom Island, BC,"*

   The CTD profile data in Appendix A.3 are the CTD profiles collected for the Grays Bay Project marine baseline program. The "Modified Phase III ESA at Sointula Small Craft Harbour … Malcom Island, BC" table titles are erroneous titles carried over from a document template. WKR proposes the following Errata correction: the erroneous table titles on Volume 8, Appendix 21A, Appendix A.3, Tables A.3-3, A.3-4, and A.3-10 to A.3-18 will be corrected to reflect the Grays Bay Project CTD profile data they contain. WKR will confirm the correct table titles and the data provenance in the updated Appendix 21A documentation.

3. **Method for Pooling Sample Results from Different Depths**

Table 5.6 in Section 5.2.2.2 in Volume 8, Appendix 21A provides summary statistics that pool water quality results from different depths. The purpose of these calculations was to provide a general characterization for potential contaminants (metals, petroleum hydrocarbons, and polycyclic aromatic hydrocarbons) in the Grays Bay area measured in 2024 and in 2025, not to present a characterization by depth. The available dataset was sufficient to support the effects assessment by characterizing overall baseline marine water quality conditions and screening potential Project-related changes against applicable guidelines; it was not intended to provide a statistically reliable characterization of contaminant concentrations by depth.

ECCC-IR 14 (IR-174)

Subject

Turbidity units

Issue / Concern

Water quality profile turbidity data from the field program are reported in Nephelometric Turbidity Units (NTU), while those from the drilling program are reported in Formazin Turbidity Units (FTU). There is no discussion of how the units are comparable or how FTU measurements will be compared to CCME guidelines, which are in NTU. Agreement on the conversion factor to be used will ensure field measurements can accurately be compared to guidelines to monitor for potential effects.

Information Request

ECCC requests that the Proponent provide information on the conversion factor that will be used to convert turbidity measurements in FTU to NTU.

Proponent Response

The Project's marine water quality baseline turbidity data are presented in Volume 8, Appendix 21A (Marine Water and Sediment Quality Baseline Report), including the field program water quality profiles (Table 5.4) and the geotechnical drilling program water quality profiles (Table 5.5).

A review of the turbidity datasets has confirmed that the units reported in Appendix 21A were incorrectly identified. The turbidity data collected during the geotechnical drilling program and presented in Table 5.5 were measured in Formazin Nephelometric Units (FNU), not Formazin Turbidity Units (FTU) as indicated in the report. The 2024 field program turbidity data presented in Table 5.4 were measured and reported in Nephelometric Turbidity Units (NTU). However, the July 2025 turbidity data were measured and reported in FNU, not NTU as stated in the report. An errata will be issued to revise Appendix 21A and correct the turbidity units presented in Tables 5.4 and 5.5, as applicable, to accurately reflect the units used during each sampling program.

Turbidity measurements reported in FNU are based on the ISO 7027 nephelometric method, which uses an 860 nm (near-infrared) light source and a 90-degree detection angle. In contrast, NTU measurements are typically determined using a white-light source but also a 90-degree detection angle and in accordance with EPA Method 180.1. The applicable CCME water quality guidelines are expressed in NTU. Although FNU and NTU are derived using different light sources, the resulting turbidity values are generally considered comparable for low to moderate turbidity conditions because both methods measure light scattered at a 90-degree angle and are calibrated using the same formazin-based standards.
The differences between FNU and NTU sensors and turbidity measurements are more apparent with the colour of the water and particle size in clearer water where a white-light NTU turbidity sensor detects smaller particles because it has a smaller wavelength and the measurement is affected by coloured water. On the other hand, the near-infrared wavelength from the FNU turbidity sensor reduces the effects

of coloured water and stray light resulting in a slightly lower turbidity measurement. While FNU and NTU values are generally considered equal, there are no universal conversion factors to express direct NTU values based on FNU measurements, as the relationship depends on instrument characteristics (light source) and the properties of the water sample being measured.

For consistency with the applicable CCME turbidity guideline, turbidity measurements collected going forward through Project monitoring will be reported in NTU. This will provide a consistent unit basis for comparison with the CCME guideline and avoid the need for reporting equivalency to FNU values. Turbidity monitoring conducted through the receiving-environment monitoring program under the Aquatic Effects Management Plan (Volume 11, Appendix 37D) will therefore use NTU and will be confirmed through the Nunavut Water Board Type A Water Licence process.

ECCC-IR 15 (IR-175)

Subject

Guidelines for nitrate concentrations in marine water

Issue / Concern

Tables 5.6 and 21.6 compare measured marine water quality results against CCME water quality guidelines for the protection of aquatic life (WQG-PAL). The WQG used for nitrate (550 mg/L short term, 13 mg/L long term) was developed for freshwater rather than marine water. Table 21.9 lists the CCME guideline for nitrate for marine water, but it is not used in comparisons. The inconsistency makes it unclear as to which guideline will be used for the Project; clarification is needed to complete a technical review of the potential impacts to marine water quality and effects on fish and fish habitat.

Information Request

ECCC requests that the Proponent clarify which guideline they propose to use for the protection of marine life for nitrate concentrations.

Proponent Response

The Project's marine water quality effects assessment and guideline framework are set out in the IS in Volume 8, Section 21 (Marine Water and Sediment Quality), including the marine water quality results (Table 21.6) and the indicators and thresholds table (Table 21.9), and in the Marine Water and Sediment Quality Baseline Report (Volume 8, Appendix 21A, Table 5.6). The following response clarifies the guideline proposed for nitrate in marine water.

The Applicable Marine Nitrate Guideline

Marine water quality results in Volume 8, Table 21.6 and Appendix 21A, Table 5.6 were compared against the CCME freshwater nitrate guideline for the protection of aquatic life (550 mg/L short-term; 13 mg/L long-term), while Volume 8, Table 21.9 lists the CCME marine nitrate guideline, which was not used in the results comparison. This presents an inconsistency in the nitrate guideline applied across the Volume 8 marine water quality tables. However, it should be noted the measured nitrate concentrations for the sampling locations in Grays Bay in 2024 and 2025 were below both the freshwater and marine CCME nitrate guidelines.

Proposed IS Correction (Errata)

To correct the inconsistency identified by ECCC, WKR proposes the following correction to the IS:
The marine water quality results comparisons in Volume 8, Table 21.6 and Volume 8, Appendix 21A, Table 5.6 will be revised to compare measured marine nitrate concentrations against the CCME marine aquatic life nitrate guideline (as listed in Volume 8, Table 21.9), replacing the freshwater nitrate guideline (550 mg/L short-term; 13 mg/L long-term) currently applied in those tables.

ECCC-IR 16 (IR-176)

Subject

Residual effect sensitivity

Issue / Concern

Table 21.14 indicates three levels of sensitivity to residual effects based on the timing of Project interactions: no sensitivity, moderate sensitivity, and high sensitivity. The Impact Statement concludes that marine water and sediment quality will not be sensitive to residual effects due to infrastructure construction, dredging, and vessel activity because these activities will occur during the open water season.

Although there will be more mixing in marine waters during the open water season, it is unclear how the Proponent concluded there would be no residual effects during this period from the activities listed. Properly identifying possible residual effects will inform monitoring to ensure that any changes are acceptable.

Information Request

ECCC requests that the Proponent explain how they concluded there is "no sensitivity" to residual effects from infrastructure construction, dredging and vessel activity.

Proponent Response

The Project's assessment of residual effects on marine water and sediment quality is set out in the IS in Volume 8, Section 21, including the project residual effect characterizations (Sections 21.3.2.4 and 21.3.3.4) and the Project interactions and sensitivity table (Table 21.14). The following response explains the basis for the sensitivity characterization applied in Table 21.14.

Clarification of the "Sensitivity" Concept in Table 21.14

WKR wishes to clarify, first, the meaning of the "sensitivity" rating in Volume 8, Table 21.14. In the marine water and sediment quality assessment, the "sensitivity" rating characterizes the timing sensitivity of the receiving environment to a residual effect — that is, whether the residual effect coincides with a seasonal period during which the marine receiving environment is more or less sensitive to that effect. A "no sensitivity" rating does not mean that no residual effect occurs; it characterizes the timing of the residual effect relative to the seasonal sensitivity of the marine environment.

WKR acknowledges ECCC's observation that a "no sensitivity" rating should not be read as a conclusion that there are no residual effects from the associated activities. The residual effects of infrastructure construction, dredging, and vessel activity on marine water and sediment quality are assessed and characterized in Volume 8, Sections 21.3.2.4 and 21.3.3.4; the Table 21.14 sensitivity rating is one parameter within that characterization, not a conclusion that the activities produce no residual effect.

Basis for the "No Sensitivity" (Timing) Rating

The basis for the "no sensitivity" timing rating for infrastructure construction, dredging, and vessel activity is that these activities occur during the open-water season, when the marine receiving environment is in a lower-sensitivity condition with respect to marine water and sediment relative to the ice-covered season.

The residual effects of these activities are discussed in Volume 8, Sections 21.3.2.4 and 21.3.3.4, including the following characterization of residual effects: magnitude, geographic extent, duration, frequency, and reversibility. The open-water-season timing is one factor supporting the residual effect characterization — for example, greater water-column mixing and dispersion during the open-water season, and the avoidance of the ice-covered period — and the "no sensitivity" timing rating reflects that the activities do not coincide with a higher-sensitivity seasonal window for the marine receiving environment.

ECCC-IR 17 (IR-177)

Subject

Jericho Station – Project description, baseline soil and water quality data, effects assessment, closure and reclamation

Issue / Concern

The effects assessment provides no evaluation of potential contaminant mobilization from soils at the Jericho site. Construction may disturb contaminated soil and redistribute contaminants into previously unaffected areas. Additional information and analyses are needed to assess for potential Project effects related to mobilization of contaminants, including spatial comparison between project infrastructure and contaminated areas, and characterization of contaminated soils, surface water and sediments to establish baseline conditions. Historical contamination of soil and water should be considered in closure planning, as the site may remain a source of contaminants beyond the Construction and Operations phases of the Project.

Information Request

ECCC requests that the Proponent provide:

1. *Spatial mapping showing proposed development in relation to contaminated areas;*
2. *A delineation of all contaminated soils and associated soil chemistry;*
3. *Baseline surface water and sediment quality data for all surface water features at the Jericho site, including all parameters related to historical contamination sources and mining activities*
4. *A conceptual site model complete with:*
    a) *known and suspected areas of contamination in soil, surface water and groundwater;*
    b) *potential exposure pathways in soil, surface water, groundwater, and air; and*
    c) *known ecological receptors at the site or receptors that are reasonably suspected to be present within relevant timeframes*
5. *Assessment of the potential for contaminant mobilization due to disturbance of contaminated soil at the Jericho site during Construction and Operations phases of the Project, and potential effects to surface water quality, fish, fish habitat and migratory birds.*
6. *Information on how historical contamination in soil and surface water at the Jericho site will be risk managed or remediated as part of Project closure planning*

The Jericho Mine Site is located on federal and Inuit-owned land. ECCC refers the Proponent to CIRNAC for information related to historical contamination for the areas of the site on federal land; for information on the Inuit-owned lands, the Proponent is referred to the Kitikmeot Inuit Association.

Proponent Response

Proposed development at Jericho Station includes the following, as provided in Volume 2, Section 2.6.3:

- Administration and access management of the road
- Accommodation capacity of around 40 persons
- Bulk fuel storage and transfer
- Road maintenance, including snow clearing, grading, and watercourse crossing maintenance and repair
- Resupply of materials required for road operations
- Quarry and maintenance yard operations
- Airstrip maintenance and air traffic control
- Road traffic monitoring
- Spill and emergency response

Use of the existing Jericho Mine site for the Project is limited to airstrip maintenance and repairs, laydown and storage for road construction materials, bulk fuel storage, road maintenance equipment storage, quarry material stockpiles and placement of the accommodations. Use of the existing road to where the TCWR ends will also be used for construction.

None of these activities overlap with contaminated areas from the Jericho mine site operations. A figure of where the planned use of the Jericho mine site for the Project is provided as Figure AD 4 Jericho Station PDA. The figure set for the Closure Assessment Jericho Diamond Mine, Nunavut, filed with NIRB (16UN058) by Aboriginal Affairs and Northern Development Canada, outlines existing areas at the Jericho Mine site.

Contaminated soils assessment by WKR has not been completed at the Jericho site, as there is no planned use of such areas. Any such information regarding contamination and surface water and sediment quality would need to be obtained from CIRNAC, as the responsible party for remediation and reclamation of the Jericho Mine Site.

ECCC-IR 18 (IR-178)

Subject

Climate change resilience

Issue / Concern

The Proponent provides a full climate change risk assessment (CCRA) in Appendix 12B (summarized in Section 12.5) based on an assessment of the likelihood of climate hazards and their potential consequences. Potential adaptation measures are provided for the high risks that were identified in the CCRA. However, it is not clear which of these adaptation measures the proponent plans to implement. It is important to clarify the approach to implementing adaptation measures to allow for a review of proposed methods to address high risk climate hazards.

Information Request

ECCC requests that the Proponent clarify the approach that will be taken to identify and implement appropriate adaptation measures discussed in the CCRA.

Proponent Response

The CCRA in Volume 5, Appendix 12B characterizes climate hazards and their potential consequences to the Project and identifies potential adaptation measures relevant to the high risks identified. Consistent with the approximately 10% (conceptual) design stage, the CCRA identifies a range of potential adaptation measures to address the identified high-risk climate hazards, rather than a final selection of the specific measures to be implemented. Selection and implementation of adaptation measures will occur during detailed engineering and design, when Project components are further advanced and site-specific requirements can be incorporated. Final adaptation measures will be developed and confirmed through subsequent regulatory, permitting, and design processes following issuance of the NIRB Project Certificate.

ECCC-IR 19 (IR-179)

Subject

Net-Zero Planning

Issue / Concern

Section 7.4.2.1 of NIRB's Impact Statement Guidelines indicates that the Impact Statement must include "a discussion on the project's GHG emissions and impacts to Nunavut and Canada's climate change efforts", and that the discussion shall include "For projects with lifetimes to 2050 and beyond, a net-zero plan that would build off the best available technologies and environmental practices evaluation in order to achieve net-zero emissions by 2050".

The Project is expected to continue past 2050 with a design life of 75 years, however there is no net-zero plan provided.

Information Request

ECCC requests that the Proponent provide a net-zero plan in order to align with the Impact Statement Guidelines. Section 3.5 of the Strategic Assessment of Climate Change (SACC) Technical Guide may provide guidance for the net-zero plan. The net-zero plan should be based on the Best Available Technologies / Best Environmental Practices (BAT/BEP) determination process that considers technical feasibility, GHG reduction potential, and economic feasibility.

Proponent Response

A net-zero plan will be developed for the Project, following the guidance of the Strategic Assessment of Climate Change. A BAT/BEP assessment will be included as part of that plan. Given the time needed to produce a net-zero plan, that deliverable will be provided as part of the Technical Review Comments responses.

ECCC-IR 20 (IR-180)

Subject

Estimation of Impact on Carbon Sinks

Issue / Concern

Section 7.4.2.1 of NIRB's Impact Statement Guidelines indicates that the discussion on the Project's greenhouse gas (GHG) emissions and impacts to climate change efforts shall include "a quantitative and qualitative description of the positive and negative impacts on carbon sinks and sources…"

The Proponent estimated GHG emissions related to land-use change, however there is no estimation of the Project's potential impact on carbon sinks.

Information Request

ECCC recommends that the Proponent provide an estimate of the Project's impact on carbon sinks and sources in order to align with the Impact Statement Guidelines. Section 3.5.3 and Section 4 of the SACC Technical Guide may provide guidance for the estimation.

Proponent Response

One potential for carbon impact was considered in the IS: forested land. There are no substantive forests in the Project's footprint that are acting as carbon sinks and therefore there is no carbon sink impact from forested land. The potential carbon sink impact on wetlands was omitted from the IS due to an error. An estimate of the Project's carbon sink impact on wetlands was made using the area of wetlands disturbed by the Project (124.6 ha) and conservatively assuming that the wetlands are completely disrupted. A conservative modelled carbon accumulation rate based on northern Canada was sourced from Chaudhary et al. (2017). The Strategic Assessment of Climate Change uses 100 years as the period over which the wetland will not act as a carbon sink as a result of the Project. With this information, the estimate of the Project's carbon sink impact on wetlands over a 100-year period is 6,554 tonnes of carbon, which is equivalent to 24,014 t CO_2. For context, this amount of CO_2 is approximately equivalent to two years of diesel combustion by construction activities at the Port or about 17% of total Project construction emissions in the peak year of construction.

Reference

Chaudhary, Nitin, Paul A. Miller, Benjamin Smith. 2017. Modelling past, present and future peatland carbon accumulation across the pan-Arctic region. Biosciences, 14, 4023-4044.

ECCC-IR 21 (IR-181)

Subject

Selection of Canadian Ambient Air Quality Standards (CAAQS) for Particulate Matter (PM2.5)

Issue / Concern

Table 11.2 lists the air quality standards that were used in the impact assessment, including the CCME's 24-hour and annual CAAQS for $PM_{2.5}$ (27 and 8.8 µg/m³, respectively). The CCME has updated the $PM_{2.5}$ standards for 2030, lowering the values for 24-hour and annual standards to 23 and 8.0 µg/m³, respectively. Given the Construction and Operations timeline for this Project, the 2030 values would be more appropriate for assessing potential future impacts on air quality.

Information Request

ECCC requests that the Proponent clarify whether the updated 2030 CAAQS for $PM_{2.5}$ will be used in the analysis of Project-related impacts to air quality.

Proponent Response

The CCME has established updated 2030 CAAQS for $PM_{2.5}$, lowering the 24-hour and annual values to 23 µg/m³ and 8.0 µg/m³ respectively. The maximum predicted $PM_{2.5}$ concentrations (including baseline) reported in Volume 5, Section 11 remain below the updated 2030 CAAQS values for both averaging periods and both Project phases.

See Table IR-181.1 for a comparison of maximum predicted $PM_{2.5}$ concentrations against the updated 2030 CAAQS.

Table IR-181.1 $PM_{2.5}$ Maximum Predicted Concentrations

Project Phase	Averaging period	Maximum Predicted Concentrations Including Baseline Concentration (µg/m³)	2030 CAAQS (µg/m³)	% Max. Value of 2030 CAAQS
Construction Phase	24-hour	19.3	23	84%
	Annual	4.13	8.0	52%
Operations & Maintenance	24-hour	9.19	23	40%
	Annual	2.43	8.0	30%

Because all maximum predicted $PM_{2.5}$ concentrations remain below the updated 2030 CAAQS, the air quality effects characterization and the significance determination for $PM_{2.5}$ presented in Volume 5, Section 11 are not changed by the adoption of the 2030 CAAQS values.

ECCC-IR 22 (IR-182)

Subject

Incinerator mitigation for dioxins and furans

Issue / Concern

In Section 11.3.2.2, the Proponent states that incinerator stack gases will be released to the atmosphere at a temperature higher than 700ºC to reduce the chances of the inadvertent formation of dioxins and furans through the de novo synthesis process. Based on this approach, along with other operational considerations, the Proponent expects waste emissions from the incinerators to be less than the Canada-wide Standards for dioxins and furans. However, it is unclear if the flue gas will be cooled rapidly enough to prevent formation of dioxins and furans (e.g., Mukherjee et al. 2016). In order to inform the assessment of impacts from incinerator gases, the Proponent should clarify whether stack testing will be planned for the incinerators.

Information Request

ECCC requests that the Proponent clarify whether stack testing of the incinerators will be planned, to confirm whether engineering controls are successful in preventing formation of dioxins and furans.

Proponent Response

Potential emissions of dioxins and furans will be mitigated through incinerator design in accordance with the applicable federal batch-incineration technical guidance (ECCC 2010), provincial air pollution control, design and operation guidelines (MECP 2016), operational controls, and continuous monitoring of the combustion process (chamber and stack temperatures). Whether the incinerator air-emission monitoring program will include stack (source) testing for dioxins and furans will be determined in coordination with the Government of Nunavut Department of Environment and the applicable regulatory authorization process.

References

ECCC (Environment and Climate Change Canada). 2010. Technical Document for Batch Waste Incineration: Executive Summary and Overview of the Six-Step Process for Batch Waste Incineration. Available at: https://publications.gc.ca/collections/collection_2010/ec/En14-17-2-2010-eng.pdf.

MECP (Ontario Ministry of the Environment Conservation and Parks). 2016. Guideline A-7: Air Pollution Control, Design and Operation Guidelines for Municipal Waste Thermal. Available at: https://www.ontario.ca/page/guideline-7-air-pollution-control-design-and-operation-guidelinesmunicipal-waste-thermal.

ECCC-IR 23 (IR-183)

Subject

Truck and vessel traffic

Issue / Concern

Estimates of traffic on the road and at the port are provided for the reasonably foreseeable scenario. An annual average of 31 concentrate trucks are estimated to transit the road per year, and 30 concentrate ships (bulk carriers) are estimated to use the port per year. The port will be designed to accommodate Post-Panamax sized carriers (~100 000 Deadweight Tonnage (DWT)); larger concentrate trucks typically have capacities that are less than one percent of the ore carrier vessels. This would suggest that the 31 concentrate trucks estimated for the annual average could each be conducting many trips each year. Given that the cumulative effects assessment relies on accurate estimates of road traffic, it is important to clarify the actual number of truck transits expected per year.

Information Request

ECCC requests that the Proponent:

1. *Provide an estimate of the number of truck transits per year on the road for the reasonably foreseeable scenario; and*
2. *Clarify if this estimated number of truck transits was used in the cumulative effects assessment.*

Proponent Response

Please refer to CIRNAC-IR 05 (IR-160).

ECCC-IR 24 (IR-184)

Subject

Potential impacts to Peary Caribou

Issue / Concern

Peary Caribou were not included in the Impact Statement. In Volume 1, Non-Technical Summary (Summary of Effects Assessment), the Proponent states: "The Kitikmiut recognize only three types of tuktuit: mainland caribou, island caribou, and Peary caribou; the Project interacts with mainland caribou and island caribou. To align with Kitikmiut perspectives, separate assessments are completed for mainland caribou, which are best represented by the Bathurst Caribou Herd (BCH), and island caribou represented by the Dolphin and Union Herd (DUH)".

As per Section 7.2.2.1 of the NIRB's Impact Statement Guidelines, "The site study area (SSA) is the proposed project footprint (i.e., where proposed project activities would be undertaken including the project's proposed facilities, buildings and infrastructure, transportation corridors, access roads, shipping routes, etc…"

In Section 8.1.11.1 of the Guidelines, the requirements for baseline information for Terrestrial Wildlife and Wildlife Habitat include: "Description of wildlife populations, distributions, and ecologies in the Local Study Area and Regional Study Area, with emphasis on identified wildlife VECs and species with special designations (Species at Risk listed on Schedule 1 of the federal SARA and species with designations by the COSEWIC [Committee on the Status of Endangered Wildlife in Canada])".

Although their Critical Habitat occurs outside the Marine Regional Assessment Area (RAA), project-related activities (e.g., shipping) extend beyond the Marine RAA and will occur within the Peary Caribou core range; it is noted that areas of sea ice are critical habitat.

The Marine RAA may not sufficiently capture effects if year-round port activities are anticipated as it excludes consideration of the potential effects of shipping on Peary Caribou and their use of sea ice in particular. Peary Caribou require unimpeded ice-crossing to support migration and to access habitat that supports their life processes. Year-round shipping and icebreaking activities will impact the ability of Peary Caribou to cross to the islands within the project area (e.g., Victoria Island and others).

Information Request

ECCC requests that the Proponent provide:

- *an assessment of adverse effects of the shipping component of the Project on Peary Caribou and their use of sea-ice related to critical habitat that occurs outside the Core range (identified in the Recovery Strategy),*
- *any measures that will be taken to avoid or lessen those effects; and*
- *approaches that will be taken to monitor the effectiveness of mitigation measures.*

Alternatively, please provide a comprehensive rationale as to why Peary Caribou is not included in the Impact Statement.

Proponent Response

Please refer to the responses to IR-20 (KAA-20) and IR-21 (KAA-21) regarding shipping routes and sea ice. Key points include the following:

Project-operated shipping (operated by WKR) is open-water only (late June through October), does not include icebreaking, and is conducted on a marine approach route approximately 40 nautical miles south of the Northwest Passage shipping lane.

Shoulder-season activity at the Grays Bay Port (early June and November) is by the Canadian Coast Guard and other approved vessels. As stated in Volume 2, Section 2.6.3.3: "*ice breaking during this period is not anticipated to affect human or wildlife transiting trails to and from the mainland*".

For these reasons, the assessment does not quantify potential loss, alteration, degradation, fragmentation, or reduced accessibility of sea-ice migration habitat resulting from Project-related shipping activities.

Furthermore, Peary caribou is not included in the Impact Statement (IS) because its core range—in this case, the Banks-Northwest Victoria Islands local population—does not overlap mainland Nunavut.

The monitoring for all wildlife, including caribou from any subspecies or herd, will follow the objectives and protocols outlined in Volume 11, Appendix 37A (Wildlife Mitigation and Monitoring Plan), which includes verifying effects predictions and the effectiveness of mitigations.

ECCC-IR 25 (IR-185)

Subject

Location of quarries

Issue / Concern

In Section MD.2.6.2.5, the Proponent describes the activities associated with Grays Bay Road, noting that: "Ongoing maintenance will rely on a network of permanent quarries along the alignment, supplying 50,000-100,000 cubic metres (m^3) of granular material annually for resurfacing and repairs".

An additional permanent quarry at the port is described in Section MD2.6.2.6: "A permanent quarry at the port will be maintained through Operations and Maintenance phase to support the 50,000m^3 to 100,000m^3 of granular material required annually for maintenance"

It is unclear where the permanent quarries will be located and whether they will be located near areas of high importance to migratory birds (including species at risk migratory birds), terrestrial species at risk, and wetlands.

Information Request

ECCC requests that the Proponent confirm the locations of the permanent quarries providing the granular materials required annually for Operations and Maintenance, and whether these areas overlap with areas of high importance to migratory birds (including species at risk migratory birds), terrestrial species at risk, and wetlands.

Proponent Response

The IS is based on schematic (approximately 10%) engineering design, therefore final locations for Borrow pits and Quarries requested by ECCC are currently not available at this time.

The avoidance of, and assessment of effects on, migratory birds, and terrestrial species at risk in relation to quarry development is addressed through the Volume 6 assessments and the Volume 11 management plans, applied as quarry locations are confirmed:

Baseline and effects framework: The Birds assessment (Volume 6, Section 17) characterizes bird habitat within the assessment areas and quantifies direct and indirect habitat loss associated with the Project footprint, including quarry development (Volume 6, Section 17, Table 17.12). Effects on vegetation and wetland function (Volume 6, Section 15) and on other terrestrial wildlife (Volume 6, Section 18), including species at risk, are assessed in the corresponding Volume 6 sections.

Siting and mitigation measures: The Impact Statement commits that quarry development will apply wildlife-protection measures, including siting away from sensitive habitat features, where possible, as well as pre-construction wildlife sweeps with no-disturbance buffers. As stated in Volume 6, Section 17:

> "*Construction and quarry development activities will adhere to the recommended setbacks and timing restrictions outlined in the [Wildlife Mitigation and Monitoring Plan] WMMP.*" (Volume 6, Section 17.4.2.3, document page 17-46, PDF page 2936 of 8171)

Wildlife sweeps to identify sensitive features (including active nests) ahead of construction, with no-disturbance buffers established around identified features and site-specific protection measures developed by a Qualified Professional where disturbance within a buffer is unavoidable, are committed to through the WMMP (Volume 11, Appendix 37B) and referenced in Volume 6.

Wetlands are not target locations for quarries and borrow pits at this time.

Final quarry locations, and confirmation of whether any location is near areas of high importance to migratory birds, terrestrial species at risk, or wetlands (with associated avoidance, setback, and timing measures), will be developed through the site-specific pre-development characterization in the Borrow Pit and Quarry Management Plan and confirmed through the applicable regulatory authorization processes, including the Nunavut Water Board Type A Water Licence, Crown-Indigenous Relations and Northern Affairs Canada Land Use Permits and Quarrying Permits under the Territorial Lands Act, and the Kitikmeot Inuit Association land use / quarry concession process on Inuit Owned Lands (Volume 2, Section 2.6.2.13).

ECCC-IR 26 (IR-186)

Subject

Potential future alternative energy system

Issue / Concern

In Section MD.2.6.2.8, the Proponent refers to a potential future alternative energy system: "The port may also include a 1 megawatt (MW) alternative energy system (wind, solar, battery) to reduce diesel reliance. Power generation will be provided by modular diesel plants: four units (6 MW total) at the port and two units (3 MW total) at Jericho Station, with capacity designed to meet routine and peak demands efficiently. These components will be established during Construction and continue through Operations and Maintenance"

Potential future alternative energy systems may represent additional pathways of effect to all migratory birds (including species at risk migratory birds), any terrestrial species at risk found on any federal land in the Project's Regional Assessment Area, and wetlands. It is unclear whether the potential future alternative energy systems will require assessment by the NIRB.

Information Request

ECCC requests that the Proponent confirm if the potential alternative energy systems will require assessment by NIRB. If potential alternative energy systems will not require a separate assessment, please confirm if the effects of this project component on migratory birds (including species at risk migratory birds), any terrestrial species at risk found on any federal land in the project's Regional Assessment Area, and wetlands will be scoped into this assessment and considered in the cumulative effects assessment, and provide supporting rationale if they are not.

Proponent Response

The Project acknowledges that it may pursue a potential alternative energy system (i.e., a wind turbine, or potential solar array, or battery system) in the future to reduce diesel reliance. The alternative energy system's phasing, number, size, and location "*will be determined later in the design process*" (Volume 1, Table MD 2.1; page MD-18). A site-specific characterization of whether a potential alternative energy system would interact with birds is dependent on final design details and what type of alternative energy system is proposed. Once determined, WKR will engage with the NIRB on regulatory requirements for a future proposed alternative energy system.

ECCC-IR 27 (IR-187)

Subject

Migratory bird nesting on Project equipment, infrastructure, and stockpiled granular materials

Issue / Concern

In Section 2.6.2.4, the Proponent describes the use of staging areas and mobile camps during Construction: "Additional, smaller staging areas will be required to store and maintain equipment and supplies, stockpile granular material…"; and "The mobile camps are expected to be relocated approximately every three months, and their locations will be combined with other components (e.g., quarries) to reduce the total footprint of the Project."

It is unclear what measures will be taken if migratory bird nests are found on Project infrastructure. Migratory birds may build nests on Project equipment and infrastructure such as machinery, camps, and stockpiled granular materials.

Information Request

ECCC requests that the Proponent consider the effects of the staging areas and mobile camps and provide information on the measures to be taken if a migratory bird nest is found on project infrastructure, including inspections prior to using equipment, moving camps, and using stockpiled granular materials.

Proponent Response

The IS recognizes that Project activities have the potential to affect migratory birds through incidental disturbance or destruction of active nests and establishes a mitigation framework based on avoidance, seasonal timing restrictions, pre-construction wildlife sweeps, no-disturbance buffers, and adaptive mitigation. These commitments apply to all construction activities, including the staging areas, mobile camps, equipment laydown areas, and granular material stockpiles described in Volume 2, Section 2.6.2.4. While the IS does not specifically discuss nests established on Project infrastructure after construction has commenced, the existing mitigation framework provides the basis for protecting active migratory bird nests, and additional implementation procedures will be incorporated into the Wildlife Mitigation and Monitoring Plan (WMMP) (Volume 11, Appendix 37B) to address this scenario. The staging areas, mobile camps, equipment laydown areas, and stockpiled granular materials described in Volume 2, Section 2.6.2.4 form part of the temporary Project footprint and are therefore subject to the bird protection measures described in the WMMP. The existing IS commits to avoiding incidental take through wildlife sweeps, protective buffers, and adaptive mitigation. These commitments apply regardless of the specific temporary construction activity involved.

To address this scenario, WKR will incorporate the following procedures into the WMMP:

- equipment, mobile camps, temporary structures, and stockpiled granular materials that have remained stationary or unused during the migratory bird nesting period will be inspected by a Qualified Professional (QP; or their designate) before being moved, dismantled, reactivated, or used;
- if an active migratory bird nest is identified on Project equipment, infrastructure, camps, or stockpiled materials, the affected equipment or infrastructure will not be moved or used until the nest is no longer active (i.e., the young have fledged or the nest has been confirmed inactive by a QP, unless otherwise authorized by the appropriate regulatory authority);
- appropriate no-disturbance buffers and any additional site-specific mitigation measures will be implemented in accordance with the WMMP;
- Environmental Monitors will communicate any applicable nesting restrictions to construction personnel and maintain records of active nests and associated mitigation measures; and
- where nests of bird species listed under the Species at Risk Act are identified, WKR will consult with ECCC regarding the appropriate management approach before activities proceed.

These additional implementation procedures supplement the existing mitigation commitments described in the IS and WMMP. Temporary Project infrastructure, including staging areas, mobile camps, equipment, and stockpiled materials will be managed to reduce the potential for incidental take of active migratory bird nests.

ECCC-IR 28 (IR-188)

Subject

Cumulative Effects

Issue / Concern

In Section 9.4.3.1, the Proponent describes the conditions for a cumulative effects assessment as follows:

"Two conditions must be met to initiate an assessment of cumulative effects on a VC [Valued Component]:

- *The Project is assessed as having adverse residual environmental effects on a VC.*
- *The adverse residual effects from the Project overlap spatially and temporally with residual effects of other projects or physical activities on a VC."*

The two-condition framework for initiating a cumulative effects assessment (CEA) is reasonable, in principle. However, Volume 4 does not describe how the Proponent will communicate whether the conditions have been met for each VC. An explicit statement of whether the conditions have been triggered, and the basis for that determination, would support the later technical review.

The second triggering condition requires that adverse residual effects from the Project overlap spatially and temporally with residual effects from other projects or physical activities. As written, this condition is ambiguous with respect to reasonably foreseeable future activities that have not yet occurred and for which residual effects cannot be estimated.

Information Request

ECCC requests that the Proponent:

1. *Confirm that each VC assessment will include an explicit statement of whether the two CEA triggering conditions have been met or not, and the basis for that determination; and*
2. *Clarify how the second CEA triggering condition will be evaluated with respect to reasonably foreseeable future activities, including how residual effects from activities not yet underway will be estimated or characterized.*

Proponent Response

1. WKR confirms that each Valued Component (VC) assessment includes an explicit statement of whether the two cumulative effects assessment (CEA) triggering conditions have been met, along with the basis for that determination. This statement is provided in the "Interactions with the Potential to Contribute to Cumulative Effects" table within each VC chapter's Section X.4 (Assessment of Cumulative Effects). That table identifies the potential for the Project's effects to interact with the physical activities listed in Volume 4, Section 9 (Effects Assessment Methodology), Appendix 9A (Project Inclusion List), and, where relevant, provides further explanation for the activities that warrant it.

   The primary basis for identifying whether an interaction exists is the likelihood of a cause-and-effect relationship, considering whether the other activity overlaps with the Grays Bay Road and Port Project in both space (close enough to interact) and time (occurring during the same period). A conservative approach is applied: an interaction is assumed unless it clearly would not occur. The table is a screening-level assessment, and the information available for each activity varies — it is more certain for current activities and less certain for those that may occur further in the future. Because a CEA necessarily considers effects that have not yet occurred, some assumptions about future activities are unavoidable; this does not prevent the assessment from proceeding, provided the associated data gaps, uncertainties, and limitations are acknowledged, as they are here.

   This approach is consistent with current federal guidance and established practice, and reflects the methodology generally applied nationally where, as in this case, a specific alternative method has not been otherwise directed by the administrative or regulatory bodies reviewing the application.

2. See response to ECCC-IR 28, Part 1.

ECCC-IR 29 (IR-189)

Subject

Cumulative effects

Issue / Concern

In Section 9.4.3.2, the Proponent describes the temporal limit of the cumulative effects assessment (CEA) as follows: "The temporal limit of the cumulative effects assessment has been selected at 20 years into the future, which is assumed as an approximate extent to which reasonably foreseeable future and induced development activities can be predicted with a level of certainty that allows for assessment."

For a project with a 75-year design life, a 20-year temporal window for reasonably foreseeable induced (RFI) activities captures less than a third of the Project's operational period. For Valued Components (VCs) where Project residual effects are ongoing and long-term, such as persistent habitat disturbance along the road corridor, the interaction of those ongoing residual effects with other projects or activities does not stop at 2055. It is not clear how the CEA will address the potential for those ongoing effects to interact with projects or activities that emerge after the RFI window closes.

Volume 4 states that the temporal limit of the CEA has been selected at 20 years into the future. Section 32 of Volume 10 clarifies that this 20-year span (2035–2055) applies specifically to the RFI scenario, and that the Project itself has a design life of 75 years extending to 2110. It is not clear from either volume whether the 20-year RFI window will be applied uniformly across all VC CEAs, or whether a longer assessment horizon may be warranted for some VCs given VC-specific ecological considerations including generation time and demographic recovery rates, migratory connectivity, habitat recovery timescales following disturbance, and population-level response lag times.

Information Request

ECCC requests that the Proponent:

1. *Clarify, for VCs where residual Project effects persist beyond 2055, how the CEA addresses the potential for those ongoing effects to interact with projects or activities that emerge after the RFI temporal window closes; and*
2. *Confirm whether the 20-year RFI temporal window (2035–2055) will be applied uniformly across all VC CEAs, and if so, provide VC-specific rationale for its adequacy for VCs characterized by long recovery times or sustained sensitivity to disturbance, including with respect to generation time, demographic recovery rates, migratory connectivity, habitat recovery timescales, and population-level response lag times.*

Proponent Response

1. The 20 years is an assumed approximate extent of time from present in which potential future physical activities are identified. This time period reflects a reasonable and pragmatic basis given the increasing uncertainty and decreasing availability of descriptive information of such futures. Public disclosure and availability of adequate information to support assessment, is unlikely beyond that period of time. As such, that rationale does not also, or only, refer to a time period of effects beyond. The VC assessments examine effects to the extent applicable and relevant to that VC, which may or will extend beyond 20 years. Further relevant discussion is provided in Volume 10, Section 32 Cumulative Effects Assessment Overview.

   Any environmental assessment, and especially cumulative effects assessment given its focus on the future, is over more distant time periods also subject to greater compounding of multiple, complex and increasingly uncertain anthropogenic and natural agents of causal change, such as project development and climate change. This eventually introduces such a degree of uncertainty as to reduce the adequacy of effect's predictions in support of project assessments subject to regulatory review. Where appropriate and relevant, acknowledgment of such conditions is provided, such as in the Climate Change Scenarios (Volume 10, Section 32 Cumulative Effects Assessment Overview, Section 32.2 Approach) and in each VC assessment's Section X.3.7 Effects of Climate Change ("X" being VC chapter).

2. As stated in response to ECCC-IR 29, Part 1, the 20 years do not refer to effects, but to identification of future physical activities.

ECCC-IR 30 (IR-190)

Subject

Migratory Bird Local Assessment Area and Regional Assessment Area

Issue / Concern

In Section VS.6, the Proponent refers to the Local Assessment Area and Regional Assessment Area for birds as follows:

"The Local Assessment Area (LAA) considers the maximum predicted extent of direct and indirect effects. For birds the LAA was defined as a 4km buffer around the Project Development Area (PDA).
The Regional Assessment Area (RAA) provides a regional context for how project-related effects may influence valued components. For birds the RAA was defined as a 20 km buffer around the PDA."

The Terrestrial and Marine Local Assessment Areas (LAAs) for migratory birds are within important migration pathways for several marine bird species. The 4 km LAA buffer includes both "direct" and "indirect" effects, however, indirect effects likely extend beyond 4 km.

This buffer does not capture known long-range disturbance pathways, including artificial light at night associated with port infrastructure and vessels. For example, the US Fish and Wildlife Service regularly cites light attraction at 5 km from the source. For some seabirds, attraction to lights can occur as far as 16 km from the source (Rodriguez et al. 2015).

Information for migrating waterfowl is limited in the Arctic. While the impacts of lighting may be less relevant during summer due to extended daylight hours, it is likely to be important during fall migration, when fewer daylight hours and weather conditions increase the likelihood of light attraction. Appendix G of the International Light Pollution Guidelines for Migratory Species (CMS 2024) includes information specific to seabirds.

Impacts on migratory birds are not geographically consistent across Project activities (i.e., the impact of some activities will have a greater geographic extent than others). A 4 km buffer may account for most direct effects but may not capture all indirect effects, including potential impacts of roads on hydrology and the subsequent impacts to bird habitat availability and quality, and the impacts of attraction and collisions due to artificial light at night, particularly during fall migration.

Information Request

ECCC requests that the Proponent:

1. *Clarify whether different Project activities or impact pathways (e.g., noise, lighting, habitat alteration) were considered in defining the spatial extent of effects on migratory birds, and how these were incorporated into the selection of the LAA and RAA; and*
2. *Provide the rationale and supporting references used to determine the spatial boundaries of the LAA and RAA for migratory birds.*

Proponent Response

The LAA was derived for all wildlife (i.e., caribou, birds, and other wildlife) and considered a variety of literature to determine the 4-km spatial extent. For birds specifically, the influences of noise and visual stimuli generated by human activity on birds were two effect pathways considered in determining the indirect effects on birds on Change in Habitat. These are described in the definition of the Zone of Influence (ZOI) used in the Change in Habitat effects assessment (see Volume 6, Section 17.4.1.1, Table 17.10). The spatial areas described for human-caused effects on birds for the ZOIs are considerably less than the LAA boundary; therefore, the LAA boundary was considered conservative for evaluating Project-related effects on birds.

With respect to ECCC's reference to ZOI related to artificial lighting, artificial lighting was identified as a Project effects pathway for assessment (Volume 6, Section 17.4.2.2) but was not considered for determining the ZOI.

The literature on how artificial lights can attract and disorient birds needs to be carefully considered in relation to the Project. First, seabirds that are known to be influenced by artificial lights include shearwaters, petrels, and storm-petrels (Rodríguez et al., 2014, 2017; Troy et al., 2011). None of these seabird guilds were identified in the Project Area during baseline studies. Second, literature has shown that spotlights or light beams pointed at the sky at night have been found to disorient birds within the 5-km radius of the light source (Van Doren et al., 2017). However, the Project will not be introducing a spotlight or light beam pointed skyward. WKR recognizes that artificial lights associated with the Project may influence birds (as mentioned above) and has included mitigations to reduce artificial light effects on birds.

The terrestrial portion of the RAA for birds was based on alignment with the terrestrial regional study area (RSA) in the Bird Baseline Report (Volume 6, Appendix 17A, Section 1.3.1). The portion of the RAA over the marine environment was selected to be at least 15 km off the coastline from the Project.

References

Rodríguez, A., Burgan, G., Dann, P., Jessop, R., Negro, J. J., & Chiaradia, A. (2014). Fatal Attraction of Short-Tailed Shearwaters to Artificial Lights. *PLoS ONE*, *9*(10), e110114. https://doi.org/10.1371/journal.pone.0110114

Rodríguez, A., Holmes, N. D., Ryan, P. G., Wilson, K.-J., Faulquier, L., Murillo, Y., Raine, A. F., Penniman, J. F., Neves, V., Rodríguez, B., & others. (2017). Seabird mortality induced by land-based artificial lights. *Conservation Biology*, *31*(5), 986–1001.

Troy, J. R., Holmes, N. D., & Green, M. C. (2011). Modeling artificial light viewed by fledgling seabirds. *Ecosphere*, *2*(10), art109. https://doi.org/10.1890/ES11-00094.1

Van Doren, B. M., Horton, K. G., Dokter, A. M., Klinck, H., Elbin, S. B., & Farnsworth, A. (2017). High-intensity urban light installation dramatically alters nocturnal bird migration. *Proceedings of the National Academy of Sciences*, *114*(42), 11175–11180. https://doi.org/10.1073/pnas.1708574114

ECCC-IR 31 (IR-191)

Subject

Zones of Influence for birds

Issue / Concern

The Impact Statement applies fixed Zone of Influence (ZOI) distances by bird guild, including 300 m for passerines, 250 m for waterbirds, and 1,500 m for cliff-nesting raptors, but the rationale and supporting evidence for these distances are unclear or insufficiently justified.

The 250 m ZOI for waterbirds appears low, particularly in Arctic environments where disturbance distances are variable and often substantially greater.

The assessment does not clearly demonstrate how ZOIs account for species-specific behaviour and sensitivity, differences among bird groups, or variation across development phases.

The selected ZOI distances appear to be less precautionary than available regional and national guidance, including migratory bird setback guidance from the Nunavut Planning Commission (https://www.nunavut.ca/sites/default/files/table_2_ _migratory_bird_setbacks_0.pdf) and established setback distances for Arctic species such as geese, swans, loons, and cranes (ECCC 2011).

Although references are cited in support of disturbance distances, it is unclear how these studies were selected, evaluated for relevance to the Project setting, and applied to justify the specific ZOI distances used in the assessment.

Information Request

ECCC recommends the Proponent provide a detailed justification for the ZOIs used in the assessment of Project effects on birds, including:

1. *Rationale and Supporting Evidence*
    a. *Provide the rationale and supporting literature used to establish ZOI distances for each bird grouping.*
    b. *Describe how cited studies were selected and how they are applicable to Arctic conditions and the Project area.*
2. *Consideration of Species Variability*
    a. *Explain how species-specific responses to disturbance, including variability within and among bird groups, were considered in establishing ZOI distances.*
    b. *Identify whether any species or groups may require larger ZOIs than those applied.*
3. *Project Phase Consideration*
    a. *Clarify how ZOI distances account for differences in disturbance across Project phases.*

4. Alignment with Guidance and Best Practices

a. Describe how selected ZOI distances align with or differ from regional guidance.

- b. Where ZOI distances are less precautionary, provide justification.

Proponent Response

The ZOIs used in the IS were developed to quantify the indirect effects of Project-related sensory disturbance on bird habitat as part of the assessment of Change in Habitat. The ZOIs are analytical assessment parameters used to estimate the spatial extent over which Project activities may reduce habitat suitability and were not intended to represent universal disturbance thresholds or operational setback distances for every bird species or Project activity. Guild-specific ZOIs were selected using published studies and management guidance relevant to the disturbance pathways assessed in the Project, together with Project-specific baseline information on bird occurrence, habitat use, and habitat suitability. The analytical ZOIs provide a consistent framework for evaluating indirect habitat effects across the Project area, while species-specific mitigation is addressed through the Wildlife Mitigation and Monitoring Plan (WMMP).

Context from the Impact Statement

Section 17.4.1.1 describes the analytical approach used to assess Change in Habitat. The assessment considers both direct habitat loss within the Project Development Area (PDA) and indirect habitat alteration or loss resulting from sensory disturbance. The IS states: *"The ZOI considers how Project components and activities may influence bird behaviour and/or use of habitat... The ZOI varied among the bird guilds, ranging from 250 to 1,500 metres (see Table 17.10)*."

Habitat occurring within each guild-specific ZOI was conservatively downgraded by one habitat-suitability class to estimate indirect habitat effects. Moderate habitat downgraded to Low was considered indirect habitat loss, while High habitat downgraded to Moderate was considered indirect habitat alteration. This approach was applied consistently for passerines, waterbirds/shorebirds, and cliff-nesting raptors.

The rationale supporting each guild-specific ZOI is presented in Table 17.10 (Volume 6, Section 17.4.1.1, page 17-35). The literature cited in Table 17.10 was selected because it provides empirical measurements of bird responses to anthropogenic disturbance or published management guidance applicable to the disturbance pathways evaluated in the Project, including roads, industrial infrastructure, construction activities, and human presence. Although several studies were undertaken outside the Canadian Arctic, they evaluate behavioral responses that are relevant to the types of sensory disturbance expected during the Project. Where Arctic-specific guidance was available, such as GNWT (2015) for cliff-nesting raptors, it was incorporated into the assessment.

Therefore, the selected ZOIs indicate representative guild-level disturbance distances supported by the available literature rather than maximum disturbance distances applicable to every individual species.

Consideration of Species Variability

The assessment groups birds into passerines, waterbirds/shorebirds, and cliff-nesting raptors because the assessment endpoint is habitat availability at the guild level. This approach allows habitat effects to be evaluated consistently across the Project while recognizing broad ecological differences among bird guilds.

Section 17 also recognizes that substantial ecological variability exists within each guild. For example, the waterbird guild includes geese, swans, ducks, loons, cranes, gulls, jaegers, and shorebirds, which differ in habitat requirements, breeding ecology, and sensitivity to disturbance (Volume 6, Section 17.2.2.6).

The additional guidance identified in *Reducing Impacts to Birds from Exploration and Research Projects on the Arctic Tundra* (Environment Canada, 2011) similarly recognizes that disturbance responses vary according to species, breeding status, disturbance type, disturbance frequency, and individual behavior. The additional peer-reviewed studies recommended also demonstrate that behavioral response distances vary among species and disturbance sources, particularly within the broad waterbird grouping.

WKR acknowledges that some species or groups (including geese, swans, loons, cranes, colonial nesting birds, moulting waterfowl, seaduck aggregations, and certain species at risk) may require operational disturbance setbacks greater than the guild-level analytical ZOIs used in Section 17. These larger distances are appropriate as species-specific mitigation where such species or situations are encountered during Project implementation and do not invalidate the analytical ZOIs used to quantify landscape-scale habitat effects. The larger distances are identified in the WMMP (see Volume 11, Appendix 37B, Table 7.2).

Consideration of Project Phases

The same guild-specific ZOIs were applied during Construction and Operations and Maintenance because they represent the maximum area within which repeated Project-related sensory disturbance could reduce habitat suitability. Separate ZOIs were not developed for individual Project phases because the assessment was indirect habitat change rather than activity-specific behavioural responses.

Differences between Project phases were instead incorporated through the characterization of Project activities, their duration, and the amount of direct habitat loss associated with each phase, while the same analytical framework for indirect habitat effects was applied throughout the assessment (Volume 6, Section 17.4.1.2).

Alignment with Regional Guidance and Best Practices

WKR has reviewed the additional information identified by ECCC and acknowledges that some operational setback distances recommended in ECCC (2011) and the Nunavut Planning Commission guidance are greater than the analytical ZOIs applied to the waterbird guild. However, these guidance documents were developed to establish mitigation setbacks intended to avoid disturbance to active nests, colonies, moulting areas, bird concentrations, or particularly sensitive species during specific activities.

By comparison, the ZOIs used in Section 17 were developed as analytical habitat-modelling parameters to quantify indirect habitat effects consistently across the Project area. Consequently, the two approaches serve different purposes. Where the analytical ZOIs are smaller than recommended operational setback distances, this reflects the different function of the assessment methodology rather than a lower level of environmental protection. Setback distances remain applicable during Project implementation and are identified in the WMMP (see Volume 11, Appendix 37B, Table 7.2) that aligns with other Arctic developments and/or territorial government guidance documents.

The monitoring strategy for indirect habitat loss on birds is presented in the WMMP (see Volume 11, Appendix 37B, Section 8.2.2). Species-specific mitigation and monitoring will continue to be developed by a Qualified Professional (QP) using the best available information, including Project-specific monitoring results, applicable regulatory guidance, and adaptive management where required. Consequently, the ZOIs applied in Section 17 provide an appropriate, literature-supported, and consistent analytical framework for evaluating indirect habitat effects at the guild level.

ECCC-IR 32 (IR-192)

Subject

Residual effects characterization, vessel interactions, habitat availability, and monitoring for migratory birds

Issue / Concern

The Impact Statement concludes that residual effects on birds are low, but the supporting rationale does not fully account for species-specific behaviour, temporal variability, habitat constraints, and uncertainty, particularly in relation to vessel activity, habitat availability, and threshold assumptions. Accurate characterization of residual effects is important to inform the scope and appropriateness of mitigation measures.

- *The assessment assumes that interactions between birds and marine vessels will result in isolated mortality events affecting a small number of individuals. However, responses to vessels vary among species; some species known to occur in the project area, such as gulls and fulmars, may be attracted to vessels, increasing interaction frequency, and repeated exposure within movement corridors may result in cumulative effects.*
- *The assessment does not fully consider the range of vessel-related pathways of effects beyond direct mortality, including injury, disturbance and displacement, contamination, or indirect effects on fitness.*
- *The assessment of seasonal risk related to marine vessel lighting may underestimate overlap with sensitive periods. Fall migration timing is broad and variable, and limited and outdated data increase uncertainty. Some species may remain in the area later than suggested and may be vulnerable during moulting and migration under low-light conditions.*
- *Conclusions regarding low-magnitude residual effects on habitat assume that suitable habitat is available elsewhere in the Regional Assessment Area and that displaced individuals can be accommodated without consequence. This assumption is not demonstrated and species-specific habitat requirements and availability are not well characterized.*
- *The use of generalized habitat maintenance thresholds is not clearly justified. Thresholds should be species- and context-specific, and values derived from other systems may not apply to Arctic, marine, or coastal birds.*
- *There is limited information regarding how uncertainty and data limitations were incorporated into residual effects conclusions.*

Information Request

ECCC requests that the Proponent provide the following additional information and clarification to support the characterization of residual effects on migratory birds, including species at risk migratory birds:

1. *Provide justification for the conclusion that vessel interactions will result in only isolated mortality events affecting a small number of individuals.*
2. *Include consideration of a broader range of potential vessel-related pathways of effects, including attraction to vessels, and endpoint effects of injury, disturbance, displacement, contamination, and indirect effects on survival and reproductive success.*
3. *Clarify how marine vessel lighting effects were assessed, including overlap with species-specific migration and moulting periods, and risks of disorientation and collision under varying environmental conditions.*
4. *Clarify how the assessment accounts for temporal variability in bird presence, including fall migration, moulting periods, including flightless stages, and brood-rearing periods, and describe how these periods of increased vulnerability were incorporated into residual effects conclusions.*
5. *Provide species-specific information on habitat availability and requirements within the Regional Assessment Area. Demonstrate whether habitat affected by the Project is functionally equivalent to habitat available elsewhere, including habitat that is not already occupied or capacity-limited.*
6. *Clarify how displacement effects were considered in determining that residual habitat effects are low.*
7. *Provide rationale and additional supporting references for the use of habitat maintenance thresholds, such as 10–30%. Clarify how these thresholds are applicable to Arctic environments, coastal and marine bird species, and species with localized or spatially constrained habitat requirements.*
8. *Describe how uncertainty and data limitations were incorporated into the residual effects assessment. Explain how these uncertainties influence confidence in the conclusion that residual effects are low.*

Proponent Response

The IS evaluated residual effects on birds using a structured effects assessment framework that considered both Change in Habitat and Change in Mortality Risk, together with the characterization criteria of direction, magnitude, geographic extent, timing, duration, frequency, and reversibility. Residual effects were evaluated using multiple lines of evidence, including the proportion of suitable habitat affected within the RAA, predicted mortality risk, implementation of mitigation and management measures, and consideration of prediction confidence and uncertainty. Therefore, the conclusion that residual Project and cumulative effects on birds are low and not significant was not based on any single assumption, but on the overall assessment of Project effects at the population level. The additional information provided below further clarifies the assessment approach and does not alter the conclusions presented in the IS.

Context from the Impact Statement

Section 17.1.4.3 establishes the framework used to characterize residual effects and explicitly acknowledges that there are no established accepted thresholds for evaluating bird habitat loss or alteration. The IS therefore adopted a conservative approach using published habitat-maintenance literature to define magnitude thresholds for changes in bird habitat. As stated in Volume 6, Section 17.1.4.3, page 17-12:

> *"Currently, no established thresholds exist for evaluating bird habitat loss or alteration; however, research suggests that maintaining 10% to 30% of habitat can sustain a population..."*

These thresholds were used to characterize the magnitude of habitat change and were not used independently to determine significance. Rather, significance was determined using all residual-effects criteria together with habitat availability, mitigation measures, and the predicted influence of the Project on bird populations.

The IS identifies two principal Project effects for birds: Change in Habitat and Change in Mortality Risk. Habitat effects include direct habitat loss within the PDA and indirect habitat alteration resulting from sensory disturbance, while mortality risk includes incidental take, collisions with vehicles, aircraft, marine vessels, infrastructure lighting, and other Project-related activities. Residual habitat effects were predicted to affect approximately 2.6% of suitable passerine habitat, 2.1% of suitable waterbird habitat, and 7.9% of suitable cliff-nesting raptor habitat within the RAA. Residual mortality risk was characterized as low based on the relatively low frequency of Project activities, low bird densities, implementation of mitigation measures, and the limited influence of Project-related mortality on regional bird populations.

Vessel Interactions

The IS recognizes marine vessels as a potential source of mortality risk and concludes that interactions between waterbirds and marine vessels are expected to be infrequent and affect relatively few individuals because vessel traffic is limited, the area affected by marine traffic represents a small proportion of the available marine environment, and most waterbirds are expected to avoid vessels. WKR acknowledges, however, that behavioural responses to vessels vary among species and that opportunistic species such as gulls and fulmars may occasionally be attracted to vessels under certain circumstances.

The assessment was intended to characterize residual effects at the population level rather than predict the behavioural response of every species. Although attraction may increase the likelihood of interaction for some individuals, the relatively low frequency of vessel traffic, the short duration of vessel presence within the Project area, and the extensive marine habitat available throughout the Coronation Gulf and Dease Strait indicate that these interactions are expected to remain localized and affect only a small proportion of regional bird populations. Consequently, vessel-related mortality is expected to remain limited to isolated events involving relatively few individuals and does not alter the conclusion that residual mortality effects are low.

The assessment of mortality risk primarily considered direct mortality pathways; however, vessel operations may also result in temporary behavioural disturbance, localized displacement, interruption of feeding or resting behaviour, or short-term changes in habitat use. These pathways are reflected within

the assessment of Change in Habitat, which evaluates indirect habitat alteration associated with sensory disturbance. Given the limited frequency and duration of vessel activity, together with the extensive availability of adjacent marine habitat, these effects are expected to be limited, temporary, and reversible. Potential contamination events, including accidental fuel or oil spills, are not considered part of normal Project operations and are addressed separately through Project spill prevention and emergency response planning.

Marine Vessel Lighting and Temporal Variability

The IS recognizes that increased vessel lighting is most likely to occur during periods of reduced daylight and concludes that many migratory birds will have initiated fall migration before the period of greatest lighting use. WKR acknowledges that migration timing varies among species and years and that some species, including sea ducks and Common Eiders, may remain within the region later into the fall, including during moulting or migration under reduced daylight conditions. The assessment considered seasonal patterns of bird occurrence using available baseline information and incorporated conservative assumptions regarding bird presence during periods of Project activity. Although species-specific migration timing, moulting, brood-rearing, and staging periods vary naturally among species and between years, the potential overlap between vessel operations and these sensitive periods is expected to remain limited because of the relatively short duration and low frequency of marine vessel traffic. Consequently, while temporary lighting-related disturbance or disorientation may occur for some individuals under specific environmental conditions, these effects are not expected to increase the residual mortality risk beyond that characterized in the IS.

Habitat Availability and Displacement

Residual habitat effects were evaluated using habitat suitability modelling and guild-specific habitat assessments across the RAA. The assessment concluded that Project-related habitat loss and alteration represent a small proportion of the available suitable habitat and that extensive suitable habitat remains available throughout the RAA. Consequently, displacement associated with Project activities is expected to be localized and temporary and is not expected to influence regional population viability. The assessment considered habitat effects at both the habitat and population levels. Species-specific habitat requirements were incorporated through the habitat suitability assessments developed for each bird guild and through the identification of important habitat features, including wetlands, coastal habitats, cliff nesting habitat, and other breeding areas. During Project implementation, species requiring additional protection will be managed through the Wildlife Mitigation and Monitoring Plan (WMMP) using pre-construction wildlife sweeps, species-specific setbacks, adaptive mitigation, and monitoring. These measures provide additional protection where habitat constraints or sensitive species are identified.

Habitat Maintenance Thresholds and Uncertainty

Section 17.1.4.3 acknowledges that there are no established universal thresholds for bird habitat loss or alteration. The 10–30% range cited from Andrén (1994) and Swift and Hannon (2010) was therefore used as a general screening framework to characterize effect magnitude and consideration of variability among species and landscapes. The IS classifies habitat change as negligible at <1%, low at 1–15%, moderate at >15–30%, and high at >30%. These values are not intended to represent Arctic-, coastal-, or marine-

bird-specific ecological thresholds. Andrén (1994), Swift and Hannon (2010) and Melo et al. (2018) demonstrate that habitat-loss responses vary among species, landscapes, and ecological contexts. Accordingly, the 10–30% range was used in the IS to support the classification of effect magnitude rather than as a species-specific threshold for determining ecological significance.

WKR acknowledges that species dependent on restricted or spatially constrained habitats, including some seabirds, sea ducks, and colonial nesting species, may be more sensitive to relatively small habitat changes. Therefore, percentage habitat loss was not considered in isolation. The assessment also considered habitat quality and distribution, important habitat features, and Project-specific baseline information. Habitat suitability ratings incorporated breeding, foraging, and density information, with separate approaches applied to passerines, waterbirds/shorebirds, and raptors.

Section 17.8 (Volume 6, Section 17.8, Page 17-63) explicitly addresses uncertainty associated with baseline data, habitat suitability mapping, guild-based assumptions, future environmental conditions, and the long-term effectiveness of mitigation. The IS notes that habitat suitability mapping inherently contains uncertainty because of spatial limitations, ecological complexity, and the assumption that species within a guild use habitat similarly. It also recognizes uncertainty associated with future projects and climate-driven changes. These uncertainties were addressed through multiple years of baseline surveys, Inuit, Indigenous and Community Knowledge, conservative habitat assumptions, and follow-up monitoring and adaptive management. In particular, the IS notes that conservative assumptions used in the habitat assessment are likely to overestimate rather than underestimate overall habitat effects. Section 17.9 (Volume 6, Section 17.9, Page 17-65) also commits to monitoring bird occurrence, distribution, and Project-related mortality and to updating mitigation and monitoring measures as new information becomes available.

Accordingly, the values presented for measuring magnitude are best interpreted as benchmarks rather than species-specific Arctic thresholds. The residual-effects conclusion is based on the small proportion of suitable habitat affected, habitat quality and distribution, conservative assessment assumptions, mitigation, and monitoring. While uncertainty remains, particularly regarding species-specific habitat use and future conditions, it was explicitly incorporated into the assessment and does not alter the current conclusion that residual habitat effects are low.

References

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Melo, I., Ochoa-Quintero, J. M., de Oliveira Roque, F., & Dalsgaard, B. (2018). A review of threshold responses of birds to landscape changes across the world. *Journal of Field Ornithology, 89*(4), 303–314. https://doi.org/10.1111/jofo.12272

Swift, T. L., & Hannon, S. J. (2010). Critical thresholds associated with habitat loss: A review of the concepts, evidence, and applications. *Biological Reviews, 85*(1), 35–53. https://doi.org/10.1111/j.1469-185X.2009.00093.x

ECCC-IR 33 (IR-193)

Subject

Wildlife sweeps, timing, methodology, and no-disturbance buffers for migratory birds

Issue / Concern

It is unclear how much time may elapse between wildlife sweeps and the initiation of ground-disturbing activities, introducing the risk that nests may be initiated after sweeps are completed. While wildlife sweeps may help reduce risks, active nest searches are not generally recommended, as detection probability is often low and there is an increased risk of disturbing or damaging active nests.

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

- *Conducted by skilled and experienced observers;*
- *Using appropriate methodology;*
- *Only a few nesting spots or a small community of migratory birds is 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.

It is unclear how the no-disturbance buffers that were identified by the Proponent will be defined and applied, what constitutes "sensitive wildlife features", and whether wildlife sweep methods and intensity will vary by habitat.

Information Request

ECCC requests that the Proponent provide the following additional detail regarding the implementation of wildlife sweeps and associated mitigation measures:

1. *Confirm the maximum allowable time interval between completion of wildlife sweeps and commencement of ground-disturbing activities;*
2. *Describe how risks associated with nest initiation between sweeps and activities will be managed;*
3. *Provide detailed information on the methods used to conduct wildlife sweeps, including survey design (e.g., spacing/distance between observers), tools and equipment used, qualifications and experience required for observers, and any limitations;*
4. *Describe any habitat-specific modifications to survey methods (e.g., increased effort in wetlands or complex habitats);*

5. *Describe how no-disturbance buffers will be determined and applied;*
6. *Provide examples of "sensitive wildlife features" that would trigger buffer implementation; and*
7. *Clarify whether buffer distances will vary by species, habitat type, activity type.*

Proponent Response

The IS establishes wildlife sweeps and no-disturbance buffers as the primary mitigation measures for protecting active migratory bird nests and other sensitive wildlife features during construction. These measures are identified in the Wildlife Mitigation and Monitoring Plan (WMMP) and are intended to avoid incidental take by identifying active nests and other sensitive wildlife features before Project-related activities commence. Wildlife sweeps will be completed under the guidance of a Qualified Professional (QP). Active nests or other sensitive wildlife features identified during wildlife sweeps will have no-disturbance buffers applied around them. The additional information provided below clarifies how these measures will be implemented and how they address the potential for nest initiation between wildlife sweeps and construction activities.

Context from the Impact Statement

Volume 6, Section 17.4.1.3, page 17-37 and Volume 6, Section 17.4.2., page 17-46 identify wildlife sweeps as a key mitigation measure for birds. Specifically, the IS states:

> *"Wildlife sweeps will be completed to identify wildlife sensitivities (i.e., active nests, dens, other wildlife features) ahead of construction activities. No-disturbance buffers will be established around any sensitivities identified. If disturbance within a no-disturbance buffer is unavoidable, site-specific protection measures will be developed by a Qualified Professional."*

The WMMP (Volume 11, Appendix 37B, Section 8.3.5, page 30) further describes the objective of the pre-construction bird nest sweeps:

> *"The objective of the pre-construction bird nest sweeps is to protect active bird nests and/or flightless young from incidental take during construction activities...Under the guidance of a Qualified Professional, environmental personnel will complete wildlife sweeps ahead of construction activities during the bird nesting season (May 15 to August 18). Any active bird nests identified will have a buffer zone identified based on the setback distances identified in Section 7.2...No construction activity will be allowed until the young have fledged or the nest is deemed abandoned by the Environmental Monitors."*

Together, these commitments establish the Project's approach to avoid incidental take of migratory bird nests.

Wildlife Sweeps and Nest Initiation

The WMMP does not prescribe a fixed maximum allowable interval between completion of a wildlife sweep and commencement of ground-disturbing activities because the appropriate interval depends on the nature of the activity, construction scheduling, and environmental conditions. The Project commitment is that wildlife sweeps will be completed immediately before ground-disturbing activities during the nesting season. Additional wildlife sweeps may be required depending on the environmental personnel's confidence in the findings from the wildlife sweep, or when delays in Project-related activities commencing after the wildlife sweep(s) are completed. Because migratory birds may initiate nests throughout the breeding season, wildlife sweeps represent one component of the mitigation program rather than a one-time verification exercise. Environmental personnel will continue to monitor active work areas and, where new active nests or other sensitive wildlife features are identified, appropriate mitigation measures will be implemented.

Wildlife Sweep Methodology

The IS establishes that wildlife sweeps will be undertaken under the direction of a QP supported by trained environmental personnel. Consistent with Environment and Climate Change Canada's *Guidelines to Avoid Harm to Migratory Birds* (2023), wildlife sweeps will be completed using methods appropriate to the habitat being surveyed, the species expected to occur, and the nature of the proposed activity. Wildlife sweeps are intended to identify active nests and other sensitive wildlife features within proposed work areas immediately before Project-related activities commence, rather than to conduct intense nest-search programs across the Project area. Therefore, survey effort will be focused within areas proposed for disturbance and will vary, according to habitat complexity, visibility, and the likelihood of nesting birds occurring within the work area. Habitats with higher nesting potential, including wetlands, riparian habitats, shrub communities, and other structurally complex habitats, may require greater survey effort than sparsely vegetated upland areas. Wildlife sweeps will be completed by a QP (or their trained designate) who have the competencies identifying bird nesting behavior, active nests, and other sensitive wildlife features that may occur within the Project area.

No-Disturbance Buffers and Sensitive Wildlife Features

The WMMP identifies no-disturbance buffers that will be applied around identified wildlife sensitivities (see Volume 11, Appendix 37B, Section 7.2, page 18). Buffer distances are intended to prevent Project activities from disturbing active wildlife features and therefore vary according to species sensitivity, nesting ecology, and habitat characteristics. Where site-specific circumstances indicate the minimum setback distance is not sufficient, or where disturbance within a prescribed buffer cannot be avoided, a QP will develop site-specific protection measures. Consequently, the implementation of no-disturbance buffers is adaptive and considers the species present, habitat type, and biological sensitivity of the wildlife feature identified rather than applying a single uniform setback distance throughout the Project.

The IS and WMMP establish a precautionary mitigation framework based on wildlife sweeps, QP oversight, guild-specific no-disturbance buffers, ongoing environmental monitoring, and adaptive management where sensitive wildlife features are identified. Wildlife sweeps will be completed before Project activities commence, with additional sweeps undertaken if Project activity schedules change, or

conditions indicate that new wildlife sensitivities may have become established. Together, these measures provide an effective mechanism for reducing potential incidental take while recognizing the dynamic nature of bird breeding during the nesting season.

Reference

Environment and Climate Change Canada. 2023. Guidelines to reduce risk to migratory birds. Available online at: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html. Accessed August 12, 2026

ECCC-IR 34 (IR-194)

Subject

Mitigation and management measures

Issue / Concern

In Section VS.6.4.2, the Proponent states that "Risk of mortality is considered low magnitude… and the implementation of mitigation and management measures are expected to be highly effective."

It is unclear what mitigation and management measures will be implemented, as there were no clear references to support the proposed measures.

Information Request

ECCC requests that the Proponent provide additional information on:

1. *Mitigation measures proposed to address this effect;*
2. *Why the proposed mitigation measures are expected to be highly effective, including any references that demonstrate the proposed mitigations to be highly effective; and*
3. *Where available, confirmation of whether any planned mitigation measures have been demonstrated as highly effective in Arctic environments.*

Proponent Response

The IS concludes that the residual change in mortality risk for birds is predicted to be low in magnitude because the Project incorporates multiple avoidance, minimization, monitoring, and adaptive management measures that substantially reduce opportunities for incidental take, disturbance, and bird collisions. This conclusion is not based on a single mitigation measure, but rather on the combined implementation of mitigation measures described in Volume 6, Section 17.4.2.3, page 17-46 (Mitigation, Management and Enhancement Measures) and summarized in Volume 6, Section 17.4.3, page 17-49, together with implementation through the Wildlife Mitigation and Monitoring Plan (WMMP). These measures collectively reduce the likelihood of Project-related mortality throughout construction and operations.

Context from the Impact Statement

The IS identifies a comprehensive suite of mitigation measures to reduce bird mortality risk. These include:

- Completing vegetation clearing and ground disturbance, where practicable, outside the migratory bird nesting period;
- Conducting wildlife sweeps before construction activities during the nesting season;

- Establishing species-specific no-disturbance buffers around active nests and other sensitive wildlife features;
- Implementing species-specific timing restrictions and setback distances through the WMMP;
- Maintaining minimum aircraft operating altitudes except during take-off and landing;
- Implementing vehicle speed limits on the Project road;
- Directing permanent exterior lighting downward and minimizing unnecessary lighting;
- Reducing vessel lighting during periods of darkness or poor visibility where safe navigation permits; and
- Implementing monitoring and adaptive management throughout Project construction and operations.

Volume 6, Section 17.8, page 17-63 and 17-64 further concludes that there is high confidence in the effectiveness of the proposed mitigation and monitoring measures because they are based on established best management practices and their application on other Arctic projects (Agnico Eagle Mines Ltd., 2025; Baffinland Iron Mines Corporation, 2023; ERM Consultants Canada Ltd., 2024; WSP Canada Group Ltd., 2025).

The conclusion that the proposed mitigation measures are expected to be highly effective is supported by published guidance and experience from northern infrastructure projects. Environment and Climate Change Canada (2011; 2018) identifies seasonal timing restrictions as the preferred means of avoiding incidental take of migratory birds because they eliminate disturbance during the nesting period wherever practicable. Similarly, wildlife sweeps, protective setback distances, and no-disturbance buffers are widely applied to identify and protect active nests before construction activities commence. Aircraft operating procedures and reduced vehicle speeds are established measures for reducing disturbance and collision risk, and limiting unnecessary exterior lighting is recognized as an effective measure for reducing attraction and disorientation of nocturnally migrating birds.

Collectively, these measures address multiple pathways of effect, including incidental take, disturbance, and collisions with vehicles/aircraft/infrastructure. These measures are expected to substantially reduce the likelihood of Project-related mortality when implemented together and supported by monitoring and adaptive management. The prediction of low residual mortality risk then reflects the effectiveness of multiple complementary mitigation measures rather than reliance on any single mitigation action.

Effectiveness in Arctic Environments

Many of the proposed mitigation measures are consistent with guidance developed specifically for northern and Arctic environments. Environment and Climate Change Canada (2011) recommend seasonal timing restrictions, reducing unnecessary disturbance, avoiding repeated aircraft disturbance, and implementing protective buffers around sensitive nesting areas during exploration and research activities on Arctic tundra. Similarly, the Government of the Northwest Territories (2015) recommend species-specific setback distances, seasonal timing restrictions, avoidance of sensitive wildlife areas, and adaptive management to reduce effects on wildlife during industrial activities.

Although the effectiveness of individual mitigation measures may vary depending on the species, habitat, and Project activity, these measures have been successfully implemented on northern infrastructure and resource development projects and represent current best management practices for reducing effects on migratory birds in Arctic environments (Agnico Eagle Mines Ltd., 2025; Baffinland Iron Mines Corporation, 2023; ERM Consultants Canada Ltd., 2024; WSP Canada Group Ltd., 2025). To further support their implementation, the Project incorporates follow-up monitoring and adaptive management through the WMMP to confirm the effectiveness of mitigation measures under Project-specific conditions and to provide a mechanism for refining mitigation, where warranted, based on monitoring results and new information. This adaptive management framework provides additional confidence that mitigation measures will remain effective throughout the Project lifecycle while ensuring that Project-specific observations are incorporated into ongoing environmental management.

The additional information provided above clarifies the mitigation measures proposed to reduce bird mortality risk, the basis for concluding that these measures are expected to be highly effective, and their consistency with established federal guidance and northern best management practices. Together, these avoidance, minimization, monitoring, and adaptive management measures substantially reduce the likelihood of incidental take, bird collisions, disturbance, and lighting-related effects throughout the Project lifecycle. Their implementation through the WMMP provides a mechanism to verify mitigation effectiveness under Project-specific conditions and to refine mitigation, where warranted, based on monitoring results and new information. Consequently, the additional information provided in this response supports and further clarifies the conclusions presented in the IS and does not change the determination that residual effects on birds are predicted to be low in magnitude and not significant.

References

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Baffinland Iron Mines Corporation. (2023). Terrestrial environment mitigation and monitoring plan, BAF-PH-830-P16-0027, Rev. 2.

CAFF. (2017a). State of the Arctic Marine Biodiversity Key Findings and Advice for Monitoring (Nos. 978-9935-431-62–2). Conservation of Arctic Flora and Fauna International Secretariat, Akureyri, Iceland.

CAFF. (2017b). State of the Arctic Marine Biodiversity Report (Nos. 978-9935-431-63–9; p. 200). Conservation of Arctic Flora and Fauna International Secretariat, Akureyri, Iceland. https://oaarchive.arctic-council.org/server/api/core/bitstreams/e4f859d4-8396-4300-a4f0-878ab96f2ec3/content

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Government of Northwest Territories. (2015). Northern Land Use Guidelines: Northwest Territories Seismic Operations. Government of Northwest Territories, Department of Lands. https://www.lands.gov.nt.ca/sites/lands/files/resources/nlug_seismic_2015_english_-_16_sept_2015.pdf

WSP Canada Group Ltd. (2025). Meliadine Appendix 26 2024 Terrestrial Environment Management and Monitoring Plan Report (NIRB 250331-11MN034-2024 Annual Report-App 26 TEMMP Report-Pt 1-IMRE; p. 83). Prepared for Agnico Eagle Mines Limited – Meliadine Division.

ECCC-IR 35 (IR-195)

Subject

Bird groupings and consistency across the draft Impact Statement

Issue / Concern

The Impact Statement and supporting Bird Baseline Report apply inconsistent and overly broad bird groupings, particularly with respect to the use of the term "waterbirds." The following issues were noted:

- *In Section 17, "waterbirds" are defined broadly as including seabirds, shorebirds, and waterfowl despite substantial differences in ecology and habitat use, nesting strategies, foraging behaviour and sensitivity to disturbance;*
- *In other sections, including baseline reporting, shorebirds are treated as a distinct group, creating inconsistencies across documents;*
- *The term "waterbird habitat" is used in cases where the analysis appears to apply specifically to shorebirds, causing ambiguity in interpretation (e.g., Section 17.2.2.7 and Figure 17.4);*
- *The grouping approach assumes that outcomes are "broadly applicable to most guild members" but does not identify exceptions despite known ecological variability among species.*
- *It is unclear how differences among these groups were incorporated into disturbance assessments (e.g., Zone of Influence (ZOI) distances) and habitat suitability modelling and mapping outputs;*
- *Habitat suitability statements (e.g., limited "waterbird" habitat) may be misleading. Different bird groups require different habitat types and habitat types may be used at varying densities during different life stages;*
- *It is unclear whether habitat suitability information is available or considered for all waterbird groups (e.g., seabirds, waterfowl, sea ducks), or only subsets such as shorebirds;*
- *Figures and mapping products (e.g., Figure 17.4) do not clearly indicate the ZOI for "waterbirds" or whether analyses are specific to a subset of this grouping (e.g., shorebirds); and*
- *Additional ambiguity exists in definitions of groupings (e.g., "upland game species") and their relationship to other categories used throughout the Impact Statement and appendices.*

Information Request

ECCC requests that the Proponent provide clarification and revisions regarding bird groupings used throughout the Impact Statement and supporting documents, including:

1. *Rationale for Groupings*
    a. *Clarify the rationale for grouping seabirds, shorebirds, and waterfowl into a single "waterbird" guild in the effects assessment.*
    b. *Confirm whether these groups will be assessed and analyzed separately, given their ecological differences.*
2. *Consistency Across Documents*
    a. *Ensure consistent bird group definitions and terminology across the Impact Statement, Bird Baseline Report, and all appendices.*
    b. *Explain discrepancies where different groupings are used (e.g., shorebirds treated separately in baseline studies but grouped as "waterbirds" in the Impact Statement).*
    c. *Define terms such as "upland game species."*
3. *Application in Effects Assessment*
    a. *Describe how variation in behaviour, habitat use, and disturbance sensitivity among seabirds, shorebirds, and waterfowl was incorporated into effects predictions, Zone of Influence (ZOI) distances, and habitat suitability modelling.*
    b. *Identify any species or groups that are exceptions to conclusions described as "broadly applicable to most guild members."*
4. *Habitat Suitability and Interpretation*
    a. *Clarify the intended meaning of "waterbird habitat" in Section 17.2.2.7 and elsewhere.*
    b. *Confirm whether habitat suitability analyses apply to all waterbird groups, or are specific to subsets (e.g., shorebirds).*
    c. *Provide information on habitat suitability for all relevant bird groups (e.g., seabirds, waterfowl, sea ducks), where available.*
    d. *Revise or clarify statements regarding habitat availability to reflect that habitat requirements differ among groups and multiple habitat types contribute to supporting migratory birds across life stages.*
5. *Clarification of Mapping and Analysis*
    a. *Clarify whether "waterbird habitat" and associated modelling (e.g., Figure 17.4) apply to all waterbirds, or specific subgroups (e.g., shorebirds only)*
    b. *Clearly identify or include mapping of the Waterbird ZOI (e.g., within Figure 17.4 or via inset).*

Proponent Response

The Impact Statement identifies the guild rationale in Section 17 on Page 17-1, which states: "*Given the variety of birds in the Project area and differences in species' ecology and habitat use, birds were grouped into guilds to facilitate assessment of potential effects. The bird groupings included passerines, waterbirds (composed of seabirds, shorebirds, and waterfowl), and cliff-nesting raptors. These bird guilds are composed of species that generally share similar nesting and foraging strategies, and the observed outcomes are broadly applicable to most guild members*." The term 'waterbirds' in the Impact Statement is different from how the term was used in the Bird Baseline Report (Appendix 17A). The reason for this discrepancy was to group birds (i.e., guild) where the potential interactions between the Project amongst the different bird species will likely be similar based on the guild having similar nesting and foraging strategies, as identified in the verbiage provided in Section 17 on Page 17-1. Therefore, seabirds, shorebirds, and waterfowl were grouped together under the term 'waterbirds' for the Impact Statement which differs from what's presented in the Bird Baseline Report (Appendix 17A). Additional verbiage will be added on Page 17-1 to clarify this.

The Change in Habitat assessment for waterbirds used shorebirds as the representative group for the habitat suitability ratings (see Volume 11, Section 17.2.1.4, Page 17-16). WKR recognizes that the terms waterbirds and shorebirds appear together in the Change in Habitat assessment, causing some confusion for reviewers; the word shorebirds will be removed from this section. The Impact Statement recognizes there are differences in species ecology within the broad waterbird guild, but most species in this broad guild have similar nesting and foraging strategies; therefore, shorebirds were selected to represent waterbirds in the Change in Habitat assessment. The assessment findings for waterbird habitat ratings (i.e., Volume 11, Section 17.2.2.7) confirms that the findings reflect shorebirds for the waterbirds assessment. The habitat suitability ratings used in the Change in Habitat assessment for waterbirds is presented in the Bird Baseline Report (see Appendix 17A, section 2.5, Table 2.6).

The Impact Statement applies one ZOI per guild (waterbirds = 250 m) and a single guild-level habitat rating based on shorebirds to represent waterbirds. The ZOI for waterbirds was included in the Change in Habitat assessment to quantify predicted indirect habitat loss, as shown in Volume 11, Section 17.4.1.4, Table 17.12. Figure 17.4 identifies the predicted changes in waterbird habitat suitability between baseline conditions and project conditions. The ZOI was initially considered being added to this figure; however, the scale of the figure did not provide any means to visually interpret the habitat ratings within the ZOI (i.e., the ZOI extent would just be a solid black line on the figure); therefore, the ZOI was not included in Figure 17.4.

The term upland game species is a typo error in the Bird Baseline Report (Appendix 17A) and the Bird Effects Assessment (Volume 6, Section 17). This term will be replaced with "upland game birds", which is defined in the Bird Baseline Report (see Appendix 17A, Glossary, Page xi).

ECCC-IR 36 (IR-196)

Subject

Project interaction with marine birds

Issue / Concern

In Section 17.1.3, the Proponent states: "The Project's primary interaction with marine birds will be the marine habitat shoreline at the Grays Bay port." This statement does not reflect the spatial ecology of marine bird species. Interactions with marine birds at the shoreline and port area are not limited to species already present in that area. For example, Glaucous Gulls often forage 30 to 70 km from their colony or nest (Weiser and Powell 2010). This species is attracted to vessel activities, landfills, and other anthropogenic sources. Additionally, marine birds may use nearshore and/or offshore marine environments for foraging, staging, and transit. Because Project activities extend beyond the shoreline and port (e.g., shipping), interactions would also extend beyond the shoreline and port. For example, large concentrations of Common Eiders breed, nest, moult, stage, and migrate throughout this region, including in the LSA and RSA, from June through mid-October. There is potential for disturbance from vessel traffic during sensitive periods.

There is limited data on marine bird species in this area and the Impact Statement does not include references that provide information on interactions between marine birds and vessels in the region.

Information Request

ECCC requests that the Proponent:

1. *Clarify what is meant by "marine habitat shoreline" and indicate if this is a specific distance from the coastline;*
2. *Clarify how shipping corridors were considered when assessing Project effects on marine birds; and*
3. *Provide information on how the magnitude of effects on marine migratory birds were assessed for the road during the Construction and Operations and Maintenance phases.*

Proponent Response

The statement in Volume 6, Section 17.1.3, page 17-9 that *"the Project's primary interaction with marine birds will be the marine habitat shoreline at the Grays Bay port"* refers specifically to the assessment of direct habitat change associated with permanent port infrastructure. It was not intended to define the full spatial extent of Project interactions with marine birds or to imply that marine vessel operations beyond the shoreline were excluded from the effects assessment. The IS distinguishes between Change in Habitat (Section 17.4.1) and Change in Mortality Risk (Section 17.4.2), with marine vessel operations, vessel lighting, and other operational interactions assessed separately through the mortality risk pathway. The following discussion clarifies the assessment methodology and does not change the conclusions of the IS regarding the significance of residual effects on marine birds.

Context from the Impact Statement

Volume 6, Section 17.1.3, page 17-9 states:

> *"Marine vessels will be using an existing shipping route through the Northwest Passage during the open water shipping season (see Volume 2, Section 1). The Project's primary interaction with marine birds will be the marine habitat shoreline at the Grays Bay port. This was included in the effects assessment of habitat change and how marine birds may interact with the Project (see Section 17.4.1 for details)."*

Consistent with the assessment methodology presented in Section 17, the Project evaluates effects on birds through two separate pathways:

Change in Habitat (Section 17.4.1), which assesses direct and indirect habitat loss or alteration associated with Project infrastructure and sensory disturbance; and

Change in Mortality Risk (Section 17.4.2), which assesses incidental take, collisions with vehicles, aircraft and marine vessels, and interactions with Project lighting during construction and operations.

Therefore, the assessment of direct habitat change focuses on the shoreline adjacent to the Grays Bay Port Development Area where permanent marine infrastructure will be located, while operational effects associated with marine vessel traffic are evaluated separately through the mortality risk assessment.

The term "marine habitat shoreline" is intended to describe the coastal marine habitat immediately adjacent to the proposed port where direct habitat alteration associated with construction of the marine terminal and associated infrastructure may occur. It was not intended to represent a fixed offshore distance from the coastline or the full spatial extent of marine bird interactions with the Project. Consistent with the assessment framework described in Section 17, direct habitat effects were assessed within the Project Development Area, while indirect habitat effects were evaluated using the applicable Zones of Influence. Marine vessel operations occurring beyond the immediate shoreline were assessed separately through the change in mortality risk pathway.

Shipping Corridors

Marine shipping was assessed as an operational Project activity occurring along the existing Northwest Passage shipping route during the open-water shipping season. The assessment does not treat the shipping corridor as an area of direct habitat alteration; rather, marine shipping is evaluated as an operational activity with the potential to affect birds through mortality risk pathways, including marine vessel interactions and vessel lighting, consistent with the assessment framework presented in Volume 6, Section 17.4.2, page 17-44 (Change in Mortality Risk).

The assessment evaluates marine birds within the broader waterbird guild, consistent with the methodology applied throughout Section 17, rather than through individual species-specific assessments. Accordingly, potential interactions associated with marine vessel operations, including vessel strikes, vessel lighting, and behavioural responses to vessel presence, were evaluated at the guild level using the residual effects assessment methodology described in the IS. Mitigation measures for marine vessel

operations, including operational controls, lighting management, follow-up monitoring, and adaptive management, are implemented through the WMMP (Volume 11, Appendix 37B).

Marine Bird Information and Uncertainty

The IS recognizes that information describing marine bird use of offshore habitats and species-specific interactions with vessels within the Coronation Gulf and Dease Strait region is limited. As described in Volume 6, Section 17.8, page 17-63 and 17-64 (Prediction Confidence and Uncertainty), the assessment incorporates the best available information at the time of the assessment, including Project-specific baseline studies, published scientific literature, Inuit, Indigenous, and Community Knowledge, together with conservative assumptions and standard mitigation measures to address uncertainty.
While relatively few published studies are available describing vessel interactions for marine birds specifically within the Project area, the mechanisms by which vessels may affect marine birds, including disturbance, attraction, collision risk, and lighting effects, are well documented in the broader Arctic and circumpolar literature and informed the assessment where regional information was limited. The *State of the Arctic Marine Biodiversity Report* (CAFF, 2017b) recognizes important knowledge gaps regarding seabird use of offshore habitats and the effects of increasing marine activity on Arctic seabirds and recommends continued monitoring to improve understanding of seabird responses to shipping and other marine activities. Similarly, the *State of the Arctic Marine Biodiversity Report: Key Findings and Advice for Monitoring* (CAFF, 2017a) identifies targeted at-sea surveys, expanded seabird monitoring near areas of marine activity, and improved understanding of seabird interactions at sea as priorities for strengthening future assessments.

The Project incorporates follow-up monitoring and adaptive management through the Wildlife Mitigation and Monitoring Plan (WMMP). Monitoring results, together with new scientific information and Inuit, Indigenous and Community Knowledge, will be used to verify the effectiveness of mitigation measures and to refine mitigation, where warranted, throughout the Project lifecycle. The additional information provided above also clarifies that the assessment distinguishes between habitat change associated with the port infrastructure and mortality risk associated with marine vessel operations, including vessel traffic along the existing shipping route. Hence, although uncertainty remains regarding regional marine bird information, the assessment applies preventive measures through mitigation, monitoring, and adaptive management, and this uncertainty does not change the conclusions of the IS that residual effects on marine birds are predicted to be low in magnitude and not significant.

References

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CAFF. 2017b. State of the Arctic Marine Biodiversity Report. Conservation of Arctic Flora and Fauna International Secretariat, Akureyri, Iceland. 978-9935-431-63-9

ECCC-IR 37 (IR-197)

Subject

Spatial boundary for measured effects

Issue / Concern

In Section 17.1.4.1, the Proponent refers to the Local Assessment Area (LAA) as the "… maximum predicted extent of project-related environmental effects, both direct and indirect, on wildlife and birds that can be predicted or measured…" and the Zone of Influence (ZOI) as "…the distance within which human activities may alter bird behaviour or habitat use". It is unclear why the ZOI is not larger, and closer to the LAA, given that the LAA is the actual extent of Project-related effects within which effects can be measured.

Information Request

ECCC requests that the Proponent clarify why the ZOIs for migratory birds are small relative to the overall LAA, which is the extent within which Project effects can be measured.

Proponent Response

The Local Assessment Area (LAA) and the Zone of Influence (ZOI) represent different components of the effects assessment methodology and therefore serve different analytical purposes. The LAA defines the maximum spatial extent within which Project-related direct and indirect effects are evaluated, whereas the ZOI represents the predicted extent of a specific effect mechanism (i.e., indirect sensory disturbance) for a particular bird guild. Therefore, the ZOI is intentionally nested within the LAA and is not expected to extend to the LAA boundary. This reflects the assessment methodology described in the IS and does not indicate that Project effects extend uniformly throughout the LAA. The following information clarifies the relationship between these assessment components.

Context from the Impact Statement

Volume 6, Section 17.1.4.1, page 17-11 defines the LAA as:

> *"The LAA encompasses the PDA and the maximum predicted extent of project-related environmental effects, both direct and indirect, on wildlife and birds that can be predicted or measured with a reasonable degree of accuracy and confidence. The predicted expected extent of direct and indirect effects is based on a 4-km radius buffer around the PDA, which is established from studies completed on wildlife and their responses to human activities..."*

The LAA therefore represents a conservative study area established to encompass the maximum predicted extent within which Project-related effects may reasonably be evaluated.

The Wildlife Mitigation and Monitoring Plan (WMMP) (Appendix 37B: Section 8, page 24) defines the ZOI as "*the distance within which human activities may alter wildlife behaviour or habitat use.*" Similarly, Volume 6, Section 17.4.1.1, page 17-35 explains that the ZOI is used to quantify indirect habitat effects by downgrading habitat suitability within the predicted disturbance distance for each bird guild. Habitat located within the applicable ZOI is downgraded by one habitat suitability class to account for sensory disturbance, while habitat beyond the ZOI is not predicted to experience measurable disturbance effects. The ZOI is therefore not intended to represent the full extent of the assessment area, but rather the predicted distance over which measurable behavioural responses to a specific disturbance source are expected to occur.

The difference in scale between the LAA and the ZOI reflects their different functions within the effects assessment methodology rather than different assumptions regarding Project effects. The LAA defines the overall assessment boundary within which all potential direct and indirect Project effects on birds are evaluated. By comparison, the ZOI is an effect-specific analytical tool applied within the change in habitat assessment to identify the area over which indirect sensory disturbance is predicted to alter habitat suitability for each bird guild. Then, the ZOI is intentionally nested within the LAA. It is not intended to define the maximum extent of Project effects, but rather the predicted distance over which measurable behavioural responses and associated reductions in habitat suitability are expected to occur. Habitats located beyond the applicable ZOI are not predicted to experience measurable sensory disturbance and therefore are not downgraded within the habitat assessment.

The LAA therefore encompasses both areas where Project-related disturbance is predicted to occur and areas where no measurable disturbance is predicted. This provides a conservative assessment boundary so that all potential Project-related effects can be evaluated while applying disturbance distances only where supported by the assessment methodology and available literature. Consequently, the difference in scale between the LAA and the ZOI is an intentional feature of the assessment framework and should not be interpreted as indicating that the ZOI underestimates Project effects or that the LAA overestimates them. This clarification does not change the assessment methodology or the conclusions of the IS regarding the magnitude or significance of residual effects on birds.

ECCC-IR 38 (IR-198)

Subject

Defining acceptable levels of adverse change

Issue / Concern

In Section 17.1.5, the Proponent defines a significant adverse residual effect on birds as "…a residual effect that is expected to result in an adverse change to bird population viability and persistence, of bird populations that interact with the RAA, beyond an acceptable level."

It is unclear what would be considered an "acceptable" level of adverse residual effect on birds.

Information Request

ECCC requests that the Proponent clarify what is considered an "acceptable" level of adverse residual effect on birds.

Proponent Response

The Significance Definition is provided in Section 17.1.5 (Page 17-14). Notably, an explanation of the acceptable level is missing from this section. The following verbiage will be added to explain the acceptable level of adverse residual effect on birds: *"Furthermore, a significant adverse residual effect on birds is defined as one that is expected to alter the viability and persistence of populations of indicator species that interact with the RAA beyond an acceptable level (e.g., where it is not sustainable or is unavailable to contribute to biodiversity and ecosystem function or is not available for managed harvest)."*

ECCC-IR 39 (IR-199)

Subject

Relevance of previous Arctic PRISM plots for bird monitoring

Issue / Concern

In Section 17.2.1.3, the Proponent provides an overview of bird surveys, including the following:

"In 2008 and 2012, the Program for Regional and International Shorebird Monitoring (PRISM) Rapid Plot method was implemented to better capture uncommon shorebird species and was effective for documenting nearly all breeding bird species in tundra environments."

There are other years of relevant Arctic PRISM data in the project area that could contribute to baseline information about the Regional Assessment Area (RAA). These data are now available at the Government of Canada's Open Government website (https://open.canada.ca/data/en/dataset/16e8ad1c-ba02-4438-87d2-969153694e88).

It is unclear whether additional Arctic PRISM survey data were used to inform the Impact Statement. ECCC can provide further information regarding Arctic PRISM surveys for the Grays Bay Road and Port Project.

Information Request

ECCC requests that the Proponent clarify whether additional Arctic PRISM data were considered when assessing Project effects to migratory birds and whether it will be used for any revised analyses in the final Impact Statement.

Proponent Response

No other PRISM data was used to inform the Impact Statement. The PRISM plot survey data in 2008 and 2012 was used for establishing baseline avian conditions and modeling habitat suitability within the Regional Assessment Area (RAA). Observed bird density and species richness metrics across broad Ecological Land Classification (ELC) vegetation types were used to generate habitat suitability ratings (High, Moderate, Low, Nil) for passerines, shorebirds, and cliff-nesting raptor foraging habitat (see Appendix 17A; Table 2.6; Page 24). The suitability data were then used to assess and quantify direct habitat loss, indirect sensory alteration, and cumulative habitat loss associated with the Project.

Context from the Impact Statement

The Impact Statement documents the Project-specific PRISM survey effort (81 plots in 2012, 53 within the RSA, and 28 located outside the RSA; 2004/2008 tundra-breeding-bird surveys) and its role in the baseline (Volume 17.2.1.3; Appendix 17A).

ECCC-IR 40 (IR-200)

Subject

Habitat suitability methods, interpretation, and application for birds

Issue / Concern

The habitat suitability assessment presented in the Impact Statement lacks clarity and sufficient justification regarding methodology, interpretation of results, and consistency of application across bird groups. The following issues were noted:

- *Habitat suitability ratings for "waterbirds" are described as reflecting shorebird breeding habitat only, despite the broader use of the term elsewhere in the Impact Statement, leading to ambiguity in interpretation;*
- *Statements indicating a low amount of suitable habitat may be misleading, as different bird groups rely on different habitat types and birds may use a range of habitats at varying densities across life stages. The assessment appears to emphasize wet habitat types, rather than overall habitat availability;*
- *The methods used to define habitat suitability vary across groups. Passerine habitat ranking is based on bird density and waterbird habitat ranking is based on habitat characteristics (shorebirds only);*
- *The use of bird density as a proxy for habitat suitability is uncertain and may be unreliable due to territorial behaviour limiting observed densities, source–sink dynamics, and interannual variability (e.g., food availability, environmental conditions); and*
- *It is unclear what data were used to define current baseline conditions or how those data were analyzed. It is also unclear whether detection probabilities were accounted for in estimating densities or whether habitat suitability assessments were completed consistently for all relevant bird groups (e.g., seabirds, waterfowl)*

Information Request

ECCC requests that the Proponent provide clarification and additional information regarding habitat suitability assessments used to support the evaluation of Project effects on birds as follows:

1. *Confirm when data were collected to characterize current habitat conditions within the Local Assessment Area (LAA) and Regional Study Area (RSA). Describe how these data were analyzed to determine habitat suitability rankings;*
2. *Confirm whether habitat suitability assessments have been conducted for all relevant bird groups, including passerines, shorebirds, seabirds, waterfowl / sea ducks. Where methods differ among groups (e.g., density-based vs. habitat-based approaches), provide justification for the selected methods;*

3. *Provide justification for the use of bird density as an indicator of habitat suitability for passerines. Clarify data sources used to estimate densities and whether densities were derived from single-year or multi-year datasets. Confirm whether detection probabilities were accounted for in estimating bird densities (e.g., variation due to date, time, observer distance, habitat type). If not, provide justification and describe how this limitation influences interpretation of habitat suitability;*
4. *Clarify the intended meaning of "waterbird habitat" in Section 17.2.2.7 and confirm whether this analysis applies broadly to all waterbirds, or specifically to shorebirds only;*
5. *Revise or clarify statements describing low habitat availability, ensuring statements reflect differences in habitat requirements among bird groups and acknowledge the role of multiple habitat types across life stages; and*
6. *Confirm whether information is available on suitable habitat for other bird groups (e.g., seabirds, waterfowl), and how these were considered in the assessment.*

Proponent Response

In response to the Information Request:

1. Habitat data used in the habitat modelling for each bird guild was collected during the 2012 PRISM surveys. Data analysis methods for each guild are presented in Volume 6, Appendix 17A, Section 2.5.1 (for peregrine falcon, the representative species for cliff-nesting raptors, pages 23-25), Section 2.5.2 (for shorebirds, the representative species for waterbirds, pages 23-25), and Section 2.5.3 (for passerines, page 25).

2. The habitat ratings for each bird guild are further described in the Bird Baseline Report (see Appendix 17A, Section 2.5, Pages 23-25), which states: "*Habitat ratings were completed for peregrine falcon and shorebirds and created based on the ecological land classification (ELC) developed for the Izok Corridor Project that was adapted for use in support of this Project (Caslys Consulting 2013)*". A description of the habitat suitability ratings based on the ELC for peregrine falcon (i.e., representative cliff-nesting raptor) and shorebirds (i.e., representative waterbird group) is presented in Appendix 17A, Section 2.5, Table 2.6, Pages 24-25. These descriptions and their ratings outline how different habitat types were rated from the ELC mapping and provides context for the ratings for the habitats modelled for each guild representative. The habitat ratings and subsequent modelling relied on rating the habitat types identified, and not the overall habitat availability.

3. Habitat suitability ratings for passerines were done differently, based on overall passerine density estimates for different habitat types. This was used to determine what habitat types are considered 'selected' by passerines based on bird density in different habitat types using the 2012 PRISM data collected. This was assumed to identify habitat suitability for passerines. The description for passerines habitat suitability ratings includes the following: "to assess habitat availability for passerine birds, a map of passerine habitats was created based on observed densities within the different vegetation types (i.e., ELC units). The analysis of the 2012 PRISM data produced a table of passerine densities by vegetation type, with observed densities ranging from 129.6 to 260.0 birds/km² (see Section 6.2.2). Observed densities were grouped into one of four classes: High (>220 birds/km²),

Moderate (160 to 220 birds/km²), Low (10 to 160 birds/km²), and Nil (<10 birds/km²), and applied to the ELC map coverage." (Appendix 17A, Section 2.5.3, Page 25). These classes were derived from professional judgment based on the bird densities calculated for different habitat types as presented in Appendix 17A, Section 6.2.2, Tables 6.5 and 6.6. Detection probabilities were not included in the passerine density estimates; however, the Bird Baseline Report does acknowledge some species may have been missed due to the timing of the 2012 PRISM surveys. Specifically, Section 6.2.2 (Page 91 of Appendix 17A) states: "*The timing of the 2012 field surveys may have been too late during the breeding season to adequately sample some species. For instance, it appeared that many of the redpolls had already fledged their young at the time of the surveys as many of these birds were observed in feeding flocks on the plots and were recorded as incidental observations (i.e., not included in the density estimates). If the 2012 field surveys were completed one week earlier, the density of passerines may have been higher*."

4. Habitat suitability assessments were completed for raptors (peregrine falcon as the representative species), shorebirds (as the representative species for waterbirds), and passerines (for tundra passerine birds. Further details can be found in Volume 6, Appendix 17A, Section 2.5, pages 23-25. Habitat suitability ratings for peregrine falcon and shorebirds is described in Table 2.6 (pages 24-25). Habitat ratings for raptors Habitat ratings for passerines were based on observed densities within the different vegetation types. Habitat suitability ratings for shorebirds were rated by ECCC shorebird biologist familiar with bird occurrence in tundra environments (Volume 6, Appendix 17A, Section 6.2.1, page 87). For raptors, foraging habitat based on passerine density was used for habitat ratings. As identified in Volume 6, Appendix 17A, Section 6.2.1 (page 23), most peregrine falcon activity occurs within 2 km.

5. The reason bird densities were used for passerines instead of habitat ratings to determine habitat suitability is that passerine bird density provides a more accurate, higher resolution of actual habitat quality. While habitat maps show where a species could potentially exist based on vegetation cover, density data reflects where birds are actually choosing to settle and establish breeding territory. Detection probabilities were not included in defining passerine habitat suitability and is therefore a limitation in the model. However, the modelling results provide a reasonable understanding of habitat used by passerines within the RAA. Any refinements applied to the model based on passerine detection probabilities will not have a meaningful change in the overall habitat loss results as presented in Volume 6, Section 17.4.1.4, Table 17.11, page 17-38.

6. Waterbird habitat rating in Volume 6, Section 17.2.2.7 used shorebirds as the representative group for waterbirds. The habitat ratings used are provided in Volume 6, Appendix 17A, Table 2.6 (pages 24-25).

   The methods used for determining habitat ratings for each bird guild are clearly defined in the Bird Baseline Report (Volume 6, Appendix 17A, Section 2.5, pages 23-25). These habitat ratings were applied to the ecological land classification developed for the Izok Corridor Project that was adapted for this Project. The outputs presented in the habitat ratings exercise demonstrates the amounts of suitable habitat present with the RAA and is presented for passerines in Volume 6, Section 17.2.2.5, Table 17.6 (page 17-28), for waterbirds in Volume 6, Section 17.2.2.7, Table 17.7, page 17-30) and

for raptors in Volume 6, Section 17.2.2.9, Table 17.8, page 17-32). The habitat types are based off the breeding season for birds. While there may be differences in some habitat use by different bird species within each guild over different time periods, the general habitat use by each guild is captured within the analysis and habitat ratings presented for the guild as a whole.

The baseline data collected for seabirds and waterfowl does not allow for habitat suitability modelling. Surveys for seabirds can be found in Volume 6, Appendix 17A for spring migration (Section 4.2.1, pages 48-51, breeding (Section 4.2.2, pages 51-53), summer/ moulting (Section 4.2.3, pages 54-55) and fall staging (Section 4.2.4, pages 56-58). Waterfowl observations from aerial surveys documented species occurrence and distribution primarily from individuals observed either flying, or swimming on waterbodies, and was not linked to upland habitat occurrences.

ECCC-IR 41 (IR-201)

Subject

Mitigation efficacy

Issue / Concern

In Section 17.4.2.4, the Proponent states that "The efficacy of the proposed mitigations is high when implemented throughout the project life."

It is unclear if there are references that support high effectiveness of proposed mitigations, particularly in Arctic environments.

Information Request

ECCC requests that the Proponent clarify what references support high efficacy of the proposed mitigations, particularly in Arctic environments, and identify monitoring and adaptive management considerations for ensuring efficacy of mitigation measures.

Proponent Response

The intent is to acknowledge the mitigation measures presented align with practices that are accepted and used on other Arctic Projects. This includes the B2Gold's Back River Gold Project, Agnico-Eagle's Hope Bay Project and Meadowbrook Gold Mine, and the Baffinland Iron Mine. The Wildlife Mitigation and Monitoring Plan (WMMP) outlines monitoring strategies (Volume 11, Appendix 37B, Section 8) and an adaptive management program (Volume 11, Appendix 37B, Section 9) to evaluate and address any concerns with the mitigation measures in meeting the predicted outcomes as identified in the IS.

ECCC-IR 42 (IR-202)

Subject

Project influence on important migratory bird and species and at risk migratory bird breeding areas

Issue / Concern

In Section 17.8, the Proponent discusses baseline data for the bird community, noting: "No bird breeding colonies were identified in proximity to the PDA [Project Development Area]; therefore, no concerns that the Project will influence any important bird breeding areas."

There is insufficient survey effort to confirm no important bird breeding areas in proximity to the PDA. For example, Common Eiders have been observed staging within the Regional Assessment Area (RAA) during migration (Dickson 2012).

Although available information does not indicate major seabird colonies in the region (e.g., colonies in the thousands), gulls and terns may nest in this area in low densities.

Information Request

ECCC requests that the Proponent confirm if other important breeding areas are in proximity to the PDA, including areas used by non-colony breeding species.

Proponent Response

Baseline surveys identified several localized breeding areas in the vicinity of the PDA. These include two Thayer's gull breeding colonies, common eider nesting locations on Islands 7, 9, 11, and 13, and red-throated loon nesting habitat on Island 3 (with possible nesting on Island 1) (Volume 6, Appendix 17A, Section 4.2.2, page 51). These areas represent breeding habitat for both colonial and non-colonial nesting bird species. No additional important breeding areas were identified during baseline studies. Figure 2.5 illustrates the locations of these breeding areas relative to the PDA.

ECCC-IR 43 (IR-203)

Subject

Habitat evaluation assumptions

Issue / Concern

In Section 17.8, the Proponent states: "However, conservative assumptions made in the habitat evaluation are likely to result in an overestimate of the overall habitat effect."

It is unclear what conservative assumptions were made in the habitat evaluation.

Information Request

ECCC requests that the Proponent clarify what conservative assumptions were made in the habitat evaluation.

Proponent Response

The conservative assumptions in the Change in Habitat assessment occur in multiple places: 1) the PDA boundary includes buffers around conceptual Project components (see Volume 6, Section 17.1.4.1, Page 17-11), thereby overestimating the total amount of direct habitat loss; 2) the Analytical Assessment Techniques (see Volume 6, Section 17.4.1.1, Pgs 17-34 and 17-35) which includes: i) whole-PDA habitat loss (all footprint habitat downgraded to Nil); and, ii) full-ZOI one-rank downgrade; 3) the Project Residual Effects (Volume 6, Section 17.4.1.4) assumes the combination of direct habitat (i.e., within the PDA) and indirect habitat loss within the guild-specific ZOI's (i.e., all habitats downgraded to moderate or low) will influence an overall Change in Habitat for birds.

Context from the Impact Statement

The assumptions listed in the response are the basis for the statement in Section 17.8 which states: *"conservative assumptions made in the habitat evaluation are likely to result in an overestimate of the overall habitat effect."* However, this conservative overestimate assumption should not be confused with the preceding sentence regarding raptors, which states: "*It is unlikely that all raptor cliff-nests located within the LAA and RAA were identified (e.g., new nest sites may have been established since baseline studies were completed), and ground-nesting raptors usually select a new nest site location each year; therefore, the effects assessment on change in habitat likely underestimated the potential high quality habitat present."* Essentially, the conservative assumptions identified in the Analytical Assessment Techniques and the calculated estimates for direct and indirect habitat loss provides robust habitat assessment results for the Change in Habitat assessment for each guild.

PDA Boundaries

The PDA spatial boundaries definition (see Volume 6, Section 17.1.4.1, Page 17-11) identifies buffers used around conceptual Project components for the assessment. Specifically, it states: "*The boundary of the PDAs were created by applying buffers around where the Project components will be sited and varies by each of the sub-areas depending on necessary flexibility for final siting of certain Project components based on conditions on the ground. For the Road PDA and Winter Road PDA, a 75 m buffer was applied to the roads centreline, for the Port PDA and the Aerodrome PDA, the areas were subdivided based on the conceptual Project component locations and then buffered approximately 1,000 m for the landside Port PDA, approximately 300 m for the marine Port PDA, and 500 m for the Aerodrome PDA."*
The Analytical Assessment Technique for Change in Habitat in Section 17.4.1.1, Page 17-35, states the following: "*Habitat within the PDA was downgraded to 'Nil' since all habitats will be removed by the Project (i.e., direct habitat loss caused by the Project)*." This supports the statement in Volume 6, Section 17.8 that conservative assumptions were used in the Change in Habitat evaluation.

ECCC-IR 44 (IR-204)

Subject

Mitigation effectiveness

Issue / Concern

In Section 17.8, the Proponent refers to their confidence in the mitigation measures as follows: "There is high confidence in the success of the mitigation and management measures outlined, as well as in the monitoring practices, based on their proven effectiveness in other projects and on information from the literature."

It is unclear what mitigation measures have proven effective in other projects and from the literature.

Information Request

ECCC requests that the Proponent clarify which mitigation measures have been proven effective in other projects and from the literature.

Proponent Response

Thank you for pointing this out. This is an error in Section 17.8. This sentence will be updated as follows: "*There is high confidence in the success of the mitigation and management measures outlined, as well as in the monitoring practices, that are accepted and used on other Arctic Projects"*. References will be added to mitigation and monitoring plans from other Arctic Projects, such as B2Gold's Back River Gold Project, Agnico-Eagle's Hope Bay Project and Meadowbrook Gold Mine, and the Baffinland Iron Mine Mary River Project.

ECCC-IR 45 (IR-205)

Subject

Location of northern and southern demarcation in Figure 2.1

Issue / Concern

Various volumes of the Impact Statement reference the "northern half" and "southern half" of the Regional Assessment Area (RAA).

Information Request

ECCC requests that the Proponent confirm if the demarcation in Figure 2.1 represents what are considered the northern and southern halves of the RAA throughout all volumes of the Impact Statement.

Proponent Response

Figure 2.1 in Appendix 17A (page 12) identifies the reference point for northern half and southern half of the RAA for the Bird Baseline Report (Appendix 17A) and the Assessment of Potential Effects on Birds (Volume 6, Section 17) only. This demarcation is also referred to in Table 2.2 of Appendix 17A as the general location of terrestrial bird field surveys (see Page 9).

The division of the RSA/RAA is referred in the following sections:

- Section 17.4.1.4.3 – Raptors (Page 17-39):

  "*The majority of cliff-nesting raptor nests were located in the northern half of the PDA and at the terminus of the Road PDA near Contwoyto Lake (see Figure 17.5)*."

- Section 17.4.1.2 – Project Effects Pathways (Page 17-34):

  "*During both Project phases, effects are more likely to occur in the northern portion of the RAA near the Grays Bay Port, due to higher traffic volume, air traffic, and overall higher levels of sensory disturbance...*"

- Section 17.4.1.4.2 – Waterbirds (Page 17-36):

  "*The change in habitat for waterbirds is most noticeable in the north portion of the RAA (see Figure 17.4)*."

ECCC-IR 46 (IR-206)

Subject

Autonomous Recording Unit (ARU) bird survey methods

Issue / Concern

In Section 2.4.3, the Proponent describes the use of Autonomous Recording Units (ARUs) as follows: "ARUs were programmed to record during the first 5 minutes of every 30-minute interval, 24 hours a day, from May 15 to August 15." Three recordings from separate days that did not contain excessive noise were selected for acoustic and visual examination. It is unclear what dates or seasons are represented by the selected recordings used for these analyses. Additionally, it is not clear whether any data filtering was used, or whether recordings were analyzed using automated recognition software or human observers. Without these details, CWS cannot assess the relevance of findings reported by the Proponent.

Information Request

ECCC requests that the Proponent confirm the dates used for selected recordings and whether selected recordings were analyzed by human observers or automated recognizers and describe any data filtering or processing methods applied.

Proponent Response

ARUs were programmed to record from May 15 to August 15. Selected recordings between June 15 and June 28 from the 30 ARUs were analyzed as this is the peak breeding period for Arctic birds. The data were first visually filtered for excessive noise (e.g., wind) then the remaining recordings were assessed by human observer. An excerpt from Appendix 17A, Section 2.4.3 pg. 19 of the IS states:

"For each ARU analyzed, spectrograms of the 5-minute recordings were initially visually assessed for excessive noise (e.g., wind) using Audacity 3.7.5 (Audacity Team). Three recordings from separate days that did not contain excessive noise were selected for acoustic and visual examination."

Context from the Impact Statement

In Section 2.4.3, *"ARUs were programmed to record during the first 5 minutes of every 30-minute interval, 24 hours a day, from May 15 to August 15, 2025…. Three recordings from separate days that did not contain excessive noise were selected for acoustic and visual examination. "*

The specific dates of the selected recordings from each ARU are not reported.

ECCC-IR 47 (IR-207)

Subject

Relevance of historical ecological land classification developed for the Izok Corridor Project

Issue / Concern

In Section 2.5 of the Birds Baseline Report, the Proponent indicates that "Habitat ratings were completed for peregrine falcon and shorebirds and created based on the ecological land classification (ELC) developed for the Izok Corridor Project (2013) that was adapted for use in support of this Project."

It is unclear if there are more recent ecological land classification data available for the project area.

Information Request

ECCC requests that the Proponent confirm if there are more recent land classification data available for the Project area to inform current conditions in the RAA. If there are more recent land classification data, please confirm whether they will be used in updated analyses, or provide the rationale for not using the data.

Proponent Response

More recent land-classification data do exist and are included in the Impact Statement, specifically in the Vegetation Baseline Report (Appendix 15A), which documents project-specific land-cover/ELC field mapping for 2024 to 2025 (536 survey sites; 15 classes) covering the PDA, LAA, and RAA, and incorporates the 2013 Izok ELC dataset. The bird habitat ratings (Appendix 17A Section 2.5) were derived from the 2013 Izok ELC dataset. The decision to use the 2013 Izok data was based on its availability at the time of developing the habitat suitability models.

Updated habitat data will not be used to reassess the effects on bird species. Any changes to Arctic habitats since the 2013 Izok ELC units were characterized will likely not alter the overall residual effects characterization (i.e., low-magnitude residual effects) on birds from the Project.

Context from the Impact Statement

Bird Baseline Report (Appendix 17A, Section 2.5) confirms the bird habitat ratings are built on the 2013 Izok ELC dataset:

> *"Habitat ratings were completed for peregrine falcon and shorebirds and created based on the ecological land classification (ELC) developed for the Izok Corridor Project that was adapted for use in support of this Project (Caslys Consulting 2013). Table 2.6 provides habitat suitability ratings for peregrine falcon and shorebirds for each vegetation unit. Additionally, a map of observed passerine densities was created based on the results of the 2012 PRISM surveys…"*

More Recent Land-Classification Data does exist in the Vegetation Baseline Report (Volume 6, Appendix 15A), which documents 2024–2025 project-specific ELC and land-cover field mapping for the same study areas:

> *"This Baseline report evaluated baseline vegetation characteristics within the PDA, LAA, and RAA for the Project. Studies in support of the Baseline report included land cover mapping, and desktop and field evaluation of land cover, ELC and SOCC. Data from studies previously completed for the Izok Corridor Project (MMG 2013b) overlap the RAA and were incorporated into the Baseline report. The land cover mapping identified 15 land cover classes… A total of 536 land cover and ELC survey sites were completed, with 344 occurring within the Project RAA. Specifically, 38 locations were surveyed within the PDA, 102 within the LAA, and 204 within the RAA."*

ECCC-IR 48 (IR-208)

Subject

Area of survey coverage for aerial survey transects for birds in September 2012

Issue / Concern

There appears to be a significant area that was not part of the September 2012 aerial surveys. Seabirds use this area, including observations of Arctic Terns, Glaucous Gulls, Iceland/Thayer's Gulls, and potentially other species of seabirds. Small colonies (e.g., 20-100 gulls) have been observed in Bathurst Inlet.

Bathurst Inlet is an important breeding area for sea ducks (e.g., Common Eiders, King Eiders, and Long-tailed Ducks). It is unclear why the area is not included, as this is where the majority of breeding sea ducks would occur, which would then move through the RSA during spring and Fall migration and staging.

Information Request

ECCC requests that the Proponent clarify their rationale for not conducting aerial survey transects over the Bathurst Inlet.

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage"

Natural Resources Canada

NRCan-IR 01 (IR-209)

Subject

Thermal analysis to assess changes in permafrost and ground stability due to the Project and assessment of impacts over the operating lifetime under a changing climate.

Issue / Concern

Disturbance to the ground surface and construction of the road can lead to changes in the ground thermal regime resulting in warming of the ground and thawing of permafrost. Where sediments are ice-rich, thawing can cause ground surface settlement and formation of ponds and result in ground instability with impacts on road performance. Climate warming can also result in warming and thawing of permafrost with implications for terrain stability and infrastructure integrity. Knowledge of the amount of permafrost thaw and ground settlement that will occur over the Project's lifetime is required for planning maintenance activities and assessment of granular resources required for the embankment to ensure optimal operation. An analysis of impacts of climate change on permafrost extent is presented in Vol. 5 (App. 12B) that uses an extreme warming scenario. However, the conclusions made by the authors of the report cited are misleading and misinterpreted. The approach utilized is also inadequate for determining the required information regarding changes in thaw depths and the resulting changes to material strength and potential ground subsidence over the Project lifetime. The potential impacts related to changes in permafrost conditions have been qualitatively described in Vol. 6-14.3.2 and Vol. 10-35. However, the Impact Statement does not appear to present any analysis regarding the expected change in thaw depth and ground settlement that may be expected for typical materials along the road corridor and in the port area. NRCan realizes that more detailed site-specific thermal analysis is normally conducted at a more advanced design stage, but it is unclear whether any preliminary quantitative analysis has been conducted or what the Proponent's plans are for thermal analysis as design progresses.

Information Request

NRCan recommends that the Proponent provide:

- *Information on any preliminary thermal analysis conducted to determine changes in thaw depth and resulting ground subsidence and stability over the Project lifetime.*
- *Information on plans for thermal analysis as design progresses.*

Proponent Response

As provided in WCS IR-01 (IR-145), as the engineering design for the Project advances, additional studies will be completed to inform site specific thermal regimes that need to be incorporated into the design of infrastructure. As the landscape for the Project is varied (e.g., of bare and massive rocks, forming broad treeless uplands, plateaus, and lowlands), site specific conditions and permafrost building specifications for various infrastructure components are being incorporated into the design of the Project, including consideration of climate change resiliency. As provided in Volume 5, Section 12.5, adaptive strategies to be considered in the design include:

- Apply active and/or passive heat mitigation techniques such as thermosyphons, air convection embankments, air ducts and heat drains, reflective surfaces, insulation, and embankment thickening to help maintain thermal integrity and ground stability.
- Install woven geotextile to reinforce embankments and reduce differential settlement.
- Employ methods to reduce thermal disturbance (e.g., incorporating approaches to lowering the water table in the immediate vicinity of the roadbed by using ditches or similar components).
- Install remote monitoring equipment (e.g., thermistors, video cameras) to monitor permafrost conditions and track changes (e.g., settlement) to help make informed decisions. Consider establishing an alert system that can be triggered when sensors indicate exceedance of thresholds defined in an operations and maintenance policy – e.g., exceedance of a specific ground temperature triggers an inspection of the road section.

These measures will be applied, as necessary, for informing and monitoring effects from the infrastructure constructed and operated for the Project. Analysis of mean annual ground temperature (MAGT) will be conducted, as necessary, to inform design or monitor for permafrost changes through and after construction, based on site specific ground conditions and the type of infrastructure to be built on the landscape.

Geotechnical investigation to further inform design is expected to begin in 2027, including preliminary thermal analysis to determine thaw depth and resulting ground subsidence and stability over the Project lifetime.

NRCan-IR 02 (IR-210)

Subject

Location of potential borrow (granular) resource sites and assessment of ground ice conditions.

Issue / Concern

Granular resources will be required for construction and ongoing maintenance of the road and other infrastructure related to the Project. The Proponent has indicated that quarries and borrow sites will be required approximately every 7 km along the 230 km road corridor with every third one providing a permanent source of material to provide 50,000 -100,000 m^3 of granular material annually for road maintenance (Vol. 2, Table 2.10; section 2.6.3.3). The Proponent has indicated that sand and gravel will be sourced from eskers or other glaciofluvial materials to the extent available (Vol. 2 – 2.6.2.4), although elsewhere in Vol. 2 (2.1.1) the Impact Statement states that the use of eskers and glaciofluvial materials would be minimized to reduce impacts on habitat. NRCan notes that glaciofluvial deposits including eskers can be ice-rich (e.g., Dredge et al., 1999) and the potential for massive ice can affect the amount of excavation required to meet granular resource needs and potentially increase the footprint of the borrow area. The Proponent has indicated that selection of borrow sites will depend on geotechnical and geochemical conditions and proximity to the road and that investigations to characterize material properties will be conducted prior to development to identify suitable material (Vol. 2 – 2.6.2.4; Vol. 11 – att. H1). NRCan did not see any preliminary identification of potential granular resource areas in the project area based on the terrain mapping and existing information that the Proponent utilized to characterize surficial material in the project area. It is therefore not clear whether the Proponent has identified potential areas for granular material on which they will focus their future site investigations and to provide an understanding of the potential impacts of resource extraction.

Reference:

Dredge, L.A., Kerr, D.E., and Wolfe, S.A. 1999. Surficial materials and related ground ice conditions, Slave Province, N.W.T., Canada. Canadian Journal Earth Science, 36: 1227-1238.

Information Request

NRCan recommends that the Proponent provide:

- *Clarification regarding the potential of sand and gravel to be sourced from eskers and other glaciofluvial deposits.*
- *Clarification regarding whether the Proponent has conducted a preliminary identification of potential sources of granular material, and if so, provide any reports related to their identification.*

Proponent Response

As described in response to CIRNAC-IR-02 (IR-157), the Grays Bay Road and Port Project Impact Statement (IS) is based on approximately 10% (conceptual) engineering design. At this design stage, the IS establishes the terrain and material extraction management framework, but the specific details on where sand, gravel and quarry materials will be sourced for the Project have not been determined. Assessments continue as design and source materials are refined, including quantities and composition. While eskers and moraine have been identified as important features used by wildlife, it is anticipated that sufficient material balance can be established while preserving features that are of importance to Inuit and wildlife alike.

The road alignment is set within the Project PDA, however, final alignment adjustments within this corridor may be made to avoid unique features where possible and use of materials from eskers or other moraines may be utilized where abundance of these features does not result in a negative impact to the area. These adjustments will be made during advancement of engineering design.

Final borrow and quarry locations will be selected based on:

- Geotechnical and geochemical characteristics;
- Archaeological and environmental constraints;
- Proximity to the road and ease of access;
- Input from local land users;
- Amount of available material (and type of material required).

As provided in response to GC-IR 05 (IR-152), geotechnical investigations and thermal considerations for the Project will include all borrow and quarry locations.

NRCan-IR 03 (IR-211)

Subject

Potential for icing (aufeis) along the road corridor and related impacts, including road hazards, drainage, and water accumulation.

Issue / Concern

Icings (or aufeis) can occur when water flowing through unfrozen ground, such as the active layer or a talik, or bedrock fractures is forced to the ground surface (e.g., encounters frozen ground conditions) and freezes. Successive overflows can result in large accumulations of ice. These ice accumulations can block drainage (e.g., culverts) which can result in water accumulation adjacent to the road in spring as well as flooding of the road. Icings can also present a road hazard if the ice accumulation extends across the road surface. Although icings occur naturally in permafrost terrain, they can also form due to the presence of the road embankment as the active layer can freeze beneath the embankment earlier than the adjacent natural terrain. Increases in active layer thickness and changes to subsurface water flow due to climate warming can also enhance the potential for icings. Although the Impact Statement briefly mentions the potential impacts of icing with respect to blockage of culverts, there is limited information regarding the potential impacts as a road hazard (e.g. Vol. 5 App. 12A-5.5). The Proponent indicates that no spatial data is currently available to inform an assessment of potential icing occurrence (App. 14A-4.4.1.6). NRCan assumes that the icings identified on the terrain maps in App. 14A (App. E) are from one of the information sources cited that was used to inform the description of baseline terrain conditions (Morse et al., 2023) for which the imagery used was during a time of year not appropriate for identifying the full extent of icing occurrence. NRCan notes that there are areas of seepage and/or high-water table identified on the terrain maps which could represent potential icing locations. It is unclear what the Proponent's plans are to identify areas of potential icing and refine assessments of impacts on road operation and the adjacent environment.

Information Request

NRCan recommends that the Proponent provide:

Any information on plans to better identify potential icing occurrences and assess their impacts, and to inform advanced project design.

Proponent Response

The Grays Bay Road and Port Project Impact Statement (IS) is based on approximately 10% (conceptual) engineering design. At this design stage, the IS characterizes surficial materials, permafrost distribution, ground thermal conditions, and ground ice conditions across the Project area through the Volume 6 terrain, soils, and permafrost baseline (Section 14.2 and Appendix 14A), which identifies naturally occurring icings within the Volume 6, Appendix 14A, terrain mapping (Appendix E).

Geotechnical investigations will be completed as part of the advancement of design, starting as early as spring 2027, which will better identify potential icing occurrences and design considerations that may need to be included to manage and mitigate for potential impacts to the Project and the environment. In addition to geotechnical investigations, thermistors may be installed in locations identified where additional permafrost and subsurface ice conditions warrant monitoring to also inform design or to monitor permafrost conditions after construction of the Project is complete.

Monitoring of thermistors would be included in the permafrost monitoring sections of the Port Management Plan or the Road Management Plan.

NRCan-IR 04 (IR-212)

Subject

Terrain and permafrost conditions at approaches to water course crossings.

Issue / Concern

More than 80 water course crossings will be required along the proposed corridor, of which 18 have been identified as major crossings requiring structures with a span greater than 5 m (Vol. 2-2.6.2.3). Knowledge of permafrost and terrain conditions at approaches to the major crossings is essential to inform design in order to ensure infrastructure integrity and mitigate effects related to slope instability or erosion. Warmer ground conditions can be found adjacent to streams and rivers and for larger water bodies, taliks can be present beneath them. The Proponent has assessed the potential for taliks beneath water bodies and estimate that 7 of the major bridge crossings are within areas where open taliks exist (Vol. 7-19.3.4, fig. 19.8, 19.9). The warmer ground conditions at these crossings and their approaches are important considerations in determining terrain stability especially on sloping terrain. NRCan notes that thermokarst terrain has been identified at some crossings (e.g., Hood River; Vol. 6 App. 14A-app. E) indicating thaw unstable material. While the Proponent has acknowledged that there is potential for ground instability, slumping and slope failures at water course crossings, no information has been provided regarding any planned analysis to be done to better assess terrain stability at water course crossings and their approaches. It also is not clear what instrumentation (e.g., thermistors, piezometers, slope inclinometers might be installed to monitor ground stability at approaches to water crossings).

Information Request

NRCan recommends that the Proponent provide:

- *Information on plans for stability assessments to be conducted at approaches to water course crossings (especially major ones) to inform advanced design and development of mitigation plans.*
- *Information on proposed instrumentation to be used to monitor ground stability at major water course crossings to inform mitigation planning to respond to issues such as slope instability or slumping.*

Proponent Response

The Grays Bay Road and Port Project Impact Statement (IS) is based on approximately 10% (conceptual) engineering design. Geotechnical investigations will be completed as part of the advancement of design, starting as early as spring 2027, which will inform foundation systems, pile design, settlement performance, slope stability, and permafrost considerations.

The water crossing structures shall be designed to provide long-term durability under Arctic environmental conditions. Durability considerations shall include freeze-thaw exposure, abrasion, corrosion, ice action, erosion, scour, ultraviolet exposure, thermal gradients, and other environmental effects relevant to the crossing location

Bridge design will be carried out using accepted structural analysis methods appropriate for the selected bridge type and level of design development. Analyses shall consider dead loads, live loads, dynamic load effects, hydraulic loading, ice forces, wind loading, temperature effects, fatigue, scour effects, vibration, serviceability requirements, and applicable load combinations. Bridge span arrangements, deck geometry, navigational clearances, freeboard requirements, and foundation systems shall be developed based on site-specific hydraulic, geotechnical, environmental, operational, and constructability considerations.

Culvert and bridge-culvert design shall incorporate hydrologic and hydraulic analyses to establish design flows, waterway opening requirements, flow conveyance capacity, headwater levels, outlet conditions, freeboard requirements, fish passage requirements, and scour protection measures where applicable. Structural analyses shall address earth pressures, embankment loads, traffic loads, frost effects, differential settlement, foundation support conditions, durability requirements, and long-term performance under Arctic operating conditions.

Design development shall consider hydraulic loading, ice loading, scour, vessel navigation requirements where applicable, permafrost conditions, constructability, inspection access, maintenance requirements, and long-term operational performance. Structure selection, span arrangements, foundation systems, and crossing configurations shall be optimized based on site-specific hydraulic, geotechnical, environmental, and operational considerations while recognizing that final structure configurations will be refined during subsequent design phases.

Based on these technical specifications and considerations as part of the design development, site-specific mitigation measures and monitoring requirements for slope stability or slumping will be identified in the monitoring plans.

NRCan-IR 05 (IR-213)

Subject

Nearshore sediments and mobility

Issue / Concern

The Proponent indicates that the seabed in the port and small craft harbour areas is composed of a wide variety of materials from bedrock to silt and mud (8-App21A-5.4; 8-App. 22A-5.2). The Proponent indicates that dredging and blasting will be conducted during construction to create platforms for port and harbour infrastructure and that no ongoing maintenance dredging is expected in Operations and Maintenance Phases (8-21.3.2.4). The presence of silt and mud indicates parts of the port and harbour areas have been and possibly are depositional with a potential source of sediment from the Kogloktoakyok (Kennarctic) River. The Proponent does not indicate that sediment discharge from the Kogloktoakyok River has been considered, nor deposition rates in the project area determined. While the Proponent has collected some current meter data useful for sediment transport analyses, these do not appear to have been conducted for the port and harbour facilities.

Information Request

NRCan recommends that the Proponent provide:

- *Information and reports on the fate of sediment discharged from the Kogloktoakyok River, and sedimentation rates and sediment transport in the port and harbour.*
- *Information on plans to monitor potential bathymetric changes due to altered sedimentation and siltation.*

Proponent Response

The Grays Bay Road and Port Project IS characterizes marine sediments, oceanographic conditions, sediment sources, and dredging effects mainly within Volume 8, Section 21 (Marine Water and Sediment Quality) and Appendix 21A (Marine Water and Sediment Quality Baseline Report), Volume 8, Section 22 (Marine Fish and Fish Habitat) and Appendix 22A (Marine Fish and Fish Habitat Baseline Report), and Volume 8, Section 23 (Marine Mammals). Sediment fate and mobility in the Grays Bay port and small craft harbour areas are addressed through the marine water and sediment baseline characterization and the assessment of dredging and blasting effects during Construction. Refined sediment transport analyses specific to the port and harbour will be developed as the Project advances beyond the current approximately 10% (conceptual) design stage. The following response addresses NRCan's information request.

Clarification on River Nomenclature

The IS uses **"Kennarctic River"** as the English-language name for the freshwater tributary approximately 3 km east of the proposed marine port site (Volume 8, Appendix 21A). The Kitikmiut place name **"Kogloktoakyok"** — cited by NRCan — refers to Grays Bay itself, as documented in the Naonaiyaotit Traditional Knowledge Project report title *"Kitikmiut Knowledge of the Proposed Kogloktoakyok (Grays Bay) Port and Road Project"* (Banci and Spicker 2024, referenced in Volume 3). For consistency with the IS, this response uses "Kennarctic River" for the tributary and reserves "Kogloktoakyok" for its Kitikmiut place-name context.

What the IS Provides on Sediment Sources and Fate

Seabed material characterization. Volume 8, Section 22 characterizes marine sediments in and around Grays Bay:

> "*Marine sediments in and around Grays Bay primarily consist of clay (dominant) and silt (subdominant), with the exception of sand-dominant sediments near the mouth of the Kennarctic River (Appendix 21A; MMG 2012; Lorax 2013).*" (Volume 8, Section 22)

Volume 8 further characterizes seabed particle size distribution and mobility:

> "*Sediment sampling near the proposed port area indicates that the seabed is dominated by fine-grained particles less than 4 µm (silt and clay). These fine sediments are particularly susceptible to resuspension and long-distance transport, increasing the likelihood of contaminant dispersion beyond the immediate dredging zone (Nielsen et al. 2015). This characteristic may increase the spatial footprint of potential sediment quality impacts. However, the extent of spread is expected to remain confined to the immediate vicinity of the dredging activity (within a 732 m radius) (NOAA Fisheries 2025).*" (Volume 8, Section 21)

Kennarctic River as a sediment source to the marine environment

WKR acknowledges NRCan's observation that the sand-dominant sediments near the Kennarctic River mouth and the presence of silt and clay across the broader port and harbour areas indicate that the port and harbour areas are, in part, depositional. The IS explicitly addresses the Kennarctic River as a significant source of freshwater and suspended sediment to Grays Bay. Volume 8, Section 21 records:

> "*The Kennarctic River, approximately 3 km to the east of the proposed marine terminal site, also heavily influences water quality and stratification within Grays Bay. Freshwater runoff from the river further decreases salinity at the surface and introduces suspended sediments into the marine environment (Wolfden 2006).*" (Volume 8, Section 21; also Volume 8, Appendix 21A, Section 5.1 Oceanography)

Volume 8, Section 21 further records:

> "*The largest influence on water quality in Grays Bay is the formation and melting of ice and the input of freshwater from the Kennarctic River and smaller streams. […] The freshwater input from the Kennarctic River contributes to a high suspended sediment load that produces a plume of turbid water in the ocean (MMG 2012). The warmer temperature and lower salinity water from the river create a low-density surface layer over the high-density seawater, which is affected by wind and tide*." (Volume 8, Section 21)

The IS therefore identifies the Kennarctic River as the principal freshwater and suspended sediment input to the Grays Bay marine environment, and characterizes the sediment plume as a consistent feature across historical monitoring:

> "*The influence of the Kennarctic River on surface water conditions and suspended sediment loads remains a consistent feature across decades*." (Volume 8, Appendix 21A, Sediment Quality)

Oceanographic conditions relevant to sediment transport. Volume 8, Section 21 characterizes oceanographic conditions across Grays Bay and the broader Kitikmeot Sea, including:

- **Basin geometry.** Grays Bay is sheltered from the Coronation Gulf by Hepburn Island (Eglohokyok), located 8 km north of the Project, which forms a wind break and limits fetch distance for wind-generated waves (Volume 8, Section 21).
- **Ice regime.** Landfast ice reaches depths of 2 m or more; the ice-free period in Grays Bay typically extends from mid-July to early November (Volume 8, Section 21; Volume 8, Appendix 21A).
- **Stratification.** Salinity-driven stratification during ice cover and ice melt, with the Kennarctic River freshwater layer contributing to a low-density surface layer over denser seawater (Volume 8, Section 21).
- **Tidal range.** Tidal ranges in Grays Bay are estimated at up to 0.69 m (Mudge et al. 2012) (Volume 8, Section 21).

Current meter data. Volume 8, Section 23 (and Volume 8, Appendix 21A) documents Acoustic Doppler Current Profiler (ADCP) measurements collected in Grays Bay in 2012 (Mudge et al. 2012) and in 2025:

> "*Ocean currents at Grays Bay have been recorded via deployed Acoustic Doppler Current Profiler (ADCP) in 2012 (Mudge et al. 2012). The strongest current was recorded in late July at 104.4 centimetres per second or 2.1 knots (kts). Currents were observed to be strongest at the surface and not always consistent throughout the water column (2025 ADCP data, Mudge et al. 2012). Mudge et al. (2012) hypothesized that a freshwater layer existed near the surface, driven by local river inflow, which was responsible for the observed shears*." (Volume 8, Section 23)

Additional bottom current measurements were collected in August 2025 to support the CORMIX marine dilution modelling for the proposed marine outfall (Volume 8, Section 21.3.2), including the lower ebb tide bottom current speed of 0.10 m/s applied to the outfall dilution modelling.

Sediment Fate, Deposition Rates, and Sediment Transport in the Port and Harbour

Sediment fate. The fate of sediment discharged from the Kennarctic River into Grays Bay is characterized in the IS through the oceanographic and sediment quality baseline described above. The high suspended sediment load introduced by the Kennarctic River produces a plume of turbid water in the ocean (MMG 2012, cited in Volume 8, Section 21). The sand-dominant sediments observed near the Kennarctic River mouth (Volume 8, Section 22) indicate proximal deposition of the coarser fraction of the river sediment discharge, while the clay- and silt-dominant sediments observed across the broader Grays Bay port and harbour areas reflect the settling of the fine fraction under the depositional conditions established by the sheltered basin geometry (Hepburn Island wind break) and the freshwater-driven stratification.

Quantitative deposition rates and sediment transport modelling. Quantitative determination of sediment deposition rates across the port and harbour areas, and quantitative sediment transport modelling incorporating the Kennarctic River sediment discharge, tidal currents, wind-driven currents, and ice-regime effects, is a detailed engineering design phase activity. Refined sediment transport analyses will be developed as the Project advances beyond the current approximately 10% (conceptual) design stage, informed by:

- **Additional bathymetric surveys** extending beyond those completed to date. Volume 8, Section 22 records: "The requirement for dredging of navigation channels to provide a safe approach for vessels calling in to Grays Bay is not currently known and will be determined during future Project planning and site investigation, including bathymetric surveys extending beyond those completed to date." (Volume 8, Section 22)
- **Additional current meter data** collected across representative seasonal windows, building on the 2012 Mudge et al. ADCP deployment and the August 2025 outfall-focused bottom current measurements;
- **Sediment sampling and characterization** at candidate dredging locations, including grain size, geochemistry, and contaminant characterization;
- **Sediment transport modelling** applying the site-specific bathymetric, oceanographic, sediment characterization, and Kennarctic River discharge inputs to characterize sediment deposition rates and sediment mobility under Construction- and Operations-phase conditions.

Regulatory Sequencing Pathway

Refined sediment transport analyses, quantitative deposition rate determinations, and any consequential updates to the marine construction, dredging, or disposal design will be developed through the detailed engineering design phase and confirmed through the applicable regulatory authorization processes, including:

- The Nunavut Water Board Type A Water Licence process, where applicable;
- The *Fisheries Act* authorization process for effects on fish and fish habitat at the port and harbour;

- The Disposal at Sea Permit process under the *Canadian Environmental Protection Act, 1999* and the *Disposal at Sea Regulations*, administered by ECCC, where applicable for disposal of dredged material at sea;
- Applicable Transport Canada approvals under the *Canadian Navigable Waters Act*, where applicable to navigation on scheduled or navigable waterways;
- Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Land Use Permits under the *Territorial Lands Act*;
- The Kitikmeot Inuit Association land use licence process on Inuit Owned Lands; and
- Ongoing engagement with Kitikmiut, the Kugluktuk Angoniatit Association, and other Inuit and Indigenous organizations through the proposed Inuit Environmental Advisory Committee.

Reports available. Reports referenced in the response above and available in the IS include:

- **Mudge et al. 2012** — ADCP oceanographic monitoring data (referenced in Volume 8, Sections 21 and 23; Appendix 21A);
- **Volume 8, Appendix 21A** — Marine Water and Sediment Quality Baseline Report (Oceanography Section 5.1; Water Quality Section 5.2; Sediment Quality Section 5.4);
- **Volume 8, Appendix 22A** — Marine Fish and Fish Habitat Baseline Report (Field Surveys; substrate composition Section 5.2);

Refined sediment transport reports, additional current meter data reports, and additional bathymetric survey reports developed at more advanced design stages will be made available through the applicable regulatory authorization processes.

NRCan-IR 06 (IR-214)

Subject

Volumes and types of dredged material

Issue / Concern

The Proponent indicates that the seabed in the port and small craft harbour areas is composed of a wide variety of materials from bedrock to silt and mud (8-App21A-5.4; 8-App. 22A-5.2). The Proponent indicates that dredging and blasting will be conducted during construction (8-21.3.2.2) to create platforms for port and harbour infrastructure and gives the estimated area of disturbance (8-22-3.4.2), but gives no estimates of volumes of seabed sediment and bedrock involved. The amount of material determines the requirement for at-sea disposal, and the type determines how material can be disposed of or used.

Information Request

NRCan recommends that the Proponent provide:

- *Information and reports on the sediment distribution and thickness overlying the bedrock in the harbour and port, the desired design depths, and amounts of sediments and bedrock that will require disposal on land and at sea.*

Proponent Response

The Grays Bay Road and Port Project Impact Statement (IS) is based on approximately 10% (conceptual) engineering design. At this design stage, the IS characterizes dredging and blasting activities required during Construction of the marine port and harbour infrastructure through Volume 8, Section 21 (Marine Water and Sediment Quality) and Section 22 (Marine Fish and Fish Habitat), and characterizes the seabed material distribution through Volume 8, Appendix 21A (Marine Water and Sediment Quality Baseline Report) and Appendix 22A (Marine Fish and Fish Habitat Baseline Report). Quantitative determination of dredged material volumes by type, design depths for the port and harbour infrastructure, and disposal or beneficial reuse pathways for specific material types will be developed as the Project advances beyond the current design stage.

NRCan-IR 07 (IR-215)

Subject

Correction on activities regulated under the Explosives Act

Issue / Concern

Vol. 1 Section MD.1.3 states that the Proponent will require an NRCan licence for the storage, transport, and use of explosives; however, under the Explosives Act, NRCan regulates only the manufacturing and storage of explosives, not their transport or use, which is incorrectly described throughout the Impact Statement. Based on Vol. 1 Section MD.1.3, Vol. 2 (p. 2-31), Vol. 5 (Table 3.4, p. 9), and Vol. 11 Section 3.7 Blasting (p. 12), NRCan understands that a licence for storage and manufacturing will be required.

Information Request

Revise the activity sought from NRCan for Explosives permit and licence to only include storage and manufacturing, removing transportation and use from all mentions of NRCan's licensing under the Explosives Act throughout the Impact Statement.

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage"

NRCan-IR 08 (IR-216)

Subject

Specify quantity and types of explosives to be manufactured and stored

Issue / Concern

As per section 8.2.11 Human Health and Safety in the Final Impact Statement guidelines, "Assessment of the health, safety and security of workers at the job sites taking into account different proposed project phases and locations (e.g., explosive manufacturing plant, and operations, blasting operation, and heavy equipment operations)" (p. 88), NRCan requires additional information about the explosives components (e.g., types and quantities) to be stored on site in order to ensure the location of the explosives facility is safe, as per Explosives Regulations, 2013 and guidelines.

Information Request

Specify the quantity and type of explosives to be used, including the quantity of each type (e.g., number of ANFO and number of emulsion).

Proponent Response

The Impact Statement (IS) identifies the types of explosives proposed for the Project. Volume 10, Section 34 states that "the primary explosive that will be used on the Project is ammonium nitrate and diesel fuel oil (ANFO). Other explosives such as packaged explosives, and detonators may also be used." The same section describes on-site manufacture of blasting emulsion from ammonium nitrate. The ammonium nitrate will be shipped by sealift in solid prill form and then trucked to site (Volume 10, Section 34).

For storage, the IS states that "prilled ammonium nitrate will be stored at designated rock quarries and at the Port in a designated, secured location and in accordance with the appropriate legislation and permits." It also states that "bulk explosive materials, emulsion, and detonators will be stored separately" (Volume 10, Section 34). The IS further states that the Explosives Management Plan "will include measures such as pad locations to manufacture explosives that are separated from work and camp sites, secure storage of bulk materials and detonators, and cleared vegetation around isolated storage locations to limit the spread of fire" (Volume 10, Section 34).

The quantity of each explosive type, and the quantities to be stored at each location, will be set as engineering design progresses beyond the current conceptual stage of about 10%. They depend on design inputs that will be confirmed then, including quarry and rock-cut locations and volumes. The Explosives Management Plan (Volume 11, Appendix 37H, Attachment H3), filed in draft, will be updated with products, storage locations and quantities, and design criteria for explosives manufacture as these are identified for the Project. That information will support the siting of explosives storage and manufacturing facilities and the licensing of those facilities by NRCan.

Transport Canada

TC-IR 01 (IR-217)

Subject

Missing Information

Issue / Concern

The draft plan primarily provides a high-level framework and outline of the proposed marine, landside, aerodrome, operational, safety, and governance components associated with the Project. While the draft identifies the intended structure and operational scope of the Port Management Plan, many sections remain conceptual and rely heavily on "Note to Draft" placeholders rather than on detailed operational procedures and port management systems.

Information Request

The proponent is requested to provide a comprehensive and operationally detailed Port Management Plan for review once the management systems are further developed.

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage"

TC-IR 02 (IR-218)

Subject

Oil pollution emergency plans

Issue / Concern

''Large spills to the marine environment are considered unlikely to occur; however, the consequences of a large spill could be major and therefore the risk is considered high''.

Information Request

Transport Canada understands that the facility will carry an Oil Pollution Emergency Plan and that vessels calling at the port will also be required to have a Shipboard Oil Pollution Emergency Plan. However, the proponent is requested to confirm whether response arrangements and contingency plans have or will be developed for a large spill that exceeds the applicable thresholds set out in the Emergency Response Regulations (SOR/2019-252).

Proponent Response

WKR confirms its intent that Project response arrangements and contingency plans will meet the applicable thresholds set out in the *Emergency Response Regulations* (SOR/2019-252) as they apply to the Project and will be developed in coordination with Transport Canada through the regulatory processes. Site-specific and threshold-specific arrangements applicable to large marine spills are not currently developed, however it is anticipated by WKR, that we will work with Transport Canada, the Nunavut Water Board and others to identify contingency plans for a large spill that exceeds the applicable thresholds set out in the Emergency Response Regulations (SOR/2019-252) that will be supported through the operations of the port.

TC-IR 03 (IR-219)

Subject

Waste management

Issue / Concern

''Operations and Maintenance activities that will be completed by WKR at the Grays Bay Port include, Waste management''.

Information Request

The Arctic Shipping Safety and Pollution Prevention Regulations (ASSPPR) establish requirements applicable to vessels operating in the Canadian Arctic waters that include applicable provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL), including requirements related to oily wastes, sewage, garbage, and other vessel-generated pollutants under the relevant MARPOL Annexes.

The proponent is requested to confirm whether the Proponent will provide a dedicated waste management and waste reception facility at the port to support vessel operations. This includes facilities for safe reception, handling, and disposal of vessel-generated waste, such as oily waste, sewage (black and grey water), food waste, and garbage.

Proponent Response

A dedicated waste management facility and waste reception facility at the port will only be available for Government of Canada operated vessels (e.g., Canadian Coast Guard, Arctic Offshore and Patrol Ships, Navy vessels). This facility will only receive sewage (black and grey water), food waste and non-hazardous garbage, similar to waste streams that will be managed at the port and not materials that will be shipped south for disposal. The port will also provide safe reception on an emergency situation, as appropriate and based on the open water season of the marine port facilities.

TC-IR 04 (IR-220)

Subject

Marine navigation and shipping activities within Regional Assessment Area (RAA); Project Access Corridor Boundaries

Issue / Concern

Two deep-water berths are proposed to accommodate Post-Panamax Ore-Bulk-Oil ice class 1A vessels up to approximately 100,000 DWT with an approximate loaded draught of 15 m and length of 240 m. The proposed vessel approach route to the port extends approximately 40 nautical miles south of the existing Northwest Passage shipping lane. Controlled marine access will be supported through marine communications systems and marine navigational aids located on the port headland, surrounding shoreline, and offshore islands.

The spatial boundaries of the Project Access Corridor are not defined, except for the route as shown in Figure 23.10.

Information Request

The Proponent should work with the Canadian Hydrographic Service to provide detailed hydrographic and bathymetric information for the approximately 40-nautical-mile vessel approach corridor to the proposed port, to demonstrate safe navigation and adequate under-keel clearance for the anticipated vessel classes and drafts.

Based on the current review, the EIS does not clearly demonstrate that port approaches have been surveyed to modern standards, or that sufficient bathymetric coverage exists to support anticipated future marine traffic levels and deep-draft vessel operations. This is particularly important given that the EIS indicates the Project would improve marine safety and navigation in the region.

In addition, the Proponent should engage with the Canadian Coast Guard regarding proposed aids to navigation associated with the Project.

Given the above, the Proponent is requested to provide the following additional information regarding the Project Access Corridor and port approaches:

- *definition of the Project Access Corridor, including its spatial boundaries (please provide a shapefile, if available);*
- *hydrographic survey status and extent;*
- *identified shoals, obstructions, and navigation hazards;*
- *under-keel clearance analysis for expected vessel drafts;*
- *contingency or alternate routing considerations;*

- *information identifying preliminary/contingency safe anchorage zones within the RAA; and*
- *whether dredging may be required to facilitate safe access to the port, including within the RAA.*

The proposed project should be guided by Transport Canada's publication TP 15577E – Navigation Safety Assessment Process National Guidelines, which sets out the required framework for evaluating marine navigation safety risks associated with marine developments.

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage"

TC-IR 05 (IR-221)

Subject

Traditional Marine Navigation Routes within the Regional Assessment Area.

Issue / Concern

The Impact Statement acknowledges the existence of traditional Inuit travelways, including marine routes, and indicates that these are documented within the NTKP GIS database; however, it does not provide a clear, mapped, or sufficiently characterized baseline of Inuit marine navigation routes within the Project area.

The Impact Statement recognizes that Inuit Knowledge includes mapped travelways, coastal use areas, and marine-related access routes, and that this information informed baseline conditions and spatial boundaries. However, the Impact Statement does not provide maps of traditional marine navigation routes, and there is no characterization of route use, seasonal patterns, or relative importance.
Marine travel is addressed broadly under TLMRU, without identifying specific routes used by communities or demonstrating how these routes were validated or incorporated into marine infrastructure and vessel routing decisions. As a result, the baseline does not enable assessment of impacts to traditional marine access and use.

Information Request

The proponent is requested to provide a clear baseline description of traditional Inuit marine navigation within the Project area, including mapped travel routes, key access points, and high-use marine corridors. The EIS should include a description of route use (including seasonal patterns and importance), confirm how routes were identified and validated through Inuit Knowledge, and demonstrate how this information has been incorporated into Project design and marine transportation planning.

Proponent Response

The Project's characterization of traditional Inuit land, marine, and resource use — including marine travelways and marine use areas — is described in the Impact Statement (IS), specifically in Volume 3 (Inuit Knowledge, Indigenous Knowledge, and Community Knowledge and Perspectives) and Volume 9, Section 24 (Traditional Land, Marine, and Resource Use), drawing on the Naonaiyaotit Traditional Knowledge Project (NTKP) database report and Project-specific engagement and community-based primary research.

Providing the specific level of detail requested — including mapped traditional Inuit marine navigation routes, key access points, and high-use marine corridors, and the potential characterization of route use, seasonal patterns, and relative importance — is subject to the confidentiality protocols applicable to the Naonaiyaotit Traditional Knowledge Project information, which is used under licence from the Kitikmeot Inuit Association. Appendix E (see Figure 9) to the Addendum to the Information Request Proponent Response Package provides an overview of Kitikmiut Gathering Places and Travel Routes in the

Kogloktoakyok (Grays Bay) Project Area. The long-standing Inuit marine use of the Grays Bay area is recognized in the IS. Traditional Inuit marine travelways, coastal use areas, and marine access routes relevant to the Project area were identified and incorporated into the assessment through three principal sources (Inuit Knowledge [Volume 3, Section 4.1.1]; Indigenous Knowledge [Volume 3, Section 4.1.2]; and Community Knowledge [Volume 3, Section 4.1.3]), applied in accordance with the methodology set out in Volume 9, Section 24 (Traditional Land, Marine, and Resource Use). Named locations related to access to water (including marine navigation routes) can be found in Volume 9, Section 24.2.2 (see for example, Section 24.2.2.2 [24-55 – 24-58]). Additionally, marine navigation routes / marine travelways were considered in the assessment of change in access to resources, sites, or areas where TLMRU occurs in Volume 9, Section 24.3.5 (Residual Effects) and Section 24.4.4 (Cumulative Effects). Volume 3, Section 5.4.2 references the travelways and marine use areas documented through the NTKP report, Project specific engagement, and publicly available literature were integrated into the baseline conditions and spatial boundaries to inform the assessment.

WKR will continue to engage with the Kitikmeot Inuit Association, other Inuit, and other affected Indigenous groups to determine the appropriate level of spatial detail that can be shared, consistent with confidentiality protocols, to further demonstrate how traditional marine navigation information was identified, validated, and incorporated into Project design and marine transportation planning.
The demonstration of how validated traditional marine navigation information has been, and will continue to be, incorporated into Project marine infrastructure siting and vessel routing decisions will be developed through this ongoing engagement and through the detailed engineering design phase, including the marine navigation safety assessment addressed in the response to TC-IR 04 (IR-220).

TC-IR 06 (IR-222)

Subject

Regulatory Requirements – Canadian Navigable Waters Act

Issue / Concern

On p. 1-9, the EIS notes that approvals under the Navigable Waters Protection Act may be required for the Project. Further to this, Table 1.2 of the EIS refers to a Navigation Protection Act and Navigable Waters Approvals while Table 1.3 identifies the Project will require a Navigable Waters Act Approval.

The Navigable Waters Protection Act and Navigation Protection Act were repealed in 2014 and 2019 respectively. The present applicable legislation that regulates works in, on, over, under, through or across any navigable water is the Canadian Navigable Waters Act, R.S.C., 1985, c. N-22, (CNWA), which came into effect in August 2019.

The CNWA protects the public right of navigation on navigable waters above and beyond the requirements of the Navigation Protection Act.

By referencing repealed legislation, it is not clear the Proponent understands all the regulatory requirements that are applicable to the Project and how to assess the Project's potential impacts on navigation.

Information Request

The proponent is requested to confirm that it understands that any Project work in, on, over, under, through or across any navigable water is regulated by the Canadian Navigable Waters Act, R.S.C., 1985, c. N-22.

Proponent Response

WKR confirms that it understands that any Project work in, on, over, under, through, or across any navigable water is regulated by the *Canadian Navigable Waters Act*, R.S.C., 1985, c. N-22 (CNWA). WKR further confirms that the references in the Impact Statement (IS) to the *Navigable Waters Protection Act* and the *Navigation Protection Act* are references to repealed legislation, and that the current applicable statute is the CNWA, which came into effect in August 2019.

To correct the references to repealed legislation identified by Transport Canada, WKR proposes the following corrections to the IS. In each case, the reference to the repealed statute will be replaced with a reference to the CNWA, R.S.C., 1985, c. N-22.

- Volume 2, Section 1.4 (Regulatory Regime): The reference to the "*Navigable Waters Protection Act*" will be revised to read "*Canadian Navigable Waters Act*, R.S.C., 1985, c. N-22."

- Volume 2, Table 1.2 (Project Regulatory Requirements): The reference to the "Navigation Protection Act" and "Navigable Waters Approvals" will be revised to read "*Canadian Navigable Waters Act*, R.S.C., 1985, c. N-22" and "Canadian Navigable Waters Act approval," respectively.
- Volume 2, Table 1.3 (Permits, Licences, and Authorizations Required for the Grays Bay Road and Port Project): The reference to the "Navigable Waters Act Approval" will be revised to read "*Canadian Navigable Waters Act* approval (Canadian Navigable Waters Act, R.S.C., 1985, c. N-22)."

Corresponding corrections will be made to any other instances in the IS where the repealed *Navigable Waters Protection Act* or *Navigation Protection Act* is referenced, and a corresponding update will be made to the Concordance Table (Volume 1, Appendix A) where applicable. WKR will confirm the complete list of affected IS locations and reflect these corrections in the updated IS documentation.

TC-IR 07 (IR-223)

Subject

Regulatory Requirements – Canadian Navigable Waters Act

Issue / Concern

Works, such as bridges and culverts, in, on, over, under, through or across any navigable water are regulated under the Canadian Navigable Waters Act, R.S.C., 1985, c. N-22, (CNWA). Works in non-navigable waters are not subject to the CNWA.

The CNWA Minor Works Order and CNWA Major Works Order establish different regulatory requirements for different types of works. Minor works in a navigable waterway do not require an approval from Transport Canada. Major works require an approval from Transport Canada. There are also different regulatory requirements for works that are neither a minor nor a major work, depending on their location.

Table A. 1-1: Master Watercourse Table lists a series of stream classes, e.g., ephemeral, and watercourse crossing types such as "minor crossing" and "major crossing". However, Table A. 1-1 does not provide definitions or rationales for the listed stream classes or watercourse crossing types. There is no apparent correlation between Table A.1-1 and the CNWA.

To assess impacts to the VEC of navigation and provide subsequent advice to the Board, Transport Canada requires information about the navigability of the waterways in the project area and whether a particular watercourse crossing is a minor work, major work, or non-minor or major work.

Information Request

The proponent is requested to provide a table listing the Crossing ID with corresponding information about 1) whether the watercourse is navigable, 2) if navigable, whether the watercourse is a Scheduled Navigable Water, and 3) whether the watercourse crossing is a CNWA minor, major, or non-minor or major work.

It is recommended the Proponent review information at https://tc.canada.ca/en/programs/apply-navigation-protection-program and https://tc.canada.ca/en/programs/navigation-protection-program/works-navigable-waters-canada and use Transport Canada's Navigation Protection Program Project Review Tool (https://npp-submissions-demandes-ppn.tc.canada.ca/projectreview-outildexamenduprojet?GoCTemplateCulture=en-CA) before completing the requested table.

Proponent Response

WKR acknowledges Transport Canada's observation that Volume 7, Appendix 19C (Freshwater and Sediment Quality Data Summary Report) and Volume 7, Appendix 20A (Fish and Fish Habitat Baseline Report) do not contain an assessment of watercourse crossings on a site-specific basis against the Canadian Navigable Waters Act (CNWA). These appendices are baseline characterization reports for freshwater quality and fish habitat, respectively, and do not address navigability or regulatory authorization under the CNWA as the information required to fully complete the navigability assessment is not available currently.

The Project anticipates the majority of crossings will be located on smaller watercourses which are not considered to be navigable (approximately 115 minor crossings less than 5 m wide and typically shallow depths) and therefore, not anticipated to be subject to the CNWA. Watercourses considered to be potentially navigable will have crossing structures designed to support and maintain navigability. The specific level of detail requested for a crossing-by-crossing assessment against the CNWA and the Minor Works Order is dependent on final crossing design configurations (e.g., exact watercourse width at the crossing location, span lengths, in water footprint, and height of crossing above ordinary high-water mark) and confirmation of navigability at each location, which will be finalized during the detailed design phase. Watercourse crossings that may not meet the Minor Works criteria will require advanced design including detailed construction methods and timing information, which are not currently available.

Individual watercourse crossing CNWA classifications and Transport Canada Navigation Protection Program submissions will be developed in advance of construction and submitted to Transport Canada through the Navigation Protection Program. WKR will use Transport Canada's Navigation Protection Program guidance and the Navigation Protection Program Project Review Tool in completing this assessment. This will include identification of which crossings fall within the CNWA Minor Works Order (SOR/2021-170), which constitute Major Works requiring an application to the Minister of Transport, and which constitute "all other works" requiring either an application or notification depending on whether the watercourse is listed in the Schedule to the CNWA. Public notice requirements under the CNWA (including the 30-day notification period) will be met as required. WKR will continue to engage with Kitikmiut and other Indigenous groups through this process and welcomes any feedback or information regarding navigable use of watercourses along the Project route.

Fisheries and Oceans Canada

DFO-IR 01 (IR-224)

Subject

Baseline Studies – Temporal Natural Variability

Issue / Concern

The NIRB Impact Statement Guidelines (Sections 7.2.2 and 7.3) and federal impact assessment guidance (i.e., Impact Assessment Agency of Canada's Generic requirements for Impact Statements) require the Proponent to establish temporal boundaries to describe baseline conditions and account for natural variability over time. These requirements indicate that multiple years of data are needed for valued components that vary from year to year.

In DFO's Assessing the Effectiveness of Habitat Offset Activities in Canada: Monitoring Design and Metrics (2015), the technical report states "the duration of monitoring must capture inter-annual variability or the monitoring program risks not being able to distinguish project effects from natural variability. One year of sampling is not adequate to provide any estimate of variability, two years of sampling are not adequate to generate a mean with valid error, therefore a minimum of three years of sampling are required, regardless of the type of data used (i.e., before data, historical data, benchmarks, control sites, etc.)." The report also explicitly states that monitoring should include "three years before development at the impact site to establish baseline".

However, for many valued components, the Proponent has completed only one round of baseline data collection during the Project-specific field studies. For a major project such as the Grays Bay Road and Port, with varied environmental impacts across a large spatial and temporal scale, the need for a robust baseline field study is high. The valued components in which only one round of baseline sampling was completed include:

- *freshwater fish and fish habitat*
- *marine fish and fish habitat*
- *marine mammals*

Many baseline programs for proposed projects undergoing an impact assessment incorporate 2-3 years of consecutive field studies in the impact statement. More specifically, this includes 2-3 repetitions of field data collection for each valued component in all impacted areas (i.e. a fish sampling program in a potentially impacted lake would be conducted at least twice, following the same timing and methodology for each repetition). This approach accounts for inter-annual variation in environmental conditions, mitigates biases and data gaps, and is a fundamental concept for scientific research.

For Arctic and sub-Arctic ecosystems, the inter-annual variation for the aquatic environment can be further exacerbated due to high degree of variability in climate and hydrological variability, including sea ice conditions, water levels/flows, water quality, and freshet timing. The open-water season of 2025, for example, exhibited an unusually high amount of sea ice in the Coronation Gulf, caused by winds blowing sea ice into the gulf.

Information Request

DFO requests the Proponent provide a rationale for the chosen sampling frequency during baseline studies (i.e., why 2-3 years of sampling not conducted) – considering the potential implications on freshwater and marine ecosystems of the proposed project, and the inter-annual variability in Arctic fish, marine mammals, and aquatic habitat – by providing the following:

- *Evidence that the baseline dataset captures inter-annual and interseasonal variability*
- *Description of potential biases introduced by the limited sampling*
- *Description of how uncertainty has been incorporated into effects predictions*

DFO also suggests revising or clarifying the use of the term "multi-year sampling" within the Impact Statement.

Note - DFO expects a robust baseline report be included within a Fisheries Act Authorization (FAA) application in order for a Proponent to be issued an FAA.

Proponent Response

The Project's approach to establishing baseline conditions for freshwater fish and fish habitat, marine fish and fish habitat, and marine mammals is set out in the Impact Statement (IS), specifically in Volume 7, Section 20 and Appendix 20A (Fish and Fish Habitat Baseline Report); Volume 8, Section 22 and Appendix 22A (Marine Fish and Fish Habitat Baseline Report); and Volume 8, Section 23 and Appendix 23A (Marine Mammal Baseline Report). For each of these Valued Components (VCs), the baseline characterization integrates recent Project-specific field survey data (2024 and 2025) with historically collected field survey data (2001 to 2012), as well as Inuit, Indigenous, and Community Knowledge documented through the Naonaiyaotit Traditional Knowledge Project (Banci and Spicker 2024).

Evidence that the baseline dataset captures inter-annual and inter-seasonal variability

WKR respectfully clarifies the premise that "for many valued components, the Proponent has completed only one round of baseline data collection." For the three cited VCs, the baseline does not rest on a single year of Project-specific data; it combines Project-specific field surveys with a multi-year historical data and Inuit Knowledge gathered over lifetimes and passed down through generations.

<u>Freshwater Fish and Fish Habitat:</u>

Freshwater fish and fish habitat (Volume 7, Section 20; Appendix 20A). The baseline integrates two Project field seasons (2024 and 2025) with a multi-year historical record (2001 to 2012). Locations included from historical surveys are located directly on the Project route and are maintained within a Master Watercourse Table (Volume 7, Appendix 20A; Appendix A.1). Historical data from additional locations not directly on the route but within the RAA were also evaluated and form much of the basis for regional understanding of the freshwater fish and fish habitat present within the Project watersheds.

Sources of data which provide a wide temporal range of information to directly support the freshwater fish and fish habitat VC include:

- Project field surveys (fish species presence, fish and fish habitat assessments, water quality, sediment quality, limnology, and bathymetry) to evaluate new sites in the Port LAA, as well as confirm and supplement fish and fish habitat data at crossing locations along the road route conducted in 2024 and 2025
- Road corridor surveys (fish species presence, distribution, health, community structure, habitat quality and quantity) for the High Lake Project in 2004 and 2005
- Fall fish sampling (fish presence, fish habitat, stream classification) during low-flow season for Izok Corridor Project in 2007
- Fish habitat, abundance, distribution, population, fish tissue sampling and food web sampling for Izok Corridor Project in 2012
- Hydrotechnical assessment of stream crossings along the corridor for Izok Corridor project, including development of flood frequencies and drainage areas to support structure sizing in 2012.
- Aerial reconnaissance of fish and fish habitat along the Jericho Connection segment of the Project route in 2017.
- Inuit, Indigenous, and Community Knowledge perspectives and engagement feedback

Freshwater fish and fish habitat data from these surveys were completed throughout the open water period from June to September resulting in coverage during spring freshet and summer/fall low flow time periods. These periods equate to the freshwater life history stages of spawning and rearing. Overwintering surveys have not been completed to date but may be completed during pre-construction as detailed engineering designs and potential impacts to fish habitat are refined.

Marine Fish and Fish Habitat:

The Project-specific field program for the Marine Fish and Fish Habitat VC is described in Volume 8, Section 22 (Appendix 22A). The field program was conducted over two time periods from July 16–22 and August 20–29, 2025 to obtain information on the existing conditions of marine resources and habitats in the Fish and Fish Habitat LAA. Due to the harsh nature of arctic research and extreme seasonal weather variability, it was not safely or technically feasible (nor would it have been productive) to conduct baseline fieldwork outside the summer window. As described above, information on baseline conditions for the Marine Fish and Fish Habitat EIS was supplemented by a desktop review of historical datasets (including the High Lake Project (Wolfden 2006), Izok Corridor Project (MMG 2012), Grays Bay Road and Port Project (Elliot and Cross 2013)) as well as Indigenous knowledge provided through consultation.

Marine mammals:

The Marine Mammal assessment (Volume 8, Section 23; Appendix 23A) integrates Project-specific field studies completed in 2025 with Inuit, Indigenous, and Community Knowledge, regional scientific literature, historical observations, and available government datasets. The Project-specific marine mammal program included aerial surveys, vessel-based observations, and acoustic monitoring. These data were incorporated into a broader weight-of-evidence approach intended to supplement existing information on marine mammal occurrence, distribution, habitat use, and movement patterns within the LAA and RAA.

Unlike many freshwater and marine fish studies that rely predominantly on direct field sampling, marine mammal baseline characterization in Arctic regions is commonly developed using a weight-of-evidence approach that combines contemporary survey data with longer-term observational records, Inuit, Indigenous, and Community Knowledge, published scientific literature, and government datasets. This approach is particularly important for highly mobile species whose occurrence and distribution may vary annually in response to environmental conditions, prey availability, and sea ice dynamics. Accordingly, the Project-specific field program was designed to supplement and validate existing information rather than serve as the sole source of baseline information for the marine mammal assessment.

Sources of information used to characterize marine mammal baseline conditions include:

- Project-specific aerial and vessel-based marine mammal surveys conducted in 2025;
- Acoustic monitoring completed in 2025;
- Regional scientific literature and historical marine mammal observations from Coronation Gulf and the broader Kitikmeot region;
- Available government datasets and published studies describing marine mammal occurrence, migration patterns, habitat use, and distribution;
- Inuit, Indigenous, and Community Knowledge, including information on species presence, seasonal occurrence, habitat use, and observed long-term changes in marine mammal distributions.

As described in Volume 8, Section 23, Inuit, Indigenous, and Community Knowledge were combined with Project-specific surveys and literature review to develop a comprehensive understanding of marine mammal baseline conditions within the assessment areas. The Project-specific field program was designed to supplement and validate this broader body of information and was not relied upon as the sole source of baseline information for the marine mammal assessment.

Description of potential biases introduced by the limited sampling

Project-specific field programs were developed to build on existing information for each VC and both confirm prior assessment and TK information and fill in areas where existing information was dated or limited.

WKR recognizes that Project-specific field programs represent only a limited snapshot in time and may not capture the full range of interannual and seasonal variability. For marine mammals, this may result in underrepresentation of migratory, infrequently occurring, cryptic, or extralimital species, particularly where occurrence is influenced by environmental variables such as sea ice conditions, prey availability, and oceanographic conditions. To address this uncertainty, the marine mammal assessment incorporated regional datasets, Inuit Knowledge, historical observations, and a precautionary assumption of species presence where suitable habitat and regional occurrence information indicated a reasonable likelihood of use.

Similarly, a single Project-specific field season may not fully capture interannual variation in migration timing, habitat use, species distribution, or environmental conditions. Consequently, species occurrence was not evaluated solely on the basis of 2025 observations. Marine mammal species identified through regional scientific literature, government datasets, historical observations, and Inuit, Indigenous, and Community Knowledge were retained in the assessment where there was a reasonable likelihood of occurrence within the LAA or RAA, regardless of whether they were observed during Project-specific surveys.

Recent data for freshwater fish and fish habitat produced results which align well with historical sampling results and do not indicate changes in conditions or seasonal/historical biases. Broad survey areas were evaluated to limit biases related to insufficient spatial coverage. Sampling methods utilized protocols that were both consistent with historical surveys and have been developed to provide accurate and reliable characterization of fish habitat while limiting the influence of seasonal factors (e.g., measurement of physical characteristics which remain consistent regardless of flow level or vegetation coverage). WKR recognizes that fulsome data will be required to support applications for an Authorization under the Fisheries Act within marine and freshwater habitats and will continue to collect additional data to support these applications.

Description of how uncertainty has been incorporated into effects predictions

Each VC assessment carries baseline uncertainty into its effects characterization through the Prediction Confidence and Uncertainty discussion. For marine mammals, the IS states the "overall prediction confidence for the assessment of residual and cumulative effects and significance for marine mammals is considered moderate" (Volume 8, Section 23.6). Uncertainty was further addressed through application of a precautionary approach to species occurrence and habitat use. Species were considered in the assessment where Project-specific surveys, historical observations, government datasets, scientific literature, or Inuit, Indigenous, and Community Knowledge indicated a reasonable likelihood of occurrence. Where uncertainty existed regarding occurrence, timing of use, or habitat utilization, the assessment assumed potential overlap between marine mammals and Project activities, thereby reducing the likelihood that potential effects would be underestimated. For freshwater fish, the IS states

the "predicted confidence for the assessment of residual effects and residual cumulative effects on freshwater fish and fish habitat is moderate for change in fish habitat," based in part on the multi-year and historical data record. (Volume 7, Section 20.6). Where uncertainty exists in the data underlying the assessment, a conservative approach has been taken (e.g., assumption that watercourse crossing locations are fish-bearing regardless of fish sampling results, assumptions that a particular species may use a habitat area if the habitat is suitable, regardless of whether the species was observed present).

The term "multi-year sampling" appears in the filed IS at Volume 7, Section 20.6, where it refers to the freshwater fish Project-specific surveys conducted in 2024 and 2025 together with the historical record (2001–2008, 2012, 2017). For freshwater fish, the term reflects two Project-specific field years and a multi-year historical record.

WKR acknowledges DFO's note that a robust baseline report is expected within a Fisheries Act authorization application. Additional Project-specific baseline data collection is anticipated to be developed through the pre-authorization data collection supporting a future Fisheries Act authorization application, and through the follow-up and monitoring programs identified in the Volume 11 Management Plans (including the Aquatic Effects Management Plan, Appendix 37D).

DFO-IR 02 (IR-225)

Subject

Underwater acoustics baseline methodology

Issue / Concern

The Proponent deployed one hydrophone from July 24 to August 23, 2025 near the proposed port location for measuring baseline underwater acoustic conditions. However, shipping is proposed to occur throughout open-water seasons (late June to October, a 3-4 month period), yet underwater acoustics baseline was only conducted for one month.

DFO FFHPP has consulted with the DFO Science department and the subject matter experts (SMEs) on underwater noise and its impact to marine mammals. The SMEs support that a multi-year monitoring program is imperative for establishing baseline programs, and that a one-month deployment does not accurately capture the underwater soundscape nor the marine mammal presence (based on vocalizations) within a single open-water season.

Information Request

Considering the proposed shipping timelines and the potential interaction with marine mammals and fish, both resident and migratory, please provide:

- *a rationale for the duration of the underwater acoustics baseline sampling,*
- *evidence that baseline dataset is sufficient to characterize underwater acoustics*

Proponent Response

WKR acknowledges DFO's comments regarding the duration of the 2025 acoustic baseline program and recognizes the value of multi-year acoustic monitoring for improving the understanding of underwater soundscapes, marine mammal occurrence, seasonal habitat use, and interannual variability.

The 2025 acoustic baseline program consisted of a hydrophone deployment near the proposed port location from July 24 to August 23, 2025. This deployment was undertaken during the available open-water field season and was constrained by the limited timing available for vessel deployment and retrieval. The hydrophone was deployed primarily to characterize baseline underwater acoustic conditions and to supplement other marine mammal baseline information.

WKR does not rely on the one-month acoustic dataset in isolation to characterize marine mammal use throughout the RAA. Rather, the acoustic data were incorporated into a broader weight-of-evidence approach that integrates Inuit, Indigenous, and Community Knowledge, regional scientific information, Project-specific aerial and vessel surveys, and available information on marine mammal distribution, habitat use, and migration patterns. The assessment also conservatively assumes marine mammal presence and acknowledges uncertainty related to temporal and spatial variability, including potential climate-driven changes in species occurrence.

WKR agrees that a one-month deployment does not fully characterize the underwater soundscape or marine mammal occurrence across the entire open-water season, nor does it capture interannual variability. However, available evidence indicates that key marine mammal species within the LAA occur infrequently or at low densities, and the acoustic monitoring results were considered alongside multiple complementary lines of evidence in the assessment.

Recognizing the value of additional data collection, WKR is exploring opportunities to undertake an additional year of acoustic monitoring, to further refine the understanding of marine mammal presence, seasonal patterns, and underwater acoustic conditions within the LAA and RAA. Any future monitoring would be considered in conjunction with follow-up and adaptive management programs and discussions with regulators and Indigenous Groups.

DFO-IR 03 (IR-226)

Subject

Marine mammal survey timing

Issue / Concern

The aerial and vessel-based surveys for marine mammals (as part of the Project-specific field studies) were both completed in 2025 only. Furthermore, they were only completed in the month of August. This methodology and data set is extremely restrictive regarding the timing of surveys. Considering that many marine mammals are migratory, only passing through some areas within their range once annually (with some inter-annual variation). Therefore, restricting these surveys to only one month of one year heavily biases the data and alters the number of species/quantity of marine mammals possibly observed during baseline field studies.

Information Request

Please provide a rationale on the timing methodology for marine mammal surveys during Project-specific field surveys.

Proponent Response

WKR acknowledges DFO's concern that the Project-specific aerial and vessel-based marine mammal surveys were conducted during a single month (August 2025) and therefore do not capture the full range of seasonal or interannual variability in marine mammal occurrence within the LAA and RAA. WKR also recognizes that some marine mammal species are migratory and may only occur within portions of their range during specific times of the year.

The timing of the 2025 surveys was influenced by the limited Arctic open-water field season and the availability of appropriately equipped survey vessels, aircraft, personnel, and suitable operating conditions. Consequently, surveys were conducted during a period when access to the study area was logistically feasible and Project-specific field investigations could be completed within the constraints of the 2025 field season.

The Project-specific surveys were not intended to serve as the sole basis for characterizing marine mammal baseline conditions throughout the LAA and RAA. Rather, they were incorporated into a broader weight-of-evidence approach that integrates Inuit, Indigenous, and Community Knowledge, regional scientific literature, existing datasets, acoustic monitoring results, and available information on species distribution, migration patterns, and habitat use.

Consistent with DFO's concern regarding the potential for species to be present outside the August survey window, the assessment acknowledges that some migratory and extralimital species may not have been detected during Project-specific surveys despite occurring periodically within the RAA. To address this uncertainty, the assessment conservatively assumes species presence and evaluates potential effects based on known regional occurrence, habitat use, and movement patterns rather than relying solely on Project-specific detections.

Accordingly, while surveys conducted over multiple seasons and years would provide additional information on seasonal and interannual variability, the combination of Project-specific surveys, Inuit, Indigenous, and Community Knowledge, regional scientific information, acoustic monitoring, and precautionary assessment assumptions provides a sufficient basis for characterizing marine mammal baseline conditions and assessing potential Project effects.

DFO-IR 04 (IR-227)

Subject

2025 Baseline Sampling

Issue / Concern

The open-water season of 2025 exhibited an unusually high amount of sea ice in the Coronation Gulf, caused by winds blowing sea ice into the gulf. This overlaps with the only season in which the Proponent completed marine fish and marine mammal assessments in the LAA and RAA. However, this was not discussed in the Impact Statement, nor the potential biases in the baseline assessment caused by these irregular conditions.

Information Request

Please include a description of the anomalous sea ice presence in the Coronation Gulf during the open-water season of 2025. Please describe any potential impacts upon the results of the baseline program, including any biases or data gaps.

Proponent Response

WKR acknowledges the concern that sea ice conditions in Coronation Gulf during the 2025 open-water season may have differed from typical conditions and that environmental conditions can influence the distribution and detectability of marine fish and marine mammals during field surveys.

The Project-specific marine fish and marine mammal field studies conducted in 2025 represent only one component of the baseline characterization and were not relied upon as the sole source of information for the effects assessment. Baseline conditions were characterized using a weight-of-evidence approach that integrated Inuit, Indigenous, and Community Knowledge, regional scientific literature, historical studies, government datasets, Project-specific field investigations, and available information regarding species distribution, habitat use, migration patterns, and ecological conditions within the LAA and RAA.

The assessment recognizes that environmental conditions, including sea ice extent and distribution, can influence species occurrence and detectability during a particular survey period. Accordingly, Project-specific observations were interpreted within the broader regional context provided by the multiple information sources described above. The assessment also incorporated species known or expected to occur within the LAA and RAA based on regional information, regardless of whether they were observed during the 2025 field program.

Potential effects were therefore assessed using the full body of available information rather than relying exclusively on observations collected during a single field season. This approach reduces the potential influence of atypical annual conditions on the characterization of baseline conditions and the assessment of Project effects.

As such, while sea ice conditions during the 2025 open-water season may have influenced species observations during Project-specific surveys, they do not materially affect the overall conclusions of the marine fish and marine mammal baseline characterization or effects assessment.

DFO-IR 05 (IR-228)

Subject

Timing Windows for Near-Water and In-Water Works (Marine)

Issue / Concern

The document states the following:

- *Noise generating marine construction activities will be managed to minimize the potential for impacts (e.g., scheduling to avoid multiple noise sources and sensitive environmental periods, where practicable, ramp-up or soft start techniques, silt/bubble curtains), and*
- *Blasting program will be designed to minimize potential effects to marine environment*

Note – there are no restricted in-water activity periods produced by DFO for marine habitat, therefore additional considerations outside of DFO guidance would be needed for mitigating impacts to marine mammals and marine fish species from near-water blasting.

In addition, engagement with Inuit communities resulted in a request that construction during migration seasons be avoided (Table 20.4, Section 20).

Information Request

Elaborate on how the construction schedule will be optimized to avoid or minimize in-water and near-water works during sensitive periods for fish and marine mammals.

Elaborate on which sensitive periods will be considered, the relevant species, and when these periods occur.

Provide a construction schedule for marine works (table format) and a sensitive periods schedule for marine fish and marine mammals (table format).

Proponent Response

While DFO does not have defined reduced-risk timing windows that apply to the Project area, the Impact Statement conservatively assesses potential and residual effects based on the assumption that works will be conducted throughout the short open-water season, including during high-sensitivity periods for a variety of species, to provide a conservative impact assessment. In accordance with this conservative approach, a robust set of mitigation measures is proposed to manage potential environmental impacts, including during sensitive timing periods for marine fish (Volume 8, Section 22) and marine mammals (Volume 8, Section 23.3).

As the Impact Statement is a planning-level document based on an approximate 10% (conceptual) engineering design, a detailed construction schedule and exact sequencing information is not presently available with sufficient accuracy to inform sensitive timing-related mitigation measures. Timing-related measures may be refined as the Project design advances beyond its current conceptual level through the permitting process; specifically, as the project pursues its application for a *Fisheries Act* authorization in consultation with DFO. This process will also include the opportunity for engagement and input by Kitikmeot and other Indigenous groups as applicable.

Potential timing considerations may include periods associated with important fish and wildlife life-history functions identified through Inuit Knowledge, available scientific information, and regulatory consultation. Examples include marine fish migration, staging, feeding periods, and spawning and juvenile rearing periods, and periods of increased marine mammal use of the area, including seasonal movements and foraging activity by ringed seal, bearded seal, beluga whale, narwhal, and bowhead whale. Specific timing considerations and any associated mitigation measures will be further refined as Project design advances and additional information becomes available.

Additional considerations for species-sensitive life history timings may also be included in the Explosives Management Plan, Environmental Protection Plan, and Aquatic Effects Management Plans once sufficiently advanced.

DFO-IR 06 (IR-229)

Subject

In-Water Works (Marine)

Issue / Concern

For in-water works in the marine environment (blasting, dredging, impact pile driving, drilling), there is no restricted activity period (RAP) established by DFO for Nunavut territory. In the absence of a defined RAP, it remains important for the Proponent to demonstrate how potential impacts to marine fish, anadromous fish, and marine mammals will be avoided or minimized through project-specific timing considerations and mitigation measures. The mitigation measures listed are high-level and do not provide enough detail to assess how in-water impacts will be avoided or minimized.

Information Request

Please elaborate on the measures that will be implemented to avoid or mitigate harmful impacts to marine fish and marine mammals during in-water works. For example, describe whether exclusion zones for marine fish and marine mammals will be implemented, or whether fish salvaging be conducted prior to work in marine environments.

Proponent Response

While DFO does not have defined reduced-risk timing windows that apply to the Project area, the Impact Statement conservatively assesses potential and residual effects based on the assumption that works will be conducted throughout the short open-water season, including during high sensitivity periods for a variety of species, to provide a conservative impact assessment. In accordance with this conservative approach, a robust set of mitigation measures are proposed to manage potential environmental impacts, including during sensitive timing periods for marine fish and mammals (Volume 8, Section 23.3).

As the Impact Statement is a planning level document based on an approximately 10% (conceptual) engineering design, a detailed construction schedule and exact sequencing information is not presently available with sufficient accuracy to inform sensitive timing-related mitigation measures. Mitigation measures may be refined as the Project pursues its application for a *Fisheries Act* authorization in consultation with DFO.

Potential timing considerations may include periods associated with important fish and wildlife life-history functions identified through Inuit Knowledge, available scientific information, and regulatory consultation. Examples include marine fish migration, staging, feeding periods, and spawning and juvenile rearing periods, and periods of increased marine mammal use of the area, including seasonal movements and foraging activity by ringed seal, bearded seal, beluga whale, narwhal, and bowhead whale. Specific timing considerations and any associated mitigation measures will be further refined as Project design advances and additional information becomes available.

Additional considerations for species-sensitive life history timings may also be included in the Explosives Management Plan, Environmental Protection Plan, and Aquatic Effects Management Plans once sufficiently advanced.

DFO-IR 07 (IR-230)

Subject

Species At Risk

Issue / Concern

Schedule 1 SARA-listed species are known or expected to occur within the RAA, potentially within the LAA, for both marine mammals and marine fish. No section in the Impact Statement specifically discusses the potential impacts to species at risk or their critical habitats.

Information Request

The Proponent should include a section within the relevant volumes discussing SARA-listed species within the project area (PDA, LAA, or RAA), the potential impacts caused by project activities, the significance of those impacts, as well as the avoidance, mitigation, and monitoring measures planned to minimize these impacts.

Proponent Response

As outlined in Volume 8 Section 22 (22.2.2.2) and Section 23 (23.2.2.2), no marine fish species at risk (i.e., listed as Extirpated, Endangered, Threatened, or Special Concern on Schedule 1 of the *Species at Risk Act*) have been identified within the marine fish Regional Assessment Area (RAA), and there is no spatial overlap between either the Marine Fish or Marine Mammal RAAs and any listed critical habitat for their respective species. As such, no effects on marine fish species at risk or any critical habitats are anticipated.

Two marine mammal species listed as Special Concern under Schedule 1 of the *Species at Risk Act* are known to occur within the Marine Mammal RAA, including polar bear and the Bering-Chukchi-Beaufort (BCB) bowhead whale population, as discussed in Appendix 23A, Section 3.2 (Marine Mammal Baseline Report). No identified critical habitat for marine mammal species at risk overlaps the Marine Mammal RAA. The assessment of potential effects on marine mammals includes a VC-level assessment and characterization of potential, residual, and cumulative effects for all marine mammal species considered to occur within the assessment area, including species of conservation concern. Accordingly, potential effects on the BCB bowhead whale population and polar bear were considered within the marine mammal assessment presented in Volume 8, Section 23, including the residual and cumulative effects analyses (Sections 23.4.3 through 23.4.5).

DFO-IR 08 (IR-231)

Subject

Wolffish Presence in the LAA

Issue / Concern

Four species of wolffish (Anarhichas spp.) occur in Arctic waters, three of which are listed as threatened and special concern under Schedule 1 of SARA. The IS states that: "No wolffish have been captured or documented in Grays Bay during previous surveys (Wolfden 2006; Elliott and Cross 2013) or in 2025. Given their typical depth distribution, the fishing methods used in these surveys were unlikely to sample habitats where wolffish commonly occur. However, given catch records of wolfish in the area (Coad and Reist 2004; NCRI 2015; Bilous et al. 2022) and Inuit Knowledge of this species in the Coronation Gulf (Banci and Spicker, 2024) it is likely that wolffish species may be found within the RAA."

No comment was provided by the Proponent regarding wolffish in the LAA. Given their SARA status and likely regional presence, the Proponent must assess potential presence within the LAA.

Information Request

Please elaborate on the potential presence of each of the three SARA-listed wolffish species in the LAA, including whether the marine habitat in the LAA is suitable for these wolffish species.

Proponent Response

The IS acknowledges that four species of wolffish (*Anarhichas* spp.) occur in Arctic waters. Of these, three are listed under the Species at Risk Act (SARA), including the Atlantic wolffish (*A. lupus;* Special Concern), northern wolffish (*A. denticulatus*; Threatened), and spotted wolffish (*A. minor*; Threatened). The fourth species, Bering wolffish (*A. orientalis*), is currently listed as Data Deficient by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

The marine fish and fish habitat baseline characterization for the Project was developed using project-specific marine surveys conducted in 2025, historical studies completed in the Grays Bay and Coronation Gulf region, Inuit Knowledge, and published literature. No wolffish species were observed during project-specific marine field surveys, nor were they identified in the historical Grays Bay datasets reviewed for the assessment.

With respect to habitat suitability, the LAA consists predominantly of shallow nearshore habitats. Northern, Spotted, and Atlantic Wolffish are typically associated with deeper marine environments (100 – 1,000 m depth) and are most commonly reported from Atlantic and eastern Arctic waters. While Northern Wolffish have the broadest Arctic distribution of the three SARA-listed species, WKR is not aware of records confirming their presence within the Grays Bay LAA. Similarly, there is no evidence from the Project baseline studies, literature or IK review that Spotted Wolffish or Atlantic Wolffish occur within the LAA.

Based on the available information, WKR considers the likelihood of any of the three SARA-listed wolffish species occurring within the LAA to be low. Furthermore, mitigation measures to be implemented by the Project have been designed to be protective of a wide range of fish and invertebrate species, including wolffish.

DFO-IR 09 (IR-232)

Subject

Project Impacts on Wolffish

Issue / Concern

The Spotted Wolffish and Northern Wolffish are both listed under Schedule 1 of the Species At Risk Act as threatened. If no data is available to refute their presence in the LAA, a precautionary approach must be applied and the Proponent must consider these species and any potential critical habitats or residences. Since these Threatened wolffish species may occur in the area, it's important to understand how project activities could affect them and any critical habitats/residences.

Information Request

Please provide an analysis on potential impacts from specific project activities to the Threatened wolffish, their residences, and critical habitats caused by project activities.

Please elaborate on the significance of these impacts, both project-related and cumulative effects for both the LAA and RAA. Based on the sensitivities of this species to human activity, describe the potential magnitude of impact on this population. Finally, considering the impacts of climate change and other anthropogenic activity (induced or otherwise), describe the potential cumulative impacts on this species over the 75-years project lifespan.

Proponent Response

WKR acknowledges the importance of understanding the potential effects of the Project on SARA-listed wolffish species. As stated in the response to DFO-IR 08, no wolffish were recorded during Project-specific marine surveys conducted in 2025 or during previous studies completed in Grays Bay. Wolffish are primarily benthic species associated with deeper waters than those found throughout much of the LAA and RAA. However, Inuit Knowledge indicated wolffish have been caught in Bathurst Inlet and Cambridge Bay. Accordingly, the IS adopted a precautionary approach and assumed that wolffish species could occur within the LAA and RAA, particularly in areas not investigated during field surveys.

Potential Project interactions with wolffish would occur through the same pathways assessed for other marine fish species, namely: (1) changes to marine fish habitat, (2) behavioural responses to sensory disturbance such as underwater noise and vessel activity, and (3) increased risk of injury or mortality associated with marine construction and operations No important wolffish habitat is currently known within the Project Development Area (PDA), LAA, or RAA. Consequently, potential effects on wolffish are expected to be comparable to, or lower than, those predicted for the overall marine fish community.

Mitigation measures applicable to wolffish include minimizing the footprint of marine disturbance, implementing erosion and sediment control measures, protecting marine water quality through spill prevention and hazardous materials management, reducing sensory disturbance where practicable, and implementing environmental monitoring and adaptive management. These measures are intended to protect all marine fish species, including species at risk.

The potential magnitude of Project effects on wolffish is predicted to be low, based on the absence of documented occurrences within the LAA/RAA, the lack of identified critical habitat or important habitat features, and the implementation of Project-specific mitigation measures. Residual effects on marine fish habitats are expected to be localized (PDA), while behavioural disturbance responses are expected to be temporary and reversible. As such, no-population-level effects on wolffish are anticipated, and effects are predicted to be not significant in both the LAA and RAA.

The cumulative effects assessment considered the influence of past, present, and reasonably foreseeable induced future developments, including Project-related activities. Although climate change may affect Arctic marine ecosystems through changes in sea ice conditions, oceanographic conditions, species distributions, habitat availability, and food-web dynamics over the Project's lifespan, the Project is not expected to make a measurable contribution to cumulative effects on wolffish populations. This conclusion is based on the low likelihood of occurrence, the absence of identified critical or important habitat, the localized nature of Project effects, and the implementation of mitigation measures protective of marine fish and fish habitat.

DFO-IR 10 (IR-233)

Subject

Bowhead Whale Presence

Issue / Concern

Bowhead whale are believed to be uncommon but present within the RAA. The Bering-Chukchi-Beaufort population of bowhead whales is listed under Schedule 1 of the Species At Risk Act as a species of Special Concern. Because these SARA-listed marine mammals may occur in the area, it's important to understand how project activities could affect them.

Information Request

Please provide an analysis on potential impacts to SARA-listed bowhead whales caused by project activities. In particular, identify which project activities have the potential to impact this population.

Please elaborate on the significance of these impacts, both project-related and cumulative effects for both the LAA and RAA. Based on the sensitivities of this species to human activity, describe the potential magnitude of impact on this population. Finally, considering the impacts of climate change and other anthropogenic activity (induced or otherwise), describe the potential cumulative impacts on this species over the 75-years project lifespan.

Proponent Response

WKR acknowledges the importance of understanding potential effects on the Bering-Chukchi-Beaufort (BCB) population of Bowhead Whale (*Balaena mysticetus*; akvik), which is listed as Special Concern under Schedule 1 of the *Species at Risk Act*. As described in Volume 8, Section 23 and Appendix 23A, the bowhead whale is the only mysticete known to occur within the RAA and its occurrence is classified as rare. Bowhead whales were not observed during either the 2012 or 2025 Project-specific marine mammal surveys, and Table 23.6 in Volume 8, Section 23 identifies the species as occurring within the RAA but not the LAA. Inuit Knowledge and scientific information also indicate that observations of bowhead whales in Coronation Gulf are uncommon, although recent observations suggest the species may be occurring more frequently as environmental conditions change. Accordingly, the assessment adopted a precautionary approach and conservatively assumed that bowhead whales from the BCB population could occur within the RAA despite the absence of Project-specific observations.

Potential Project interactions with bowhead whales would occur through the same pathways assessed for other marine mammals, including changes in habitat, behavioural responses to sensory disturbance, and changes in mortality and/or injury risk. Given the limited occurrence of bowhead whales within the Project area and the absence of identified important habitat features within the LAA, the pathways most relevant to bowhead whales are underwater noise and vessel activity, including behavioural disturbance, acoustic masking, and potential vessel strike risk associated with Project-related and cumulative marine shipping.

The assessment conservatively assumed the presence of bowhead whales within the assessment areas (LAA and RAA) despite the absence of Project-specific observations and evaluated potential effects in the context of Project-related activities and cumulative effects, including reasonably foreseeable induced development and associated increases in marine shipping within the RAA. Mitigation measures applicable to bowhead whales include vessel speed restrictions, marine mammal observation protocols, reporting procedures, adaptive management, and measures designed to reduce sensory disturbance where practicable.

The magnitude of Project effects on bowhead whales is expected to be low. This conclusion is supported by the species' rare occurrence within the RAA, absence from Project-specific surveys and the LAA, the localized nature of Project activities, and the implementation of mitigation measures. Any behavioural responses to underwater noise or vessel presence are expected to be temporary and reversible and are not anticipated to result in permanent or long-term changes in bowhead whale distribution or behaviour. Similarly, the probability of vessel interaction, including vessel strike, is considered low.

With respect to significance, the marine mammal assessment concluded that residual effects associated with behavioural disturbance and mortality and injury risk are not significant following implementation of mitigation measures. No permanent or long-term increases in marine mammal mortality or injury risk with the potential to affect the persistence of a species or population were identified. Given the rarity of bowhead whale occurrence within the assessment areas and the absence of known important habitat within the LAA, these conclusions are considered applicable to bowhead whales.

The cumulative effects assessment considered the influence of past, present, and reasonably foreseeable induced developments, including Project-induced activities and associated marine shipping. Climate change may alter sea ice conditions, prey availability, migration patterns, and habitat use by bowhead whales over the 75-year Project life. While these broader regional changes may influence bowhead whale distribution and occurrence over time, the Project's incremental contribution to these changes is expected to be limited. Given the species' rare occurrence within the RAA, its absence from the LAA, the localized nature of Project effects, and the implementation of mitigation measures, the Project is not expected to make a measurable contribution to cumulative effects on the Berin-Chukchi-Beaufort bowhead whale population.

DFO-IR 11 (IR-234)

Subject

Mitigations for SARA and Important Marine Mammal Areas

Issue / Concern

The listed Mitigation, Management, and Enhancement Measures listed for Species at Risk and Important Marine Mammal Areas are to "reduce speed to less than 7.0 kts when within 1,000 m (0.540 nautical miles (Nm)) (unless otherwise specified) of the nearest marine mammal to reduce vessel wake. Avoid abrupt course changes (NOTMAR 2025, A2-5)".

This mitigation also applies to reducing underwater noise and risk of vessel strikes, as noted later in the Impact Statement.

It is unclear how this mitigation applies to SARA-listed species and species occurring within important marine mammal areas. Perhaps the mitigation should read as follows:

- *If a Species at Risk is observed within 1000 meters of the vessel, reduce speeds to 7.0 knots; and*
- *If an Important Marine Mammal Area is present within 1000 meters of the vessel, reduce speeds to 7.0 knots.*

Information Request

Please clarify how the speed reduction mitigation will be applied to interactions with SARA-listed species and Important Marine Mammal Areas.

Please define Important Marine Mammal Areas, supported by the most recent Notice to Mariners (and other sources if applicable).

Proponent Response

WKR confirms that this measure is intended to be triggered by the presence of a marine mammal within 1,000 m of a Project vessel, including SARA-listed species. WKR also acknowledges that the wording in Table 23.18 could be interpreted as unclear regarding its application within areas identified through NOTMAR guidance as Species at Risk Areas or Important Marine Mammal Areas.

The speed reduction measures presented in the Impact Statement are preliminary and are intended to demonstrate the mitigation approach that would be applied to Project-related shipping. The final vessel speed management framework will be further developed through preparation of the Wildlife Management and Monitoring Plan, informed by engagement with Inuit organizations, Indigenous groups, Fisheries and Oceans Canada (DFO), Transport Canada, and other regulators. This process will consider the most

current NOTMAR guidance, available scientific information, Inuit Knowledge, marine mammal monitoring results, and operational considerations.

For the purposes of Project planning, Important Marine Mammal Areas refer to areas identified through available scientific information, Inuit Knowledge, and regulatory guidance as supporting important marine mammal functions, such as migration, feeding, aggregation, breeding, calving, or seasonal habitat use. The marine mammal baseline assessment identifies Ecologically and Biologically Significant Areas (EBSAs) that partially overlap or occur adjacent to the RAA, including Bathurst Inlet, Lambert Channel, and the Southern Victoria Island Coastline, which are recognized as important marine habitats within the region.

The final application of vessel speed reductions, including any species-specific or area-specific measures, will be described in the Wildlife Management and Monitoring Plan and developed in consultation with Indigenous groups and regulators, including DFO.

DFO-IR 12 (IR-235)

Subject

Vessel Speed Restrictions

Issue / Concern

Speed restrictions are proposed for the Project Access Corridor, limiting speeds to a maximum of 10 knots in order to mitigate vessel strikes on marine mammals (as supported by Laird et al. 2001). There is no evidence provided on whether the proposed speed maximum is protective of the marine environment in terms of other impacts, including underwater noise, ice scour, propeller wash, and vessel wake.

For larger vessels, a further speed reduction to 6 knots within the Project Access Corridor is proposed – no peer-reviewed research or technical papers have been referenced for this measure and its effectiveness mitigating impacts to marine mammals.

For vessels transiting within the Northwest Passage but outside the Project Access Corridor, an approximate speed of 14 knots is proposed – no peer-reviewed research or technical papers have been referenced for this measure and its effectiveness mitigating impacts to marine mammals.

Information Request

Where applicable, provide rationale for the proposed speed reductions (10 knots and 6 knots) and evidence that these are protective of marine mammals and marine fish by mitigating vessel strikes, ship wakes, propeller wash, shipping noise and ice scour.

Also, provide a rationale on the proposed speed of 14 knots in the Northwest Passage outside of the Project Access Corridor, and its implications for impacts to marine mammals.

Additionally, please provide comment on the Laird et al. (2001) paper, specifically whether the findings are supported by more recent peer-reviewed research or technical papers.

Proponent Response

WKR acknowledges the importance of vessel speed as a mitigation measure for reducing potential effects on marine mammals and marine fish, including vessel strike risk, underwater noise, vessel wake, propeller wash, and ice-related disturbance.

The vessel speed reductions identified in the Impact Statement (e.g., 10 knots and 6 knots within specific operating areas) were developed as precautionary mitigation measures intended to reduce the likelihood and severity of interactions between Project vessels and marine wildlife. While the specific speed thresholds presented in the IS are preliminary, they are consistent with published scientific literature and marine navigation guidance. Vessel speed is widely recognized as a key factor influencing both the probability and severity of marine mammal vessel strikes. For example, Laist et al. (2001) found that most

lethal whale strikes involved vessels travelling at speeds greater than approximately 14 knots, while Vanderlaan and Taggart (2007) demonstrated that the probability of a lethal strike increases rapidly as vessel speed exceeds approximately 10 to 12 knots.

The proposed 10-knot speed was selected as a precautionary threshold because it is consistent with vessel-strike mitigation practices adopted in areas where large whales may occur and aligns with research indicating that vessel speeds at or below approximately 10 knots substantially reduce the probability of serious injury or mortality resulting from vessel strikes (Vanderlaan and Taggart 2007). Similarly, NOAA Fisheries (2020) concluded that 10-knot speed restrictions are an effective approach for reducing vessel-strike risk to whales.

The proposed 6-knot speed in near-port areas was selected as a precautionary measure to minimize vessel-generated wake, propeller wash, sediment disturbance, underwater noise, and collision risk in shallow coastal waters where effects on marine mammals, marine fish, and fish habitat are most likely to occur. Reduced vessel speeds also increase the time available for vessel operators to detect and avoid marine mammals. The selected speed is consistent with the intent of Canadian Coast Guard NOTMAR (2025) guidance recommending speeds below 7 knots in proximity to marine mammals. It represents a conservative operating speed for port approaches and maneuvering activities.

Vessel speed reductions are also expected to reduce underwater noise levels. Findlay et al. (2023) demonstrated that relatively small reductions in vessel speed can substantially reduce underwater radiated noise and decrease the area over which marine mammals are exposed to shipping noise. That study concluded that vessel slowdowns represent an immediately available mitigation measure capable of reducing cumulative noise impacts on marine wildlife.

With respect to marine fish and fish habitat, lower vessel speeds are expected to reduce wake energy, propeller wash, and localized sediment disturbance relative to higher-speed operations. Although there is limited Arctic-specific literature quantifying these effects, the reduction in vessel-generated energy associated with slower speeds is expected to reduce the magnitude of these interaction pathways, particularly in nearshore waters where vessel manoeuvring occurs.

The proposed 14-knot transit speed outside the Project Access Corridor and within the broader Northwest Passage reflects operation within open marine waters where navigational safety, weather conditions, ice conditions, vessel manoeuvrability, and transit efficiency must also be considered. Although Laist et al. (2001) and subsequent studies identified increasing vessel-strike severity at speeds approaching and exceeding 14 knots, Project vessels operating at these speeds would continue to implement marine mammal observation procedures, avoidance measures, reporting protocols, and adaptive mitigation where marine mammals are observed. Furthermore, marine mammal occurrence within the broader shipping corridor is generally dispersed, and vessel encounters are expected to be infrequent. Accordingly, the assessment concluded that the incremental contribution of Project shipping to regional vessel-strike risk and underwater noise exposure would remain limited.

WKR notes that the vessel speed measures presented in the IS are preliminary and intended to demonstrate the proposed mitigation approach. Specific speed-management requirements, including any seasonal, species-specific, location-specific, or adaptive speed restrictions, will be further developed through the Wildlife Management and Monitoring Plan in consultation with Inuit organizations, Indigenous groups, Fisheries and Oceans Canada (DFO), Transport Canada, and other regulators.

With respect to Laist et al. (2001), WKR recognizes that it remains a foundational and frequently cited study regarding vessel strikes on whales. More recent research, including Vanderlaan and Taggart (2007), NOAA Fisheries (2020), and Findlay et al. (2023), supports and expands upon the conclusions of Laist et al. (2001) by providing additional quantitative evidence that vessel speed reductions are effective at reducing both vessel-strike risk and underwater noise impacts on marine mammals.

Accordingly, the preliminary speed thresholds identified in the IS were selected as precautionary mitigation measures informed by accepted marine mammal protection practices, NOTMAR guidance, and the scientific literature demonstrating that reductions in vessel speed can reduce vessel-strike risk, underwater noise, vessel wake, and other vessel-related effects on marine mammals and marine fish.

References

Canadian Coast Guard. 2025. Annual Notices to Mariners (NOTMAR), Section A2: Marine Mammal Guidelines and Marine Protected Areas.

Findlay, C.R., Rojano-Doñate, L., Tougaard, J., Johnson, M.P., and Madsen, P.T. 2023. Small reductions in cargo vessel speed substantially reduce noise impacts to marine mammals. Science Advances, 9: eadf2987.

Laist, D.W., Knowlton, A.R., Mead, J.G., Collet, A.S., and Podesta, M. 2001. Collisions between ships and whales. Marine Mammal Science, 17(1): 35-75.

NOAA Fisheries. 2020. North Atlantic Right Whale Vessel Speed Rule Assessment. National Marine Fisheries Service, Office of Protected Resources.

Vanderlaan, A.S.M., and Taggart, C.T. 2007. Vessel collisions with whales: The probability of lethal injury based on vessel speed. Marine Mammal Science, 23(1): 144-156.

DFO-IR 13 (IR-236)

Subject

Project Access Corridor

Issue / Concern

Speed restrictions are proposed as a mitigation for multiple pathways of effect, including vessel wakes, propeller wash, and underwater noise. Speed restrictions are proposed as a maximum of 10 knots while traveling within the Project Access Corridor.

Information Request

Please clarify whether all vessels transiting in and out of the port will be utilizing this Project Access Corridor, from large vessels to small craft.

Proponent Response

The filed IS describes the Project Access Corridor as the marine vessel approach to the port that departs from the established Northwest Passage shipping lane, with a 10-knot speed restriction applying on entry:

> *"All Project vessels will maintain a constant course and constant speed to the extent practical when operating in the RAA. The Project will implement a speed restriction of 10 kts for all vessels when they leave the established navigational routes typically used in the area and enter the Project access corridor. Larger vessels (e.g., concentrate ships, cargo ships, barges, and fuel tankers) will further reduce their speed while berthing to approximately 6 kts or less."* (Volume 8, Section 23.3)

The corridor represents *"the planned marine vessel approach to the port which runs approximately 40 nautical miles southward of the existing, well-defined shipping lane within the Northwest Passage"* (Volume 2, Section 2.6.1.1; Volume 8, Figure 23.10, p. 23-116).

Small community type vessels that may be accessing the small craft harbour would not be expected to exclusively use the same Project Access Corridor, as many of these vessels do not travel along the Northwest Passage; however, there will be restrictions on where and how small craft vessels enter the port area, based on safety and operating protocols. Those protocols and directions will be communicated to all potential users of the Grays Bay Port once those procedures have been developed.

DFO-IR 14 (IR-237)

Subject

Induced Vessel Traffic Projections

Issue / Concern

Table 22.18 *outlines the projected annual quantity and types of vessels expected at the Grays Bay port between 2035-2055. It also would be beneficial for DFO's review to understand the total transits expected annually associated with the port (both in-bound and out-bound traffic).*

Additionally, ***Table 22.18*** *of Volume 8 describes the maximum number of vessels calling into Grays Bay port (both project-related and reasonably foreseeable induced) as 45 vessels during the operations phase. Then on page 23-111, the total number of vessels during operations is stated as "an additional 45 transits annually in each direction (i.e., to and from the port)."*

Information Request

Please clarify between number of vessels annually and number of transits annually throughout the Impact Statement. Please confirm these values represent the 'maximum use scenario' of the port – a commitment made by the Proponent during the NIRB Impact Statement Guidelines workshop in Cambridge Bay, NU, in December 2025.

Proponent Response

WKR acknowledges DFO's request for clarification regarding the relationship between the annual vessel totals presented in Tables 22.18 and 23.16 and the references to annual vessel transits elsewhere in the Impact Statement.

The annual traffic projections presented in Table 22.18 (Marine Fish and Fish Habitat) and Table 23.16 (Marine Mammals) are identical and represent the maximum annual shipping scenario assessed for the Project. These tables identify a total of 45 vessels per open-water season, consisting of 5 Project-related vessels and 40 reasonably foreseeable induced (RFI) vessels.

The reference in Volume 8, Section 23 to "45 transits annually in each direction (i.e., to and from the port)" is based on the assumption that each vessel calling at the Port completes one round trip during the open-water season. Under this assumption:

- 45 vessels arriving at the Port result in 45 inbound transits;
- those same 45 vessels departing the Port result in 45 outbound transits; and
- therefore, the annual shipping scenario equates to 90 total one-way transits per open-water season.

Accordingly, the figures are consistent. The value of 45 vessels refers to the maximum number of vessel calls assessed. In contrast, 45 transits in each direction refers to the associated one-way vessel movements generated by those same vessel calls.

WKR confirms that the shipping assumptions presented in Tables 22.18 and 23.16 represent the maximum foreseeable use scenario assessed in the Impact Statement, including both Project-related and reasonably foreseeable induced vessel traffic. This scenario was used as the basis for the marine fish, marine mammal, underwater noise, navigation, and cumulative effects assessments to ensure that potential effects were evaluated using a conservative shipping forecast.

DFO-IR 15 (IR-238)

Subject

Gaps in Vessel Traffic Projections

Issue / Concern

The project is proposed to serve as multi-use infrastructure, available for use by industry, military, and the general public. The projections in Table 22.18 do not include annual vessel traffic from cruise ships (large vessels) communities (small craft), and other public traffic. Although this traffic may be comparatively low, the additional impacts caused by public use would contribute to the cumulative impacts over the project lifespan.

In addition, it is unclear if emergency use of the port (such as unplanned berthing due to safety concerns/poor weather or spill response) are included in this cumulative impacts assessment.

Additionally, it is unclear if commercial fishing vessels are expected to utilize the port throughout the Project lifespan, and whether this has been considered in the cumulative impacts assessment.

Finally, it is unclear if this projection of vessel traffic includes the interaction from cumulative effects. For example, climate change is expected to reduce sea ice in the Arctic and extend the open-water shipping season. Therefore, the number of months per year vessels can transit in and out of the port could be extended, potentially increasing the number of vessels calling into port per year.

Information Request

Please add projections of port utilization from commercial fishing vessels and the public (cruise ships, community use) into the table and subsequent analysis of cumulative impacts.

Please clarify whether emergency use of the port has been included in the assessment.

Clarify whether the interaction of all cumulative effects (including climate change) has been integrated into the vessel traffic projections.

Proponent Response

1. **Projections from commercial fishing vessels and the public (cruise ships, community use)**

   Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List (PIL) includes marine vessel traffic in the Reasonably Foreseeable Induced (RFI) Scenario, identified in the table as a "Grays Bay Road and Port: Port Traffic (Proponent Pending)" Project/Activity. Further details on such traffic are provided in the PIL's Attachment 9A2 Spatial Metrics and Descriptive Information for RFI Physical Activities, and, Volume 8, Section 22 Assessment of Potential Effects on Marine Fish and Fish Habitat and 23 Assessment of Potential Effects on Marine Mammals. Within Sections 22.4 and 23.4, Assessment of Cumulative Effects, Table 22.18 / Table 23.16 present Project-related and Reasonably Foreseeable Induced (RFI) vessel traffic only.

The Impact Statement (IS) identifies other users as additional to that traffic: "*This traffic will be combined with the annual resupply vessel for the Project (e.g., fuel barges) and other port users, including national security (Canadian Coast Guard and military) and, to a lesser extent, local community members calling into the small craft harbour*" (Volume 8, Section 22.4.2). Use of the port by non-Project vessels, "*including members of the public, commercial entities, the coast guard, and the Canadian military*," has "*been considered in this assessment but not quantitatively characterized in this effects assessment*" (Volume 8, Section 22.4.3).

Fishing vessels, passenger ships and pleasure craft, tourism, and commercial and domestic harvesting use are carried into the cumulative effects assessment as potential physical activities rather than vessel counts (Volume 8, Section 22.4, Table 22.17; Volume 8, Section 23.4, Table 23.15; and Volume 9, Section 29.4, Table 29.9). The IS further records that commercial fishing "*is not known to occur*" within the LAA or PDA (Volume 9, Section 29.2.2), and that cruise ship tourism "*is not anticipated due to the commercial nature of the port and its distance from the Kitikmeot communities*" (Volume 9, Section 29.4.4). While these types of traffic are possible at low scale, they are not likely to be material relative to other vessel types.

Please see the response to GTC-13 (IR-279), Part 1.

2. **Emergency use of the port**

Emergency use is included in the assessment, addressed through port availability and function rather than as quantified traffic. Unplanned use for shelter is assessed: the port and Small Craft Harbour provide a safe haven and location of refuge in adverse weather (Volume 9, Sections 29.4.4 and 29.3.6), the port is available to the Canadian Coast Guard during the shoulder season for search and rescue and environmental response (Volume 2, Section 2.6.3), and Project infrastructure will serve as a staging point for emergency response in the event of a third-party accident or malfunction (Volume 10, Section 34.1). Emergency and unplanned vessel calls are not projected numerically.

3. **Integration of cumulative effects, including climate change**

Climate change is addressed in the cumulative effects methodology as a driver of baseline change rather than as a physical activity. As stated in Volume 10, Section 32.2.1, "*[b]y current CEA convention and guidance, climate change is not considered a physical activity and so is not something for which potential effects interactions are assessed. Notwithstanding, natural processes, including climate change, are acknowledged and addressed in the VC assessments as appropriate and relevant … In this way climate change is a consideration in the overall CEA, even if it may not be readily apparent.*" VC–level assessment is provided in Volume 8, Sections 22.3.7 and 23.3.7, and Volume 9, Section 29.3.8. Please see the response to ECCC-IR 29 (IR-189) regarding the 20-year window and longer-term uncertainty.

The Impact Statement acknowledges that "*sea ice risk diminishes within the Northwest Passage to allow three months of 'nearly open navigation' by 2050 and five months by 2070*" (Volume 8, Section 23.3.7), but the number of vessel calls is governed by operational commitment and throughput rather than navigable days. Please see the responses to GC-IR 01 (IR-148) and KAA-60 (IR-60), Part 3. An extended open-water window therefore does not, on its own, increase the assessed vessel count. For the upper bound beyond the RFI scenario, please see the response to CIRNAC-IR 05 (IR-160), and Appendix A: Cumulative Effects Assessment Supplement Addendum for the RFI activities.

DFO-IR 16 (IR-239)

Subject

Underwater Noise Monitoring

Issue / Concern

Underwater noise monitoring (i.e., a hydroacoustic verification program) is proposed for noise-generating project activities (blasting and pile driving) to monitor for potential impacts to marine mammals and marine fish. However, the program description does not mention other noise generating activities like dredging and project-related shipping. While most noise-generating activities are planned to occur in the construction phase only, shipping is proposed to occur annually throughout operations (at least 75 years). Monitoring shipping noise impacts is important because shipping is known to generate broadband, continuous (non-impulsive) underwater noise which has repeatedly been demonstrated to impact behaviour of marine mammals and marine fish.

Assumedly the hydroacoustic verification program would be a component of the Noise and Vibration Abatement Plan. Many details associated with the draft Noise and Vibration Abatement Plan have yet to be finalized, due to the need for further advancement in the construction design. However at this time, it would be beneficial for DFO's review for the Proponent to confirm which noise-generating activities with residual effects on freshwater and marine ecosystems will be addressed by the Noise and Vibration Abatement Plan - examples should include blasting, drilling, pile driving, dredging, infilling, and project-related shipping.

Information Request

The Proponent should clarify whether a hydroacoustic verification program will be implemented for all noise-generating activities, and whether the program will include monitoring of underwater noise from vessels during both the construction and operations phases.

Please confirm which Project activities will be addressed by the Noise and Vibration Abatement Plan.

Proponent Response

The hydroacoustic verification program is expected to be described in the Aquatic Effects Management Plan and implemented to monitor underwater noise levels during in-water noise-generating activities with a potential to generate sound pressure levels of greater than or equal to 160 decibels root mean squared at the source. As such, noise-generating activities are expected to include impact pile driving, in-water blasting, and potentially drilling during Construction. Hydroacoustic verification is intended to evaluate acute construction-related underwater noise sources (e.g., blasting, impact pile driving) where source levels are expected to exceed applicable thresholds and where empirical verification is warranted. Operational vessel noise was assessed using established vessel-noise modelling approaches and is expected to be lower in magnitude, continuous in nature, and managed through operational mitigation measures such as vessel speed restrictions. Consequently, hydroacoustic verification is not currently

proposed for routine vessel operations. In addition to the hydroacoustic verification program, a marine mammal monitoring program will be implemented and include visual monitoring of the sea surface conducted by a Qualified Environmental Professional during in-water Project activities.

Neither the hydroacoustic verification program nor the Noise and Vibration Abatement Plan are expected to include measures to limit potential effects on freshwater fish and fish habitat because works will be carried out with consideration of DFO's Measures to Protect Fish and Fish Habitat and the mitigation measures (e.g., modified blasting techniques) proposed are anticipated to be sufficient to limit the potential for injury or mortality to freshwater fish (Volume 8 Section 20 [20.3.3.4]).

DFO-IR 17 (IR-240)

Subject

Marine Protected Areas In Relation to Shipping Routes

Issue / Concern

The document states that "in the Canadian Arctic, there are three MPAs: Anguniaqvia niqiqyuam (Ung-u-niak-via Ni-kig-e-um), Tarium Niryutait, and Tuvaijuittuq (DFO 2024c). These MPAs are located outside of the RAA and, therefore, are not discussed further."

The proximity of shipping routes to MPAs is unclear as well as whether there are potential impacts from nearby shipping to MPAs through:

- *Underwater noise generation*
- *Ballast water discharge*
- *Domestic waste discharge*
- *Entry into MPAs by vessels, either accidentally or intentionally due to changes in safety conditions, creating an increased risk for*
    - *vessel strikes*
    - *vessel wake*
    - *propeller wash*

Information Request

Clarify whether any analysis was conducted on the proximity of project-related or induced shipping routes to Arctic MPAs, and on the potential impacts associated with nearby vessel traffic.

Provide further rationale on the omission of MPAs from the assessment of impacts to marine mammals and marine fish and fish habitat. If relevant, update the impact statement to include this assessment.

Proponent Response

WKR confirms that the three Arctic Marine Protected Areas (MPAs) identified in the Impact Statement, Anguniaqvia niqiqyuam, Tarium Niryutait, and Tuvaijuittuq, are located outside the Marine Fish and Fish Habitat and Marine Mammal RAAs and outside the Coronation Gulf region. As described in Volume 8, Appendices 22A and 23A, these MPAs were scoped out of further assessment because they do not overlap the PDA, LAA, or RAA.

WKR acknowledges DFO's comment that Project-related and reasonably foreseeable induced (RFI) shipping routes extend beyond the RAA and therefore warrant consideration relative to nearby MPAs. Of the three Arctic MPAs, Anguniaqvia niqiqyuam MPA, located in Darnley Bay and Amundsen Gulf, is the MPA most likely to occur in proximity to westbound vessel traffic travelling between Coronation Gulf

and the Beaufort Sea. WKR also acknowledges that some construction-phase vessel traffic could potentially originate from locations connected to the Mackenzie River and Beaufort Sea transportation network. In those circumstances, vessels may transit in relative proximity to Tarium Niryutait MPA, located in the Mackenzie Delta and Beaufort Sea region. However, no Project-related vessel operations are proposed within either MPA, and Project vessels would remain subject to applicable marine transportation requirements, including relevant guidance contained within the Notices to Mariners (NOTMAR). In contrast, Tuvaijuittuq MPA, located in the High Arctic north of Ellesmere Island, is not located along the primary Project shipping corridor and is not expected to be traversed or approached by Project-related vessel traffic.

Potential vessel-related pathways identified by DFO, including underwater noise, ballast water discharge, waste discharge, vessel wake, propeller wash, vessel strikes, and accidental vessel entry into sensitive areas, were considered within the marine fish and marine mammal assessments. These pathways were evaluated in the context of applicable mitigation measures and regulatory requirements, including compliance with the Canada Shipping Act, Ballast Water Regulations, applicable waste-management requirements, marine mammal protection measures, and vessel navigation requirements. The assessment concluded that residual effects associated with vessel traffic are expected to be low and not significant.

With respect to MPA proximity, vessel-related effects such as underwater noise, wake generation, propeller wash, and marine mammal interactions are expected to be greatest in the immediate vicinity of vessel operations and decrease with distance from the shipping corridor. The maximum reasonably foreseeable induced (RFI) shipping scenario consists of 45 vessel calls (90 one-way transits) per open-water season. Consequently, although vessel traffic may transit in relative proximity to portions of Amundsen Gulf where Anguniaqvia niqiqyuam MPA occurs and, in some circumstances, to portions of the Beaufort Sea region where Tarium Niryutait MPA occurs, vessel traffic associated with the Project and RFI activities is not expected to result in measurable effects on the conservation objectives, protected features, or ecological integrity of these MPAs. Similarly, ballast water management, waste discharge controls, and applicable marine transportation regulations are expected to minimize the potential for effects associated with vessel operations.

The marine fish, marine mammal, and transboundary effects assessments considered vessel-related pathways that could extend beyond the RAA. Based on the geographic separation of the MPAs from the PDA, the limited volume of vessel traffic associated with the Project and RFI activities, the localized nature of vessel-related effects, compliance with applicable marine transportation regulations, including relevant NOTMAR guidance, and ballast water and waste management requirements, WKR considers the omission of Arctic MPAs from the marine fish and marine mammal effects assessments to be appropriate. Although Project-related vessels may transit in relative proximity to Anguniaqvia niqiqyuam MPA and, in some circumstances, Tarium Niryutait MPA, vessel traffic associated with the Project and RFI activities is not expected to result in measurable adverse effects on the conservation objectives, protected features, or ecological integrity of these MPAs. The Project is similarly not expected to result in measurable adverse effects on Tuvaijuittuq MPA, and the conclusions of the marine fish, marine mammal, and transboundary effects assessments remain unchanged.

DFO-IR 18 (IR-241)

Subject

Vessel Wake

Issue / Concern

On Page 22-64, the document states "no permanent alteration or destruction of fish habitat as a result of construction vessel wakes or propeller wash are predicted". Additionally on Page 22-75, "the infrequent nature of vessel activity, speed reductions in nearshore areas, and the placement of scour protection in the vessel berths are anticipated to limit sediment suspension as a result of vessel wake or wash, with no measurable impacts to fish habitat expected".

The information provided discusses potential effects of vessel wake on fish habitat and sediment suspension, but it does not directly address whether vessel wake is expected to impact shoreline stability within the LAA or RAA. Clarification is still required on shoreline stability effects.

Information Request

Provide information on whether vessel wake is expected to impact shoreline stability in the LAA and RAA.

Proponent Response

The Impact Statement recognizes that vessel wake and propeller wash can affect marine water and sediment conditions, particularly in shallow coastal environments. The marine water and sediment assessment (Volume 8, Section 21) notes that in shallow nearshore areas, vessel wake can resuspend sediments, increase turbidity, and contribute to localized erosion and changes in seabed morphology. Shoreline barge landings may further contribute to these effects through direct seabed contact. However, the magnitude of these effects is strongly influenced by vessel size, vessel speed, draft clearance, water depth, and shoreline characteristics.

Within the LAA/RAA, impacts to shoreline stability associated with vessel wake are expected to be limited. The shoreline in Grays Bay is predominantly bedrock and geomorphologically stable with extensive sections of the shoreline featuring hard bedrock, which provides structural stability and resistance to coastal erosion including that from vessel wake. Where shoreline sections with low-relief terrain and surficial deposits are present, these shoreline segments are generally comprised of unconsolidated coarse sediment beaches with pebble and granular deposits that would also be relatively stable to the effects from vessel wake. Further, Grays Bay is located in an open coastal setting, where wake energy dissipates relatively quickly compared to confined waterways or narrow channels. Vessel traffic associated with the Project will be concentrated near the port and along established approach routes, with relatively low vessel frequencies (90 one-way transits per year under future cumulative effects scenario). In addition, vessel wake and propeller wash effects will be mitigated through operational measures including vessel speed restrictions within the LAA and the use of designated

landing zones for barges during construction. These measures are specifically intended to reduce wake energy, avoid sensitive nearshore areas, and reduce the potential for shoreline erosion.

Based on the available information, vessel wake is not expected to result in measurable changes to shoreline stability at the LAA or RAA scale because of the bedrock-dominated regional geology and high occurrence of continuous bedrock outcroppings. Any shoreline erosion or sediment redistribution associated with vessel wake is expected to be localized to areas where surficial deposits are present immediately adjacent to vessel operations and landing locations (within the Project Development Area) and is expected to be minor relative to natural shoreline processes such as wind-driven wave action, storms, seasonal ice dynamics, and coastal sediment transport.

DFO-IR 19 (IR-242)

Subject

Fuel Barge

Issue / Concern

"Impacts to fish habitat are not anticipated if a terrestrial (on land) fuel storage option is selected. If a dedicated fuel barge is used, then a temporary (up to five years) loss of fish habitat is anticipated within the footprint of the barge … approximately 3,600 m 2 of subtidal habitat would be lost to marine mammals' use for the duration of the Construction phase (up to five years)".

Information Request

Please confirm if the footprint for the fuel barge is overlapping with the permanent infrastructure footprint – provide a rationale if not.

Proponent Response

As stated in the Impact Statement (IS), the location of fuel storage during the construction phase (fuel barge versus terrestrial storage) is still undetermined at the current, conceptual level of Project design (10%). If the marine fuel barge option is pursued, an ice-reinforced barge will be positioned in shallow nearshore waters resting on the seabed. The exact location is not currently known; however, once a site is selected and the barge is secured in place, it is not expected to move for the duration of the construction phase (up to five years). As such, it is not anticipated that the fuel barge will overlap with the permanent footprint of the Project so as to not interfere with construction of the permanent infrastructure.

As a conservative approach to assess the potential impacts to fish habitat, the IS made the assumption that the footprint of the temporary fuel barge would not overlap with the permanent footprint of the Project and accounted for its footprint (up to 3,600 m^2) separately (Table 22.10, Volume 8, Section 22). Upon completion of the Construction phase, the temporary fuel barge (if used) will be removed and towed away from the site, with the affected habitat again available for use by marine fish, marine mammals, and other marine organisms. Following removal of the fuel barge, no ongoing occupation of marine habitat would remain associated with this temporary construction component. No permanent alteration or destruction of fish habitat is expected to be associated with the temporary fuel barge.

DFO-IR 20 (IR-243)

Subject

Ballast Water

Issue / Concern

Table 21.10 notes that vessel activity during operations may affect water quality via ballast water discharge. Page 22-49 states that ballast water is commonly required on larger vessels to maintain stability when not fully loaded with cargo. This water, often taken from one location and released in another, can carry deleterious substances (e.g., suspended solids, nutrients, hydrocarbons, metals) as well as invasive aquatic species and pathogens." Page 21-51 also states "Ballast water discharge from construction and operational vessels poses a risk of introducing non-native species and pollution. Vessels arriving with cargo at the port site are not anticipated to discharge ballast water and will likely take on ballast water from the port area to compensate for cargo weight once offloaded".

It is unclear whether ballast water discharge will occur within the LAA or RAA, and potential areas of ballast water discharge are not identified. Additionally, to monitor and assess the effectiveness of planned mitigation measures regarding ballast water, it will be important to monitor in the correct location.

Information Request

Please clarify whether ballast water is expected to be discharged to the Grays Bay LAA or RAA as a Project-related activity in any capacity. If relevant, provide the following information:

1. *Potential areas where vessels will empty their ballast water, as well as projections for discharge frequency, timing, and volumes; and*
2. *Plans for monitoring and managing the impacts of ballast water discharge (locations, parameters, frequency, reporting, contingency measures, etc.).*

Proponent Response

The IS addresses ballast water discharge as a potential Project-related activity within Volume 8, Section 21 (Marine Water and Sediment Quality) and Volume 8, Section 22 (Marine Fish and Fish Habitat) including descriptions of potential discharge scenarios, applicable regulatory requirements, mitigation measures, and the assessment of potential effects on marine water and sediment quality and fish and fish habitat.

During the Construction Phase, vessels are expected to arrive at Grays Bay fully loaded with equipment and materials and, therefore, are "unlikely to carry ballast water." The IS states that after unloading equipment, vessels "will take on water from Grays Bay for ballast," which reduces the likelihood of introducing foreign organisms or contaminants during construction (Volume 8, Section 21).

During the Operations and Maintenance Phase, ballast water discharge may occur from vessels arriving at the marine terminal without cargo and loading cargo at Grays Bay. The IS notes that:

> "*Potential effects from ballast water are likely limited to vessels arriving empty at the port site and discharging ballast water when the vessel is being loaded at the Grays Bay Port.*" (Volume 8, Section 21).

The assessment considers ballast water discharge as a potential effect pathway associated with vessel activity and recognizes that residual effects from ballast water discharge could extend to the RAA. Specifically, the assessment states:

> "*The geographic extent of propeller wash and wake energy residual effects is confined to the PDA, while ballast water discharge and antifouling is confined to the RAA.*" (Volume 8, Section 21).

Based on the information currently provided in the IS, ballast water discharge may occur as part of vessel operations at the Port. During construction, vessel activity is expected to include approximately two sealift sailings during the initial mobilization phase, 60 to 100 lightering (offloading) barge trips, annual resupply activities over the multi-year construction period, and up to three additional barges transporting supplies from the Inuvialuit Settlement Region. During Operations and Maintenance, Project-related vessel traffic is expected to be seasonal and limited to the open-water period (typically late June through October), consisting of approximately one cargo ship and one fuel tanker annually, supported by up to three tugs berthed onsite.

However, the assessment does not identify specific discharge events, locations, or volumes. At the current stage of Project development, there is insufficient design and operational detail to determine where, when, how often, or in what volumes ballast water may be discharged. Potential ballast water management requirements will be further refined as Project design advances and operational procedures are developed. Any ballast water discharge associated with vessel operations will be managed through Project-specific management plans, including the Port Management Plan and Aquatic Effects Management Plan, as well as applicable regulatory requirements. The assessment assumes that all vessels calling at the Port will comply with the *Ballast Water Regulations* under the *Canada Shipping Act, 2001* and associated international requirements, including ballast water treatment and management measures intended to reduce the risk of introducing foreign organisms, contaminants, or other harmful substances into the receiving environment.

DFO-IR 21 (IR-244)

Subject

Riparian Vegetation Loss

Issue / Concern

The section states that "Once built, the Project infrastructure is expected to result in a loss of approximately 20% of the existing riparian vegetation within the PDA." It is unclear if this statement is in reference to only riparian vegetation adjacent to marine habitat at the port site, or if it includes the riparian vegetation at the road crossings (within freshwater habitat).

In addition, Figure 20.4 Change in Freshwater Fish Habitat from Project Activities in the Port LAA shows total 'riparian habitat clearing' along the stream habitat associated with D2 and D6. The riparian habitat clearing displayed in this map shows extensive upstream and downstream clearing, the purpose of this clearing is unknown.

Information Request

Please clarify whether the estimated 20% loss of riparian vegetation within the PDA includes riparian areas associated with freshwater habitat at road crossings, or if it applies solely to riparian vegetation adjacent to marine habitat at the port site.

Please explain the rationale behind the extent of this riparian habitat clearing within the port LAA.

Proponent Response

Riparian vegetation is assessed separately in the marine environment (Volume 8, Section 22 — Marine Fish and Fish Habitat) and the freshwater environment (Volume 7, Section 20 — Freshwater Fish and Fish Habitat). The two VCs use different assessment areas and metrics to calculate riparian habitat loss.

The statement "approximately 20% of the existing riparian vegetation within the PDA" is from the Marine Fish and Fish Habitat assessment (Volume 8, Section 22) and refers to the marine riparian vegetation anticipated to be lost at the Port site. The Marine Fish and Fish Habitat assessment predicts a loss of approximately 2,151 m² of vegetated area within the riparian zone at the Port, as part of the 61,688 m² total marine habitat alteration/destruction at the port (Volume 8, Section 22.3.2, Table 22.10). This assumption is based on the current Port layout design and landside infrastructure development (marine infilling) requirement that will overlap with this area (defined as the zone 15 m landward of highest high water large tide). As stated in the IS, this estimate is likely conservative as the remote sensing analysis used to calculate the area of existing riparian vegetation could not distinguish between living vegetation and the large piles of drift algae (dead algae washed up on shore) observed on site in various locations.

The Freshwater Fish and Fish Habitat potential areal change in riparian habitat was calculated using a riparian area width of 15 m from the high water mark, on either side of a watercourse or waterbody, where it is overlapped by the Project PDA, as per DFO's minimum setback standard (Chilibeck et al. 1993). As the riparian habitat is limited in the tundra (i.e., large trees absent, riparian habitat consists of grasses, shrubs, and rocky substrates) a secondary metric for functional riparian areas was developed. A buffer of 5 m was applied for large permanent, and 2 m for all other watercourse crossings, to understand the potential effects to functional riparian habitat for fish (e.g., riparian vegetation which provides overhead cover, canopy cover, shade/temperature effects and direct nutrient inputs). Table 20.8 provides summary of freshwater riparian habitat loss at fish-bearing watercourses for Project components. For the Port LAA, this includes the total loss of approximately 67,417 m^2 of riparian habitat and 8,989 m^2 of function riparian habitat for fish, which is a result of:

- The Landside Port will require clearing at WC-001 (1,204 m^2 total riparian and 160 m^2 function riparian).
- Solar panel infrastructure will require clearing at D2 (1,275 m^2 total riparian and 170 m^2 function riparian).
- The Aerodrome will require clearing at D6 for the airstrip and access roads (64,938 m^2 total riparian and 8,659 m^2 function riparian).

The estimate of freshwater riparian vegetation clearing is conservative. It assumes the entire buffered area would be cleared for Project infrastructure and components; however, the Project will use previously disturbed areas for project activities, project infrastructure, and workspaces, to the extent practical and riparian vegetation will be maintained where practicable. The estimate also does not consider areas that are already bare (e.g., rocky substrates in the riparian zone).

DFO-IR 22 (IR-245)

Subject

Changes in Behaviour of Marine Fish Caused by Changes in Water Quality

Issue / Concern

Marine water quality may be affected during construction and the operation and maintenance phases (Table 21.10). The document states that "Cumulative effect pathways with the potential to change marine fish behaviour include the introduction of underwater noise generated by additional vessels transiting within the RAA during the Construction and Operations and Maintenance phases of the Project."

However, changes in marine fish behavior can also result from other pathways, including any changes in water quality (temperature, TSS, salinity) leading to avoidance behaviours in the PDA or LAA. It is unclear if this pathway was considered in the cumulative effect assessment.

Information Request

Please clarify why only underwater noise was identified as a behavioural cumulative effects pathway for marine fish, and indicate whether changes in water quality (e.g., temperature, TSS, salinity) that may lead to avoidance behavior were considered in the cumulative effects assessment.

Proponent Response

WKR can confirm that changes in water quality (e.g., temperature, TSS, salinity) that may lead to avoidance behavior were considered in the cumulative effects assessment. These factors were considered within the cumulative effects assessment of a Change in Habitat (Volume 8, Section 22.4.2). Relevant cumulative effect pathways with the potential to change marine fish habitat within the RAA are associated with vessel wake and propellor wash, and the potential for introduced species through ballast water or biofouling to the marine environment.

DFO-IR 23 (IR-246)

Subject

Anchorages

Issue / Concern

Alteration, disruption, and destruction of marine habitat caused by anchorages for medium and large-sized vessels is not discussed in Sections 22 or 23. Designating anchorage sites is important for mitigating the spatial extent of marine habitat impacts caused by anchoring.

Information Request

Please clarify whether designated anchorage sites will be established within the LAA.

If this is the intent, please provide the locations (shapefiles) of these anchorages. An assessment of effects on marine mammals and marine fish and fish habitat would also be required. If designated anchorages are not intended, please provide a rationale.

Proponent Response

Designated anchorage sites are not anticipated to be required for vessels calling at Grays Bay to support regular Project operations. Project-related vessel traffic (e.g., general cargo vessels, fuel resupply vessels, support tugs) is intended to arrive only when berth space is available at the Large Vessel Wharves, Medium Vessel Wharf, or Barge Landing Area (Volume 2, Section 2 [Table 2.19]). Accordingly, no dedicated offshore anchorage areas have been incorporated into the current Project design or assessed as discrete Project components. Future third-party users may require designated anchorage sites; however, this is not currently known and will depend on future vessel traffic volumes, vessel scheduling requirements, and actual operational conditions at the Port.

Should designated anchorage sites be proposed in the future by third-party users, any associated environmental review, permitting requirements, and engagement with Fisheries and Oceans Canada would be the responsibility of the proponent of those activities. This would include assessment of potential effects on marine fish and fish habitat, marine mammals, and any applicable requirements under the *Fisheries Act*.

DFO-IR 24 (IR-247)

Subject

Marine Fish Habitat

Issue / Concern

Page 22-56 *of the document describes the results of the subtidal habitat and remote sensing surveys, including substrate types and depths.*

Section 22.2.2.2 Marine Fish Habitat *describes the baseline characteristics of the marine fish habitat. However, the section lacked a description of the substrate composition in terms of fish habitat functions, including an assessment of the habitat suitability for spawning or rearing of relevant marine or anadromous fish.*

A description of substrate type and habitat suitability are necessary for evaluating potential project effects on fish and fish habitat.

Information Request

Please provide a description of substrate composition with an assessment of the habitat suitability for spawning and rearing of relevant marine and anadromous fish species.

Proponent Response

Marine habitat surveys completed in 2025, in addition to historical investigations previously completed at Grays Bay, indicate that the LAA is characterized by a heterogeneous assemblage of bedrock, boulder, cobble, gravel, sand, and fine-grained mud substrates (Volume 8, Section 22 and Appendix 22A). Intertidal habitats are dominated by bedrock (60.3%), with smaller proportions of fines (10.5%), cobble/boulder (10.5%), gravel (5.8%), and vegetation (12.9%). Subtidal habitats are primarily soft-bottom environments, with fine-grained sediments dominating across all surveyed depth ranges. Smaller sections of bedrock, boulder, and cobble were observed in shallow nearshore areas and around the shoreline and a gravel-dominated section of the seabed was observed in deeper water (>20 m) off the proposed deep water wharves.

The dominant soft-bottom habitats within the LAA support benthic invertebrate communities. including Arctic lyre crab (*Hyas coarctatus*), bivalves, brittle stars, sea urchins, and northern tube anemones (*Pachycerianthus borealis).* These communities provide an important prey base for species, such as Arctic cod (*Boreogadus saida*), Greenland cod (*Gadus ogac*), saffron cod (*Eleginus gracilis*), starry flounder (*Platichthys stellatus*), fourhorn sculpin (*Myoxocephalus quadricornis*), shorthorn sculpin (*Myoxocephalus scorpius*), and other marine fishes documented during baseline surveys. The habitats within the LAA are considered suitable for feeding, refuge, and juvenile rearing by a variety of marine fishes and invertebrates. Hard-bottom habitats consisting of bedrock, boulder, and cobble provide structural complexity, shelter from predators, attachment surfaces for rockweed and kelp, and habitat for

epibenthic invertebrates. Soft-bottom mud and silt habitats support infaunal communities and benthic prey resources used by demersal fishes.

With respect to anadromous species, Arctic char is the principal anadromous fish documented in the marine fish and fish habitat LAA. Arctic char spawn and incubate eggs in freshwater systems and use the marine environment primarily for seasonal feeding, growth, migration, and staging. The nearshore marine habitats, including fine-grained substrates, cobble beaches, and shallow coastal areas provide habitat that supports marine feeding, rearing, and migration between marine and freshwater environments.

While the LAA supports a diverse assemblage of marine fish and invertebrates, available baseline information does not indicate the presence of regionally important or unique spawning habitats for marine fish species. Habitat conditions within the LAA are generally representative of the broader nearshore environments of Grays Bay and the Coronation Gulf region. The predominance of fine-grained soft-bottom substrates suggests that habitat within much of the LAA is better suited for feeding, rearing, and seasonal use than for spawning by many marine fish species, which often require coarser substrates or specific environmental conditions for egg deposition and incubation. Similarly, no eelgrass beds, kelp forests, coral gardens, sponge reefs, or other biologically sensitive habitat-forming features commonly associated with important fish spawning or nursery functions were documented within the LAA. Arctic char spawning and egg incubation occur in freshwater systems; therefore, marine habitats within the LAA primarily provide feeding, growth, staging, and migratory habitat rather than spawning habitat for this species.

DFO-IR 25 (IR-248)

Subject

Vessel Strikes

Issue / Concern

The document states "direct physical contact between Project equipment and marine mammals may result in harm to individuals directly affected. Seals are the marine mammal most likely to be affected by direct contact risks due to their presence in the area. However, all marine mammals have a high degree of mobility and are therefore at low risk of injury or mortality from this pathway." In summary, it characterizes vessel-strike risk as low on the basis that marine mammals have a high degree of mobility.

This assessment does not incorporate the variability in mobility and swim speeds of different marine mammals in the RAA, nor does it account for the responses of different marine mammals to underwater noise – for example, some species are known to react to vessel noise with a 'freeze' response. Others are known to be highly resilient to vessel noise and become easily habituated to anthropogenic activities.

Information Request

Please elaborate on the risk of injury or death of marine mammals by vessel strikes, incorporating current scientific knowledge on the varied marine mammal behaviour and response in the Arctic (for pinniped and cetacean species occurring in the RAA). Provide a rationale supported by peer-reviewed references.

Proponent Response

WKR acknowledges DFO's comment that marine mammal vulnerability to injury or mortality from Project activities varies among species and individuals and is influenced by factors such as behaviour, swimming speed, diving patterns, habitat use, group composition, and responses to vessels and underwater noise.

WKR notes that the statement referenced by DFO pertains specifically to the direct physical contact pathway assessed in the Impact Statement and not solely to vessel strikes. The direct-contact pathway considers the potential for marine mammals to come into contact with Project equipment, vessels, or marine infrastructure during construction and operations. Within this context, marine mammals were considered to be at relatively low risk because of their mobility and ability to move away from localized Project activities.

The vessel-strike assessment, however, was evaluated separately under the Change in Mortality and/or Injury Risk pathway (Volume 8, Section 23.3.4) and does not rely solely on marine mammal mobility. Rather, the assessment explicitly differentiates vessel-strike risk among marine mammal groups based on life-history traits, body size, position within the water column, and relative ability to avoid approaching vessels. Consistent with Laist et al. (2001) and Segre et al. (2022), the assessment identifies bowhead whales as the marine mammal group most vulnerable to vessel strikes because baleen whales are large-bodied, spend considerable time near the water surface while feeding, and may have a reduced

ability to avoid rapidly approaching vessels. In contrast, toothed whales (odontocetes) such as beluga and narwhal are considered to be at comparatively lower risk because of their smaller size and greater agility. The assessment also recognizes that ringed seals and other pinnipeds may be vulnerable to vessel strikes during foraging activities, particularly because they are the most abundant marine mammals within the RAA (Laist et al. 2001; Schoeman et al. 2020; Olsen et al. 2021; Segre et al. 2022).

The assessment further recognizes that marine mammals do not respond uniformly to approaching vessels or vessel noise. Scientific studies have documented a range of behavioural responses among both cetaceans and pinnipeds, including avoidance, changes in dive behaviour, displacement, alterations in vocalizations, habituation, and in some cases reduced movement or "freeze" responses (Richardson et al. 1995; Southall et al. 2007; Gomez et al. 2016).

Within the RAA, the marine mammal species most likely to interact with Project vessels are ringed seal, bearded seal, and, less frequently, beluga whale, narwhal, and bowhead whale. Studies of pinniped responses to vessels and other anthropogenic activities have documented alert, diving, displacement, and avoidance behaviours when vessels approach or operate nearby (Jansen et al. 2010; Andersen et al. 2012; Russell et al. 2016). Although individual behavioural responses vary and some habituation may occur in areas of repeated vessel activity, seals generally retain the ability to detect and avoid approaching vessels. Consequently, while vessel interactions remain possible, available evidence indicates that the likelihood of vessel strikes involving pinnipeds is generally lower than for large baleen whales (Laist et al. 2001; Vanderlaan and Taggart 2007).

Similarly, Arctic cetaceans such as beluga and narwhal have been documented exhibiting avoidance, altered movement patterns, changes in dive behaviour, and displacement in response to vessel activity and icebreaking operations (Finley et al. 1990; Richardson et al. 1995). WKR acknowledges that behavioural responses may differ among species, individuals, and environmental conditions and that some responses could influence vessel-strike vulnerability. However, the assessment does not rely solely on mobility as a determinant of risk. Instead, it considers species occurrence, habitat use, behavioural characteristics, vessel traffic levels, vessel speeds, and mitigation measures.

Current scientific literature indicates that vessel speed is among the most important factors influencing both the probability and severity of vessel strikes. Laist et al. (2001) reported that most documented fatal whale strikes involved vessels travelling at speeds greater than approximately 14 knots, while Vanderlaan and Taggart (2007) demonstrated that the probability of a lethal collision increases rapidly as vessel speed exceeds approximately 10 to 12 knots. Consequently, vessel speed reduction is widely recognized as one of the most effective mitigation measures available for reducing vessel-strike risk (Laist et al. 2001; Vanderlaan and Taggart 2007; NOAA Fisheries 2020).

The conclusion that vessel-strike risk is low is therefore based on a combination of factors, including:

- species-specific vulnerability and behaviour;
- the relatively low density and infrequent occurrence of many cetacean species within the LAA;
- the rare occurrence of bowhead whales within the Coronation Gulf region;
- the limited spatial overlap between Project activities and important marine mammal habitat areas;

- the relatively low level of Project-related and cumulative vessel traffic within the RAA;
- implementation of mitigation measures, including vessel speed reductions, marine mammal observation protocols, avoidance measures, and adaptive management; and
- the demonstrated ability of most marine mammal species to detect and respond to approaching vessels under typical operating conditions.

Potential behavioural responses to underwater noise, including avoidance, displacement, auditory masking, habituation, and reduced movement responses, were assessed through the Change in Behaviour Caused by Sensory Disturbance pathway. While some individuals may exhibit responses that could increase vulnerability to vessel interactions, available evidence indicates that these effects are expected to be localized and temporary and are not anticipated to result in measurable population-level increases in mortality or injury.

The assessment also considered cumulative effects associated with reasonably foreseeable induced marine shipping. Although future increases in vessel traffic and climate-driven changes in marine mammal distribution may alter exposure patterns over time, the Project's contribution to regional vessel traffic is expected to remain limited. Accordingly, the assessment concluded that residual and cumulative effects associated with marine mammal mortality and injury risk, including vessel strikes, would be low in magnitude and not significant following implementation of mitigation measures.

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DFO-IR 26 (IR-249)

Subject

Cumulative Impacts on Marine Mammal Sensory Disturbance

Issue / Concern

The following sentence describing the duration of behavioural disturbance is difficult to interpret: "Based on the strong understanding of potential effects pathways, the anticipated effectiveness of mitigation measures, and the assessment of cumulative effects any change in behaviour caused by sensory disturbance is anticipated to be transitory and relatively brief in duration, ***lasting less than three hours of the open-water season per year on the shipping route for seals and 198 and 163 hours per year of the open-water season for whales (i.e., bowhead and beluga and narwhal, respectively)****."*

The meaning of these hour-based estimates is unclear, and the values differ from the numbers stated on page 23-112 (an individual bowhead whale or beluga/narwhal may experience a maximum of 207 and 171 hours per year above the behavioural disturbance threshold). Additional explanation is required to understand the duration of behavioural disturbance.

Information Request

Please further explain this sentence - particularly the estimates of hours of open-water season for different species.

Proponent Response

WKR acknowledges that the referenced text does not provide sufficient context regarding the meaning of the estimated behavioural disturbance durations and that the different values presented in Volume 8 create confusion.

The estimated durations do not represent continuous behavioural disturbance of marine mammals throughout the open-water season, nor do they imply that an individual marine mammal will remain within the disturbance zone for the entire duration. Rather, the values represent the maximum cumulative annual duration during which vessel noise levels may exceed the applicable behavioural disturbance threshold at any point along the Project shipping route, based on the modeled vessel traffic scenario and the predicted spatial extent of the acoustic disturbance zone.

The species-specific estimates differ because they are based on species-specific behavioural disturbance thresholds and corresponding modelled acoustic footprints. Consequently, the spatial extent and duration of potential behavioural disturbance vary among marine mammal groups. The lower estimate reported for seals reflects the smaller modelled disturbance zone relative to cetaceans, while the higher estimates for bowhead whales, beluga whales, and narwhals reflect the larger areas over which behavioural disturbance thresholds may be exceeded.

WKR acknowledges that the values reported in Section 23 are inconsistent. The references to 198 hours per year for bowhead whales and 163 hours per year for beluga whales and narwhals should have been reported as 207 hours per year for bowhead whales and 171 hours per year for beluga whales and narwhals, respectively. The discrepancy is the result of a reporting error and does not reflect a difference in the underlying assessment or modelling results.

Importantly, these estimates represent a conservative maximum exposure scenario and do not imply that any individual marine mammal will experience behavioural disturbance for the full modelled duration. Marine mammals are highly mobile and are expected to move into and out of the disturbance zone over time. Actual exposure durations for individual animals are therefore expected to be substantially lower than the maximum cumulative durations predicted along the shipping route.

Based on the predicted exposure durations, species occurrence, implementation of mitigation measures, and the temporary and reversible nature of behavioural responses, the assessment concluded that behavioural disturbance associated with vessel traffic would not result in permanent displacement from important habitats or population-level effects. Accordingly, residual effects associated with behavioural disturbance were characterized as low to moderate in magnitude and not significant.

DFO-IR 27 (IR-250)

Subject

Cumulative Impacts on Marine Mammal Sensory Disturbance

Issue / Concern

The following sentence mentions mitigation measures for addressing cumulative impacts from underwater noise but does not describe the nature of the mitigation measures: "Based on the strong understanding of potential effects pathways, ***the anticipated effectiveness of mitigation measures,*** *and the assessment of cumulative effects any change in behaviour caused by sensory disturbance is anticipated to be transitory and relatively brief in duration …".*

Information Request

Please describe which mitigation measures are to be implemented to address underwater noise cumulative impacts, to reduce the significance to low or negligible in magnitude.

Proponent Response

WKR acknowledges DFO's request for additional detail regarding the mitigation measures considered in the assessment of cumulative underwater-noise effects on marine mammals. The conclusion that cumulative underwater-noise effects are low in magnitude and not significant is based on both the implementation of Project-specific mitigation measures and the limited contribution of the Project to overall regional underwater-noise levels. Specifically, the assessment considered the relatively low number of vessel movements associated with the maximum reasonably foreseeable induced (RFI) shipping scenario, the seasonal nature of Project operations, the absence of routine icebreaking during operations, the transient nature of vessel-generated noise, and the ability of marine mammals to move through and around areas of disturbance.

For vessel-related underwater noise, the primary mitigation measure is vessel speed management. As documented in Volume 1, Appendix B, shipping noise and ice scour will be minimized by limiting vessel speeds within the Marine Local Assessment Areas. Additional operational measures include reducing vessel speed upon entering the Project Access Corridor, reducing larger vessels to approximately 6 knots or less during berthing operations, reducing vessel speed to less than 7 knots when marine mammals are observed within 1,000 m of a vessel in accordance with applicable *Notices to Mariners* (NOTMAR), and avoiding abrupt course changes where safe and practicable. Because underwater noise generated by vessels is strongly influenced by vessel speed, these measures are expected to reduce the Project's contribution to cumulative underwater-noise levels and associated behavioural disturbance.

Additional mitigation is provided through Project operating restrictions. The Project is designed as an open-water-season operation and no routine icebreaking is proposed during normal port operations. Consequently, Project-related underwater noise will be seasonal, intermittent, and temporary rather than continuous throughout the year. This limits both the duration and geographic extent of potential marine mammal exposure to underwater noise.

The Project also includes implementation of a marine mammal monitoring program during applicable in-water activities. Marine mammal observations, together with adaptive management measures developed through the Wildlife Management Plan and Aquatic Effects Management Plan, will be used to evaluate mitigation effectiveness and identify opportunities for additional management measures where warranted. The Project will also comply with applicable regulatory requirements, including the *Marine Mammal Regulations* under the *Fisheries Act* and relevant *Notices to Mariners* guidance related to marine mammal protection.

For construction activities, mitigation measures include the application of best available and practical measures to reduce underwater noise generation during activities such as pile installation and blasting, implementation of pre-activity marine mammal monitoring, and use of soft-start or ramp-up procedures where applicable. These measures are intended to reduce the potential for acute behavioural disturbance and increase the opportunity for marine mammals to move away from higher-noise activities before maximum sound levels are reached.

The assessment concluded that underwater-noise-related effects are expected to be temporary, localized, and reversible. While cumulative underwater noise from multiple regional activities cannot be completely eliminated, the combination of vessel speed management, seasonal operating restrictions, avoidance of routine icebreaking, marine mammal monitoring, adaptive management, and compliance with applicable marine transportation and marine mammal protection requirements is expected to reduce the Project's contribution to cumulative underwater-noise exposure. Accordingly, residual cumulative effects associated with underwater noise were assessed as low in magnitude and not significant.

WKR acknowledges DFOs comment regarding an outline of mitigation measures to be implemented to address underwater noise cumulative impacts as well to reduce the significance to low or negligible in magnitude. The Project will implement a range of mitigation measures intended to avoid or reduce underwater noise at the source, minimize exposure of marine mammals, and reduce the magnitude of cumulative effects to the extent feasible, details of these mitigation measures will be provided in the Wildlife Management Plan. Based on these measures, residual cumulative effects from Project-related underwater noise are expected to be reduced to low or negligible levels where feasible and are not predicted to result in significant adverse effects on marine mammal populations.

Below provides a summary of the proposed mitigation measures:

Vessel Operations

- Implement vessel speed management measures, where safe and feasible, as reduced vessel speeds generally lower underwater noise emissions and decrease the likelihood of disturbance to marine mammals.
- Minimize unnecessary vessel idling, maneuvering, and repeated transits.
- Maintain vessels in accordance with manufacturer specifications and industry best practices to minimize excess noise generated by propulsion systems and onboard equipment.
- Use efficient vessel routing and voyage planning to reduce the duration and frequency of vessel activity within sensitive marine habitats

Construction Activities

- Apply best available and practical noise-reduction measures during marine construction activities, including dredging, pile installation, blasting, or other activities that may generate underwater sound.
- Conduct pre-activity marine mammal monitoring and implement activity delays where marine mammals are observed within established monitoring or exclusion zones.
- Consider soft-start or ramp-up procedures, where applicable, to provide marine mammals with an opportunity to move away from the area before peak noise levels are reached.
- Schedule higher-noise activities to avoid periods of known marine mammal concentrations where feasible and practical.

Marine Mammal Monitoring and Response

- Implement marine mammal observation and monitoring procedures during applicable marine activities.
- Establish observation, precautionary, and exclusion zones as appropriate to the activity and level of acoustic risk.
- Reduce, delay, suspend, or modify activities when marine mammals are observed within defined management zones, where operationally feasible and safe.
- Record marine mammal observations and behavioural responses to evaluate the effectiveness of mitigation measures.

Adaptive Management

- Monitor the effectiveness of mitigation measures throughout Project activities.
- Incorporate Indigenous Knowledge, monitoring results, and community observations into ongoing management decisions.
- Review and refine mitigation measures if monitoring identifies greater-than-predicted effects or unforeseen cumulative impacts.
- Implement additional mitigation measures, where warranted, based on monitoring results and regulatory requirements.

Expected Effectiveness

The Project's assessment concluded that underwater noise-related effects are expected to be temporary, localized, and reversible. The combination of vessel management measures, activity-specific controls, marine mammal monitoring, and adaptive management is expected to reduce both the likelihood and magnitude of disturbance effects.

While cumulative underwater noise from multiple regional activities cannot be entirely eliminated, the implementation of the above mitigation measures is expected to:

- Reduce noise generation at the source;
- Reduce the duration and spatial extent of marine mammal exposure;
- Reduce the potential for behavioral disturbance and displacement; and
- Lower the overall contribution of the Project to regional cumulative underwater noise effects.

DFO-IR 28 (IR-251)

Subject

MMO Programs for Project Vessels

Issue / Concern

DFO expects the Proponents to implement a marine mammal observer (MMO) protocol, as an appendix to the Wildlife management and Monitoring Plan. The MMO protocol would be implemented throughout each project-related vessel transit within the Arctic region, and also during in-water and near-water marine activities such as blasting, pile driving, infilling, and dredging. MMOs monitor for marine mammals, record observations, and communicate with the vessel crew in order to implement adaptive measures when needed. The adaptive measures (speed reduction, vessel redirection) are intended to mitigate disturbance and avoid incidents. (These protocols are often designed by the Proponent and implemented onto project-related vessels and during noise-inducing activities, with the Proponent also responsible for collecting results, providing annual reporting, and updating the MMO protocol on a routine basis. MMO protocols must be developed and updated with input from DFO, communities, and other interested parties.

Note – DFO has published guidance on the recommended training, education, and experience requirements for MMO staff (Recommended standard qualifications for marine mammal observers and passive acoustic monitoring operators :|ba guidance document for offshore geophysical surveys in Canada).

Information Request

Please clarify whether the Proponent intends to implement a MMO protocol for project-related vessel transits, and also during activities such as blasting, pile driving, infilling, and dredging. Please elaborate on what the MMO would entail (monitoring methods, contingency measures, and reporting process) and how it will be developed. If the Proponent does not intend to develop a MMO protocol, please explain why.

Proponent Response

WKR acknowledges DFO's request for clarification regarding marine mammal monitoring procedures during Project activities.

As the Impact Statement is based on an approximately 10% (conceptual) engineering design, the detailed requirements for marine mammal monitoring, management actions, and reporting procedures have not yet been finalized. These measures will be further developed as Project design advances and through the permitting process, including the Project's application for a *Fisheries Act* authorization in consultation with DFO and applicable Indigenous groups. The final procedures will be documented within the Wildlife Management Plan and associated environmental management plans.

The Impact Statement commits to implementation of a marine mammal monitoring program during in-water Project activities to mitigate potential Project-related effects on marine mammals (e.g., direct contact and underwater noise). Monitoring methods are anticipated to include visual monitoring conducted by qualified personnel and, where appropriate, hydroacoustic monitoring during applicable in-water activities. Monitoring requirements will be developed based on the nature of the activity, predicted effects pathways, species occurrence patterns, and applicable regulatory requirements.

The marine mammal monitoring program is expected to incorporate Marine Mammal Observer (MMO) procedures, where appropriate to the activity being conducted and the associated level of risk to marine mammals. The specific application of MMO procedures, including monitoring requirements, observation periods, management zones, and response measures, will be refined through detailed Project design, permitting processes, and consultation with DFO.

For activities with an elevated potential to disturb or harm marine mammals, such as blasting and impact pile-driving, the monitoring program is anticipated to include pre-activity monitoring periods, activity-specific observation and management zones, and implementation of management actions where marine mammals are observed within defined monitoring areas. Potential management responses may include delaying the commencement of an activity, extending monitoring periods, implementing soft-start or ramp-up procedures where applicable, or temporarily suspending activities until marine mammals have moved beyond the applicable management zone.

Project-related vessel operations will be conducted in accordance with applicable regulatory requirements, including the *Marine Mammal Regulations* and relevant *Notices to Mariners* (NOTMAR) guidance. Additional marine mammal monitoring requirements associated with vessel operations, if warranted, will be further refined through detailed Project design, permitting processes, and consultation with DFO. Vessel operators will be expected to implement applicable vessel speed restrictions, avoidance measures, and operational procedures where required.

The marine mammal monitoring program is also expected to include documentation and reporting procedures to record marine mammal observations, mitigation actions implemented, and any observed responses to Project activities. Monitoring results will be used to evaluate the effectiveness of mitigation measures and inform adaptive management where warranted.

The final marine mammal monitoring procedures, management thresholds, contingency measures, reporting requirements, and adaptive management processes will be refined through detailed Project design and permitting processes and documented within the Wildlife Management Plan and related environmental management plans. The objective of the program will be to verify mitigation effectiveness, support compliance with regulatory requirements, and minimize the potential for Project-related disturbance or harm to marine mammals.

DFO-IR 29 (IR-252)

Subject

Marine Mammal Observer (MMO) Programs

Issue / Concern

The document states "effectiveness monitoring of marine mammals before, during, and after passage of vessels. The program could involve both visual and acoustic, or other monitoring techniques."

It is unclear what effectiveness monitoring of marine mammals entails, including how vessel passage is defined in this context and whether monitoring is intended to assess marine mammal presence and behaviour within the LAA, the RAA, or across the entire transit.

The Marine Mammal Management and Monitoring Plan within the draft Wildlife Monitoring and Mitigation Plan did not provide any more detail or clarity to these points.

Information Request

Please describe the scope of this monitoring program. Clarify what constitutes a passage of vessel for monitoring purposes, and specify whether monitoring is intended within the LAA, the RAA, or across the full vessel transit route. Clarify what the effectiveness monitoring of marine mammals entails. Indicate whether this program is intended to operate as a MMO program for shipping. This should be addressed in the Marine Mammal Management and Monitoring Plan as well.

Proponent Response

WKR acknowledges DFO's request for clarification regarding the scope of the marine mammal monitoring program, monitoring associated with vessel traffic, and the development of monitoring and follow-up procedures.

The Impact Statement commits to implementation of a marine mammal monitoring program during in-water Project activities to mitigate potential Project-related effects on marine mammals (e.g., direct contact and underwater noise). Monitoring methods are anticipated to include visual monitoring conducted by qualified personnel and, where appropriate, hydroacoustic monitoring during applicable in-water activities. Monitoring requirements will be developed based on the nature of the activity, predicted effects pathways, species occurrence patterns, and applicable regulatory requirements.

The marine mammal monitoring program is expected to incorporate Marine Mammal Observer (MMO) procedures, where appropriate to the activity being conducted and the associated level of risk to marine mammals. The specific application of MMO procedures, including monitoring requirements, observation periods, management zones, and response measures, will be refined through detailed Project design, permitting processes, and consultation with DFO.

For activities with an elevated potential to disturb or harm marine mammals, such as blasting and impact pile-driving, the monitoring program is anticipated to include pre-activity monitoring periods, activity-specific observation and management zones, and implementation of management actions where marine mammals are observed within defined monitoring areas. Potential management responses may include delaying the commencement of an activity, extending monitoring periods, implementing soft-start or ramp-up procedures where applicable, or temporarily suspending activities until marine mammals have moved beyond the applicable management zone.

With respect to vessel operations, the marine mammal monitoring program is not a dedicated MMO program operating continuously along the full vessel transit route. Rather, Project-related vessel operations will be conducted in accordance with applicable regulatory requirements, including the *Marine Mammal Regulations* and relevant *Notices to Mariners* (NOTMAR) guidance. Vessel operators will be expected to implement applicable avoidance measures and vessel speed restrictions where required.

Monitoring associated with vessel operations will be focused on evaluating the effectiveness of vessel-related mitigation measures in areas where Project vessel activity may interact with marine mammals. At present, vessel speed management measures proposed by the Project apply within the Marine Local Assessment Areas and Project Access Corridor, including reduced vessel speeds upon entering the Project Access Corridor, reduced vessel speeds during berthing and port maneuvering activities, and vessel speed reductions in accordance with applicable NOTMAR guidance when marine mammals are observed. Additional marine mammal monitoring requirements associated with vessel operations, if warranted, will be developed through the Wildlife Management Plan and in consultation with DFO.

For the purposes of the monitoring program, a vessel passage would generally be considered a vessel transit through the Project area where vessel-related interactions with marine mammals may occur. The specific spatial scope, monitoring requirements, and reporting procedures associated with vessel passages will be defined through development of the Wildlife Management Plan and associated monitoring programs. Monitoring is anticipated to focus on areas where Project vessel activity has the greatest potential to interact with marine mammals, including the Marine Local Assessment Areas, Project Access Corridor, and other areas identified through the final program design.

Effectiveness monitoring is intended to evaluate whether mitigation measures are functioning as predicted and whether Project-related activities are resulting in marine mammal responses that are consistent with the effects assessment. This may include documenting marine mammal observations, species presence, behaviour, proximity to Project activities, implementation of mitigation measures, and any observed behavioural responses. Monitoring results will be used to evaluate mitigation effectiveness and inform adaptive management where warranted.

The marine mammal monitoring program will also form part of the Project's broader follow-up and adaptive management framework. As Project design advances, monitoring requirements, management thresholds, reporting procedures, and adaptive management triggers will be refined through development of the Wildlife Management Plan and associated environmental management plans, in consultation with DFO and applicable Indigenous groups. Monitoring results collected during Project implementation will be reviewed to evaluate the effectiveness of mitigation measures, verify the predictions of the effects

assessment, and identify whether additional mitigation, monitoring, or management actions are warranted. This follow-up process will support ongoing refinement of the marine mammal monitoring program throughout the Construction and Operations phases, as appropriate.

The final marine mammal monitoring procedures, management thresholds, contingency measures, reporting requirements, and adaptive management processes will be documented within the Wildlife Management Plan and related environmental management plans. The objective of the program will be to verify mitigation effectiveness, support compliance with regulatory requirements, and minimize the potential for Project-related disturbance or harm to marine mammals.

DFO-IR 30 (IR-253)

Subject

Aquatic Invasive Species

Issue / Concern

No description of the presence of aquatic invasive species (AIS) was completed for the baseline condition in the marine habitat and freshwater. It is unclear if the Proponent completed an analysis of AIS presence within the Project LAA or RAA.

Establishing baseline conditions including the presence or absence of aquatic invasive species is necessary to understand any potential project-related introduction.

Information Request

Please clarify whether an assessment of AIS presence in the LAA and RAA was completed for marine and freshwater environment. If so, provide baseline condition of AIS presence. If no AIS assessment was conducted, please explain why.

Proponent Response

The marine and freshwater baseline assessments did not explicitly include an inventory of aquatic invasive species but rather focused on documenting all species present within the assessment areas to form a comprehensive species list prior to construction and operations. There are currently no confirmed established populations of invasive aquatic fauna in Nunavut, however there is some initial evidence of potentially invasive species that have been detected and may establish themselves in the future (Kennedy et al. 2012, Boyse et al.2025). None of the species listed as potentially invasive for Nunavut have been documented in the Project-specific survey results or the Indigenous knowledge of the Project area provided through engagement.

References

Boyse, E., M. S. Clark, I. M. Carr, et al. 2025. “Expanding Monitoring Capacity for Potential Invasive Species in Arctic Canada With Environmental DNA Metabarcoding.” *Global Change Biology* 31, no. 9:e70452. https://doi.org/10.1111/gcb.70452.

Kennedy, J., Fredlund, M. & Howland, K., 2012. *Non-native and Invasive Species in Nunavut*, Canadian Endangered Species Conservation Council. Canada. Available at: https://coilink.org/20.500.12592/8zbvk7t.

DFO-IR 31 (IR-254)

Subject

Fish and Fish Habitat Offsetting

Issue / Concern

Offsetting monitoring is mentioned in the Follow-Up and Monitoring section but potential offsetting concepts are not included. DFO expects an offsetting plan to be included in the Proponent's future application for a Fisheries Act Authorization.

Offsetting plans require consultation with impacted communities. DFO strongly suggests doing so through the Impact Assessment to avoid additional consultation.

Information Request

Describe any preliminary concepts that have been evaluated for offsetting measures. If none have been identified, describe how the Proponent intends to engage with DFO and communities to develop offsetting measures.

Proponent Response

Fish and fish habitat offsetting is addressed in the Impact Statement through the commitment to develop a DFO Offsetting Plan (Volume 8, Section 22) with the draft DFO Offsetting Plan filed with the IS (Volume 11, Appendix 37D, Attachment D1). Currently this plan is conceptual as the Project is at a 10% engineering design level. The Offsetting Plan outlines the offsetting purpose, the residual effects to be offset, and the offset approach, consistent with DFO's *Policy for Applying Measures to Offset Harmful Impacts to Fish and Fish Habitat* (DFO 2025). However, detailed offset concepts (proposed habitat enhancement/creation measures, geographic coordinates, site plans, and the preliminary habitat balance) are not yet developed as these require additional engagement with community, Inuit and government stakeholders, more advanced engineering designs and additional field assessments.

WKR continues to advance engagement throughout the IS review process and has initiated discussions around potential offsetting concepts as part of this engagement. Currently, these discussions are preliminary and not at the level of detail required to share with DFO. WKR will share concepts when they are further developed and looks forward to additional discussions with DFO regarding these concepts in the future. A revised habitat offsetting plan, complete with offset details (size, location, etc.), planned objectives of those offsets, and effectiveness monitoring criteria will be submitted as part of the *Fisheries Act* Authorization application.

DFO-IR 32 (IR-255)

Subject

Shapefiles

Issue / Concern

DFO received a shapefile for the proposed project development area (PDA), encompassing the port, port facilities, aerodrome, road route, and Jericho Station. Updated and additional geospatial information on proposed infrastructure would be very useful for our review (for culverts, bridges, and quarries along the all-season road, water withdrawal locations throughout the PDA, winter road route from Jericho Station to the Tibbit-to-Contwoyto Winter Road, frozen-in fuel barge, large vessel wharves, barge landing area, small craft harbour, concentrate storage area at Grays Bay, etc.). For freshwater watercourses overlapping with the PDA, a confirmation of presence or absence of fish in the geospatial data would also be beneficial for DFO's review.

Information Request

Please provide a shapefile for these locations and include a fish species list for each waterbody and watercourse directly impacted by the project.

Proponent Response

WKR acknowledges DFO's request and that additional/updated geospatial information would support DFO's review. Currently project design is at a conceptual 10% engineering design level, and locations of Project infrastructure has not been finalized. The provision of shapefiles for the listed infrastructure (culverts, bridges, quarries, water-withdrawal locations, winter road route, fuel barge, wharves, barge landing area, small craft harbour, concentrate storage area) and an accompanying fish species list by waterbody/watercourse can be provided in the future when engineering design have advanced. Currently known information regarding fish presence at watercourse crossings can be found in Volume 7 Appendix 20A, which includes a master watercourse crossing table that provides known fish species, and a mapbook outlining locations of crossings. Marine footprints for the fuel barge, wharves, barge landing area and small craft harbour are provided in Volume 8, Figures 22.1–22.2.

WKR notes DFO's preferred format for data to be provided with accompanying spatial files and will provide suitable files during pre-construction permitting submissions to DFO.

DFO-IR 33 (IR-256)

Subject

Permafrost Degradation Impacts

Issue / Concern

Thawing of permafrost was not included as a pathway of effect in the Assessment of Potential Effects on Freshwater Fish and Fish Habitat. Permafrost thaw can lead to fish passage issues by impacting

infrastructure integrity, causing slumping of road embankments, altering channel alignment or grade, increasing sedimentation, creating perched culverts, and altering hydrology. Therefore, permafrost can impact fish and fish habitat through loss of habitat, barriers to migration, and death of fish.

For example, the Inuvik-to-Tuktoyaktuk Highway has developed perched culverts due to lack of embedment and permafrost movement, which leads to impeded fish passage. Permafrost degradation also leads to slumping of sediments and road material, leading to alteration and loss of fish habitat.

In addition, the document notes that quarry operations will be ongoing throughout the construction and operations phases of the Project. A setback distance of 31 meters between quarries and waterbodies or watercourses is proposed. No discussion on the impacts of quarrying activities interacting with permafrost is included.

The potential impacts of permafrost degradation on fish and fish habitat were not described in the Impact Statement.

Information Request

Please describe the potential impacts of permafrost degradation on fish and fish habitat. Please include the following:

- *baseline data on permafrost at all proposed watercourse crossing*
- *locations*
- *mitigation measures designed to prevent thawing of permafrost*
- *plans for monitoring permafrost and culvert structural integrity*
- *responses and contingency measures if permafrost thawing is observed at water crossing locations*

Provide information on whether quarry proximity to fish-bearing watercourses may impact permafrost at culvert locations and impact culvert integrity.

Proponent Response

Permafrost degradation and its interactions with infrastructure and watercourses are assessed in the Impact Statement (IS), primarily in Volume 6, Section 14 (Terrain, Soils, and Permafrost), Volume 7, Section 19 (Water Resources), and Volume 10, Section 35 (Effects of the Environment on the Project), with associated mitigation in the Erosion and Sediment Control Plan (Volume 11) and adaptive design measures in the Climate Change Risk Assessment (Volume 5, Appendix 12B).

Changes to permafrost are not assessed as a named pathway but rather through the fish-habitat effect pathways (e.g., change in fish habitat through structural changes and change in fish health from increased TSS/sedimentation). Permafrost data was not collected or described at watercourse crossing locations as it is described in terms of the entire PDA/LAA within the terrain baseline (Appendix 14A). Effects of the environment on the Project, including permafrost-driven terrain instability affecting infrastructure, are assessed in Volume 10, Section 35.3.1 (Potential Effects of Terrain Instability). The IS states that some localized permafrost degradation is inevitable, including changes because of ground disturbance will occur through watercourse crossing construction activities. The residual effects are expected to be long-term and irreversible but limited to the PDA (and LAA for thaw-sensitive permafrost).

Mitigation measures developed to limit thawing permafrost include:

- design of road embankment will be thicker and made of coarse materials, with sand and gravel to provide insulation, to limit heat transfer to the ground and to limit ice formation in the embankment
- avoidance of poorly drained terrain or terrain affected by active flow path, subsurface flow, and seepage where possible
- use of remote monitoring equipment (e.g., thermistors) to monitor permafrost conditions and track changes
- application of active and/or passive heat mitigation techniques such as thermosyphons, air convection embankments, air ducts and heat drains, reflective surfaces, insulation, and embankment thickening if required to address and adapt to thawing conditions

Monitoring related to permafrost includes routine inspections including at watercourse crossings to confirm continued function and identify any areas of potential erosion and sedimentation or structure failure. Terrain monitoring will also occur along the road including engagement with Inuit to evaluate and address unanticipated effects. If results of monitoring indicate changes to permafrost are occurring that may result in impacts to fish habitat or fish passage at watercourse crossings, corrective actions will be taken to remedy the impact such as repair, alteration or replacement of structures.

DFO-IR 34 (IR-257)

Subject

Culvert Inspections and Response

Issue / Concern

The document states "Routine inspection of watercourse crossings will be conducted to determine if they are functioning as per design (e.g., allow fish passage) and identify potential evidence of erosion and sedimentation. If a barrier to fish passage or erosion and sedimentation issues are observed, corrective actions will be implemented."

Information Request

Please provide details on the routine inspections (frequency, timing, data collection) and examples of corrective actions that would be undertaken if, for example, barriers to fish migration or indications of failing mitigation measures are observed during the routine inspections.

Additionally, would watercourse crossing monitoring include an 'as-built' inspection post-construction to ensure all crossings are built as designed?

Proponent Response

Watercourse crossing inspection and corrective action measures are set out in the Impact Statement in Volume 7, Section 20 (Change in Fish Passage) and the Environmental Protection Plan (Volume 11, Appendix 37H), with the operational pathway through the Road Management Plan (Volume 11, Appendix 37A).

Routine inspections will occur following construction (e.g., as built surveys) to determine if structures are functioning as intended (e.g., providing fish passage and sufficient water flow). Inspections will also be performed during the operations and maintenance phase confirm they are continuing to function as per design and not resulting in erosion and sedimentation, and barriers to fish passage. Exact frequency of inspections will be developed as structure design and management plans (e.g., Environmental Protection Plan including the Erosion and Sediment Control Plan and the Road Management Plan) are refined.
If issues are identified corrective actions will be undertaken to remedy the issue including potential actions such as de-icing culverts to maintain flow, removal of obstructions/debris, and repair/replacement of erosion-control measures, repair/replacement of structures.

DFO-IR 35 (IR-258)

Subject

Culvert Crossings Number

Issue / Concern

A total of 171 watercourse crossings have been proposed for the Project. It is unclear if culverts will be used during the construction phase for temporary access roads, and if their number has been included in this calculation.

The document also states "it is anticipated that there will be 18 major crossings (i.e., greater than a 5 m structural span), which will include single or multi-span bridges … 40 to 50 watercourse crossings will require bridge-sized closed or open-bottom culverts between 1.5 to 5 m diameter."

Culverts, even if initially installed properly, are more at risk of degrading and causing fish passage issues. An important factor in choosing between bridge or culvert installation is the ecological importance of the habitat, as well as the potential upstream and downstream impacts. The impacts upon fish migration, spawning, and rearing within the watercourse and connected waters should all be considered. Additionally, the potential impacts upon local hydrology should also be considered.

Information Request

Confirm that the total number of watercourse crossings includes those potentially needed for temporary access roads during the construction phase.

Additionally, please provide the rationale for selecting 5 m as the threshold between major crossings and culvert installations. Please elaborate on whether and how ecological importance of the watercourses were considered for the selection of the watercourse crossings to be installed.

Proponent Response

The watercourse crossing inventory and design basis are set out in the Impact Statement (S) in Volume 7, Section 20 (Table 20.5) and Appendix 20A, and Volume 2, Section 2 (Project Description – Watercourse Crossings). Currently Project design is at a conceptual level with detailed design plans including potential access roads under development. The crossing inventory provided in the IS only includes direct crossings of the road route, although temporary crossings at these locations may occur to facilitate movement of equipment during construction of the permanent crossing structure.

The selection of 5 m as the proposed "threshold" between bridge structures and major culverts was used to conceptually organize the crossing structure types for planning purposes. Spans greater than approximately 5 m were generally anticipated to favour bridge-type solutions, while major culverts were generally considered more practical and economical for smaller spans.

This is not a prescriptive threshold. Final structure selection will remain site-specific and consider hydraulic capacity, fish passage and habitat, navigability, geomorphology, geotechnical conditions, constructability, maintenance and lifecycle performance.

DFO-IR 36 (IR-259)

Subject

Anadromous Fish and Marine Works

Issue / Concern

The document states that "activities occurring in the marine environment will not interact with freshwater fish or fish habitat" including construction of marine infrastructure, port operations, and desalinations operations.

However there are anadromous and semi-anadromous fish species, such as Arctic Char and Lake Trout, which migrate from freshwater into marine ecosystems both annually or inter-annually. These species would potentially be exposed to project-related marine impacts during their marine life stages.

It is unclear if the impacts on anadromous and semi-anadromous fish were specifically assessed.

Information Request

Provide a rationale for the statement on marine activities interacting with freshwater fish and fish habitat.

If appropriate, please elaborate on how anadromous fishes, which occupy both freshwater and marine ecosystems, are impacted by marine works.

Proponent Response

The statement of "activities occurring in the marine environment will not interact with freshwater fish or fish habitat" relates to the spatial boundaries used for the Freshwater Fish and Fish Habitat and Marine Fish and Fish Habitat VCs and is not intended to imply that anadromous or semi-anadromous fish species are unaffected by marine Project activities.

Marine activities such as nearshore dredging, infilling, wharf construction, pile driving, port operations, vessel traffic, and desalination occur within the marine environment and are not expected to directly interact with freshwater fish habitat (i.e., freshwater waterbodies and watercourses) assessed under the Freshwater Fish and Fish Habitat VC. Accordingly, the potential effects of these activities are assessed only within the Marine Fish and Fish Habitat VC (Volume 8, Section 22), whereas activities occurring within freshwater environments are assessed within the Freshwater Fish and Fish Habitat VC (Volume 7, Section 20).

WKR acknowledges that several fish species occurring in the Project area, including Arctic char and lake trout, are anadromous or semi-anadromous and utilize both marine and freshwater environments during different life-history stages. Potential effects on these species were therefore considered within the habitat where the interaction occurs. For example, Arctic char may be exposed to freshwater Project activities during migration, spawning, incubation, rearing, or overwintering periods in freshwater habitats, while the same species may also be exposed to marine Project activities during marine feeding, growth, staging, and migration periods.

If anadromous fish are present within the marine environment, potential effects associated with marine activities (i.e., change in habitat, change in behaviour caused by sensory disturbance and change in mortality and/or injury risk) are assessed within the Marine Fish and Fish Habitat VC (Volume 8, Section 22.3). Conversely, if those same species are occupying freshwater habitats, potential effects are assessed within the Freshwater Fish and Fish Habitat VC (Volume 7, Section 20).

DFO-IR 37 (IR-260)

Subject

Winter Spawning Species

Issue / Concern

The document states that in order to mitigate impacts to the freshwater environment, the Proponent will conduct in-water construction activities outside of the restricted activity timing windows for the protection of fish and fish habitat in Nunavut. The restricted windows for spring and fall spawning species are listed. Winter spawning species (i.e. burbot) are not included. The listed mitigations also includes that watercourse crossing construction will be primarily done during the winter - due to watercourses likely being frozen to the bottom therefore eliminating fish presence. It is unclear if overwintering assessments were completed to confirm winter construction would not impact winter-spawning fish or overwintering fish.

Information Request

Please elaborate on whether overwintering assessments were completed to confirm winter construction would not impact winter-spawning fish or overwintering fish. If these assessments were completed, please provide them.

Proponent Response

Construction of watercourse crossing structures (i.e., culverts and bridges) will occur in the winter, to the extent practicable, particularly for watercourses that are anticipated to be frozen to the bottom, thereby avoiding instream work. Timing windows will be evaluated by a Qualified Professional based on pre-construction field assessments of fish use and fish habitat at the watercourse crossing location. Timing windows will be established during the period which is of least risk to fish that inhabit each watercourse, including potential for overwintering or spawning fish and incubating eggs.

Additional surveys are anticipated to be required at watercourse crossings prior to construction, particularly at locations where streambed disturbance may occur or sites that will not be frozen to bottom in the winter. These surveys may include overwintering habitat confirmation and fish use at locations that have the potential to provide overwintering habitat to fish including incubating eggs (i.e., locations with water depths which may not freeze to bottom). Required surveys and their results will be developed through the DFO *Fisheries Act* authorization process and through refinement of the Aquatic Effects Management Plan (Volume 11, Appendix 37D).

DFO-IR 38 (IR-261)

Subject

Fish Passage

Issue / Concern

The document states that alteration of fish passage is not anticipated to result from the construction of the Project.

For the purpose of the IS, the residual effects of alterations to fish passage need to be described in terms of magnitude, timing, duration, and frequency. Also, it is unclear whether in-water causeways will be required for the construction of water crossings associated with the Project (particularly the major crossings). If required, it is unclear if temporary causeways would remain in place during sensitive periods for freshwater fish (i.e. spring/fall migration or spawning seasons).

Information Request

Like the other potential effects to freshwater fish and fish habitat, the Proponent should address fish passage with a description of the magnitude, duration, spatial scale, regularity, sensitive timing, and reversibility.

Please confirm whether in-water causeways would be required for watercourse crossing construction.

Proponent Response

The Impact Statement assesses "Change in Fish Passage" as one of the sub-pathways of the Change in Fish Habitat residual effect (alongside change in riparian vegetation and change in habitat below the high water mark), and concludes that alteration of fish passage is not anticipated, based on crossing design and construction methods. The residual characterization for Change in Fish Habitat residual effect, which includes changes in fish passage, is characterized in Table 20.12 as: Adverse; Negligible (applicable to fish passage) to Moderate magnitude; PDA/LAA; No sensitivity to High sensitivity timing; Short- to Long-term duration; Irregular frequency; Reversible to Irreversible. (Volume 7, Section 20.3.4, Table 20.12).

Watercourse crossings, including stream isolations if required to facilitate construction, will be completed in accordance with relevant measures outlined in DFO's Code of Practices for 'Clear Span Bridges: Construction, maintenance and decommissioning' and 'Culverts: Maintenance', and if necessary 'Temporary fords: crossing'. Current Project design is at 10% and detailed crossing plans have not been completed. Construction of crossings will be constructed primarily through use of dam-and-pump isolations, cofferdams/diversion channels in winter where practicable (frozen to bottom, avoiding instream work) which negates the need for in-water causeways. In-water causeways would not be a preferred method of construction due to their increased instream impacts to fish habitat. Detailed crossing plans will be provided to DFO for review as part of the pre-construction permitting process and requirements under the *Fisheries Act*.

DFO-IR 39 (IR-262)

Subject

Cumulative and Transboundary Impacts – Freshwater Fish and Fish Habitat

Issue / Concern

The Proponent states that reasonably foreseeable physical activities – such as from the Jericho Mine, Grays Bay Road and Port: Airstrip Expansion, High Lake, Grays Bay Road Phase 2 – Jericho Mine to NT Border, Hackett and Back River Access Road, Izok Lake Mine (Izok Corridor Project), and Izok Lake Access Road – will not contribute to effects on fish habitat within the freshwater fish and fish habitat RAA.

However, the Proponent states that there will be residual impacts from the Project upon fish and fish habitat, as summarized in Table 20.13. The Proponent further explains that the reasonably future physical activities within the RAA will likely have similar types of impacts to fish and fish habitat, but will have to undergo their own processes territorial/federal approvals, permitting, and/or environmental impact assessments. Therefore, it is reasonable to assume those projects will also result in residual impacts to freshwater fish and fish habitat, which would contribute to the cumulative impacts within the RAA.

Additionally, the biophysical VCs with the potential to experience transboundary effects did not include freshwater fish and fish habitat. The document states "project residual effects on freshwater fish and fish habitat are limited to the LAA (Section 20). The LAA, which is located within the NSA, is defined by a 100m buffer around the PDA plus an extension to the northwest side of the Kennarctic River west of the Aerodrome. Consequently, no effects are predicted outside the NSA and as such, no transboundary effects."

However, due to the interconnectivity of watercourses/waterbodies within watersheds, and the proximity of project infrastructure to the NWT/NU border, there is a potential for transboundary effects to impact freshwater fish and fish habitat.

As discussed earlier, the omission of residual effects extending into the freshwater fish and fish habitat of the RAA is questionable. Therefore, the residual effects on freshwater fish and fish habitat determined in Volume 7, Section 20 – particularly those occurring near the NWT/NU border – may extend into the Northwest Territories through cross-border habitat connectivity.

Information Request

Please provide a rationale for the conclusion that reasonably foreseeable physical activities will not contribute to effects on fish habitat within the freshwater fish and fish habitat RAA, and revise if necessary.

Please provide a rationale for the exclusion of freshwater fish and fish habitat from the listed VCs with the potential to experience transboundary effects.

Proponent Response

1. **Please provide a rationale for the conclusion that reasonably foreseeable physical activities will not contribute to effects on fish habitat within the freshwater fish and fish habitat RAA, and revise if necessary.**

   WKR clarifies that the statement referenced in the Information Request applies specifically to "*Reasonably Foreseeable" (RF) physical activities which is a defined category distinct from "Reasonably Foreseeable Induced" (RFI) activities. Cumulative effects on freshwater fish and fish habitat are anticipated between the Project and certain identified physical activities in the RAA (Table 20.13). Cumulative effects with 'Reasonably Foreseeable Induced' physical activities will not occur if the Project does not occur; however, potential effects on the freshwater environment from 'Present' and 'Reasonably Foreseeable' physical activities may occur regardless of the Project, with the characterization of effects (e.g., extent or magnitude) potentially influenced by the Project*." (Volume 7, Section 20.4.4).

   The residual cumulative effects on freshwater fish and fish habitat are characterized in Table 20.14 as: Change in Fish Habitat — Adverse, Moderate magnitude, RAA, High sensitivity, Long-term, Irregular, Reversible to Irreversible; and Change in Fish Health, Growth, or Survival — Adverse, Low magnitude, RAA, High sensitivity, Long-term, Irregular, Irreversible. The Project's contribution to these cumulative effects is characterized as low (given Fish Habitat Offsetting and the Road Management Plan), and the overall cumulative effects are assessed as not significant (Volume 7, Section 20.4.4, Table 20.14; Section 20.5.2).

   The statement that "no reasonably foreseeable physical activities are expected to contribute to effects on fish habitat within the RAA" refers to the narrower category of RF (non-induced) activities. For clarification - No additional reasonably foreseeable (non-induced) physical activities beyond those identified in Table 20.13 are expected to contribute to effects on fish habitat within the RAA; reasonably foreseeable induced physical activities are assessed for their cumulative contribution in Section 20.4.4 and Table 20.14.

2. **Please provide a rationale for the exclusion of freshwater fish and fish habitat from the listed VCs with the potential to experience transboundary effects.**

   WKR clarifies that freshwater fish and fish habitat was addressed in the Transboundary Effects Assessment (Volume 10, Section 33). The rationale for concluding no transboundary effects, and therefore not carrying it forward as a VC with transboundary effects, is that its residual effects are confined to the LAA within the Nunavut Settlement Area. All watersheds crossed by the Project flow downstream into Nunavut before draining into the Arctic Ocean and the closest point to the NWT boundary is approximately 50 km away, well beyond the expected extent of effects within the LAA (100m at the south end of the route).

DFO-IR 40 (IR-263)

Subject

Mackenzie Valley Transboundary Impacts

Issue / Concern

Previous engagement on the Project has identified barging operations anticipated to potentially occur from Tuktoyaktuk, Inuvik, or Hay River to the Project port site. Therefore, transboundary impacts will likely extend into both the Inuvialuit Settlement Region and the Mackenzie Valley, potentially impacting valued components relevant to the DFO mandate, including:

a. *Marine fish and fish habitat*
b. *Marine mammals*
c. *Freshwater fish and fish habitat*

Based on DFO's current review, transboundary impacts to marine and freshwater fish and fish habitat were not included in the document.

Information Request

Please provide a rationale for omitting freshwater fish and fish habitat from the transboundary impacts, considering the potential barging activities in Hay River (Mackenzie Valley). Please include distinct sections in the Transboundary Effects Assessment summarizing the transboundary impacts to the Inuvialuit Settlement Region and the Mackenzie Valley.

Please reference and address the results of the Mackenzie Valley Review Board's Supplemental Transboundary Scoping Report.

Proponent Response

Transboundary effects as a result of the Project to fish and fish habitat are not predicted. Materials and equipment for construction, and operations are primarily planned to come from Quebec ports via sealift. However, WKR has identified the option of using existing public infrastructure within the Inuvialuit Settlement Region (ISR) such as the Dempster Highway and the Port of Inuvik, Tuktoyaktuk and Hay River to transport materials and supplies more readily available in western Canada to Grays Bay. If this optional supply route is used WKR estimates 3 barges per year from the ISR. No new infrastructure i.e., lay down areas, loading docks etc., would be required and the 3 barges a year would use currently available public infrastructure. Given the limited number of barges and use of existing public infrastructure transboundary impacts to fish and fish habitat are not predicted.

For both the ISR and the NT potential transboundary effects were identified and assessed for the following VCs: Noise and Vibration, Wildlife (Caribou, Birds, Muskox, Moose, Grizzly Bear, Wolverine), Marine Mammals, Traditional Land Marine and Resource Use, Food Security, Community Health and Well being, Employment and Economy, and Infrastructure and Services (Volume 10, Section 33)

The NIRB Final Impact Statement Guidelines appended the following document and directed the proponent that the submission should also be considered by the Proponent in the preparation of their Impact Statement.

MVEIRB's Supplemental Transboundary Scoping Report (STSR) [Doc#358508, 358507]

The document was reviewed and considered by WKR in the compilation of the Impact Statement. In relation to transboundary effects the STSR recommended the following:

STSR Section 2.5 - Assessing Transboundary impacts in a large Review

The STSR requested the Proponent provide a stand-alone transboundary effects assessment.

Volume 10, Section 33 of the Impact Statement provides a stand-alone transboundary effects assessment. The section includes references for relevant sections of the Impact Statement where additional information can be found.

STSR Section 3 - Transboundary Effects

The STSR requested a transboundary assessment for specific VCs. A transboundary effects assessment was completed for each VC identified in the STSR. Table IR-263.1 lists those VCs and the locations within the Impact Statement where the transboundary assessment is located.

Table IR-263.1 Valued Components and the Locations Within the Impact Statement Where the Transboundary Assessment is Located

VCs identified in STSR	Location of assessment in Impact Statement
Caribou and Traditional Harvesting of Caribou	Volume 6, Section 16.6 and Volume 10, Section 33.4.3
Other wildlife	Volume 10, Sections 33.4.5, 33.4.6, 33.4.7, 33.4.8
Birds	Volume 10, Section 33.4.4
Water, fish	Volume 10, Section 33.3.1
Permafrost	Volume 10, Section 33.3.1
Air quality	Volume 10, Section 33.4.1
Traditional Food Security	Volume 10, Section 33.5.2
Culture and Traditional activities	Volume 10, Section 33.5.1
Health	Volume 10, Section 33.5.3
Socioeconomic	Volume 10, Section 33.5.4 and 33.5.5

For further details of how the STSR recommendations were incorporated into the Impact Statement please see response to Information Request GNWT #19 (IR-390).

DFO-IR 41 (IR-264)

Subject

Transboundary Impacts – Marine Mammals

Issue / Concern

The document states "any transboundary disturbance to marine mammals from underwater noise associated with vessel activity outside the RAA would be transitory and only occur within the open water season. Given the estimated source levels and infrequency of traffic, the disturbance is anticipated to be minor and relatively brief in duration, even with the variance in marine mammal species densities and distribution outside of the RAA."

It is not evident why it was concluded disturbances are anticipated to be minor and whether the Proponent based this conclusion on lessons learned from comparable projects, including observed underwater noise impacts on marine mammals at Baffinland. Experience from other Arctic projects shows how underwater noise can affect marine mammals and using that information helps ensure the assessment is realistic and up to date.

Information Request

Please provide a rationale for the significance determination of underwater noise transboundary effects upon marine mammals. Confirm whether the Proponent based this conclusion on lessons learned from comparable projects.

Proponent Response

WKR acknowledges DFO's request for clarification regarding the assessment of transboundary underwater-noise effects on marine mammals.

The determination that transboundary underwater-noise effects on marine mammals are minor and brief in duration was based on the assessment of Project-related and reasonably foreseeable induced (RFI) vessel traffic, the predicted characteristics of underwater-noise propagation, the mobility and behavioural ecology of marine mammals, the implementation of mitigation measures, and the limited contribution of the Project to regional underwater-noise levels. The transboundary assessment also built upon the results of the residual and cumulative effects assessment that concluded that potential behavioural responses to underwater noise would be temporary and reversible and would not result in population-level effects, long-term displacement from important habitats, or measurable effects on species persistence or recovery.

The transboundary assessment considered that vessel-generated underwater noise is transient and localized around active vessel operations and decreases with distance from the source. Although vessel traffic may extend beyond the Marine Mammal Regional Assessment Area (RAA), the Project's contribution to cumulative underwater noise was assessed within the context of the maximum reasonably

foreseeable induced (RFI) shipping scenario. This scenario consists of 45 vessel calls (90 one-way transits) per open-water season and was not predicted to result in sustained or widespread increases in underwater-noise exposure for marine mammals.

The assessment also considered the implementation of mitigation measures intended to reduce underwater-noise generation and marine mammal exposure. These include vessel speed management measures within the Marine Local Assessment Areas and Project Access Corridor, reduced vessel speeds during berthing and maneuvering activities, compliance with applicable *Marine Mammal Regulations*, adherence to relevant *Notices to Mariners* (NOTMAR) guidance, avoidance measures where marine mammals are observed, implementation of marine mammal monitoring procedures during applicable in-water activities, and operation of the Project during the open-water season without routine icebreaking. Collectively, these measures are intended to reduce the magnitude, duration, and frequency of Project-related underwater-noise exposure.

The determination was not based solely on comparisons with other projects. Rather, it was based on the Project-specific assessment presented in Volume 8, Section 23, which incorporated Project-specific information, Inuit Knowledge, available scientific literature, marine mammal baseline studies, underwater-noise pathways, and the characteristics of the assessed shipping scenario. Information from the broader scientific literature regarding marine mammal responses to underwater noise informed the effects assessment; however, the conclusion reflects the specific environmental setting, shipping scenario, mitigation measures, and assessment assumptions applicable to the Grays Bay Road and Port Project.

Accordingly, the assessment concluded that transboundary underwater-noise effects on marine mammals would be minor and brief in duration following implementation of the identified mitigation measures and regulatory requirements. The conclusions of the marine mammal and transboundary effects assessments therefore remain unchanged.

DFO-IR 42 (IR-265)

Subject

Wildlife Monitoring and Mitigation Plan – Monitoring Metrics

Issue / Concern

The proposed primary monitoring metrics for marine mammals in the draft Wildlife Monitoring and Mitigation Plan (WMMP) are:

- *Species occurrence and distribution within the RAA*
- *Vessel strikes with marine mammals*

Behavioural observations of marine mammals (as well as other wildlife) is an important metric for the impacts of Project activities, and predicting the potential long-term trends of impacts on marine mammals throughout the Project lifespan.

Information Request

Please provide a rationale on excluding behavioural observations from the primary monitoring metrics of the WMMP regarding marine mammals. Revise metrics if applicable.

Proponent Response

Behavioural observations were not identified as primary monitoring metrics in the draft Wildlife Mitigation and Monitoring Plan (WMMP) because behavioural responses of marine mammals can be highly variable, species-specific, and influenced by numerous natural and anthropogenic factors unrelated to Project activities. Behavioural observations are also inherently qualitative, may be subject to observer interpretation, and can be difficult to standardize across observers, environmental conditions, species, and monitoring periods. As a result, behavioural observations were not selected as the primary performance indicators for evaluating Project-related effects at the population or assessment-area scale.

Behavioural observations are not proposed as primary monitoring metrics; however, they are expected to be collected and considered as part of the marine mammal monitoring and management program. Behavioural observations will be used to support implementation of mitigation measures, inform decisions regarding activity delays or temporary shutdowns, evaluate marine mammal responses to underwater noise and vessel activity, and verify the effectiveness of mitigation measures. Monitoring results, including observed behavioural responses, will be incorporated into the Project's adaptive management and follow-up framework and used to inform any refinements to mitigation measures where warranted.

As currently planned, behavioural observations are anticipated to be recorded during marine mammal monitoring activities associated with underwater noise-generating activities, vessel interactions, exclusion zone monitoring, and implementation of mitigation measures. Examples may include observations of avoidance behaviour, changes in travel direction, changes in dive behaviour, displacement from an area, attraction to or avoidance of vessels, and responses to underwater noise-generating activities.

Behavioural observations are also anticipated to support implementation of activity-specific management measures, including monitoring associated with impact pile-driving, blasting, vessel interactions, and verification of marine mammal exclusion and management zones. Monitoring results, including observed behavioural responses, will be used to evaluate the effectiveness of mitigation measures and help verify the predictions made in the Impact Statement.

Accordingly, WKR does not propose behavioural observations as primary monitoring metrics; however, behavioural observations will be incorporated as a supporting monitoring parameter and will form part of the adaptive management and follow-up framework used to evaluate Project-related effects on marine mammals. The final approach will be refined through development of the Wildlife Mitigation and Monitoring Plan in consultation with DFO and applicable Indigenous groups.

DFO-IR43 (IR-266)

Subject

Wildlife Monitoring and Mitigation Plan – Marine Mammal Management and Monitoring Plan

Issue / Concern

The Marine Mammal Management and Monitoring Plan section outlines the applicable guidance for avoiding and mitigating impacts to marine mammals. Some additional relevant guidance is as follows:

- *National Marine Fisheries Service's (NMFS) Summary of Recommended Marine Mammal Protection Act Acoustic Thresholds*
- *DFO's Recommended Standard Qualifications for Marine Mammal Observers and Passive Acoustic Monitoring Operators: A Guidance Document for Offshore Geophysical Surveys in Canada*

Information Request

Please update the list of applicable guidance to include these documents, if applicable.

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage"

Gwich'in Tribal Council

West Kitikmeot Resources Corp. (WKR), thanks the Gwich'in Tribal Council (GTC) for its Information Requests (IRs) dated July 2, 2026 (NIRB Document 260702-24XN038-GTC Comments Re Impact Statement-IR1E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of GTC's IRs are provided below.

WKR looks forward to continuing to work with GTC, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

GTC-01 (IR-267)

Subject

Transboundary governance and regulatory equivalency in jurisdictions outside of Nunavut

Issue / Concern

It is understood that NIRB's jurisdiction is limited to controlling project components that occur within Nunavut. Descriptions of the regulatory regime in the Impact Statement provide no reference to authorities and jurisdiction outside of Nunavut. Who will have responsibility for ensuring that mitigation measures and equivalent Project Certificate conditions set by NIRB will be applied and enforced outside of the Nunavut Territory?

GTC requires more clarity on this topic given its main concern with the Project relates to cumulative effects of induced development, including risks to marine environments, coastlines, and caribou. More understanding is needed on the regulatory environment and the mechanisms and efforts that will be taken to ensure transboundary issues are dealt with appropriately and to a similar standard as impacts identified in Nunavut. The Project's potential risk cannot be understood absent an understanding of the regulatory measures and capacity to meaningfully address unanticipated and future impacts that occur outside of Nunavut. This requires an understanding of both the regulatory tools and actual capacity to respond and adapt to observed impacts.

GTC notes that this question applies equally to marine traffic and vessels travelling throughout the Northwest Passage and to ports in Montreal that WKR has identified for mobilization and logistics/resupply efforts.

Information Request

1. *What legal authorities, monitoring programs, compliance tools, and enforcement mechanisms are available within your jurisdiction to provide safeguards for transboundary impacts directly or indirectly associated with the Project, including impacts arising from induced development? Please explain how these measures compare to those available through the Nunavut Impact Review Board process.*
2. *Describe the monitoring, compliance, and enforcement capacity available within your jurisdiction (including staffing, funding, inspection programs, monitoring networks, and coordination mechanisms) to identify and address transboundary impacts directly or indirectly associated with the Project, including impacts arising from induced development.*
3. *What mechanisms are available within your jurisdiction to identify, assess, and respond to unanticipated adverse effects associated with the Project, including the authority to require additional mitigation measures, monitoring, or corrective actions if existing measures prove ineffective?*

4. *To what extent, if any, are there differences, limitations, or gaps in the legal authorities, monitoring programs, compliance tools, enforcement mechanisms, or institutional capacity available within your jurisdiction relative to those available through the Nunavut Impact Review Board process? Please describe any areas where equivalent safeguards may not be available.*

Proponent Response

Listed in NIRB Appendix B "Information Requests Directed to Other Parties"

GTC-02 (IR-268)

Subject

Duty to Consult and Accommodate for marine and coastal impacts associated with induced development.

Issue / Concern

It is unclear how induced development considerations will be assessed for marine and coastal environments outside of Nunavut, and what this means for Indigenous rights and interests.

There is potential for significant adverse impacts to occur to valued marine and coastal values due to transboundary effects and induced development. GTC is concerned, for example, with potential marine vessel/traffic interactions along the coastline and in the Beaufort Delta during the construction phase of the project as well as through anticipated increases in vessel activity due to induced development, and corresponding increases in risk to valued components.

The current Impact Statement (IS) lacks adequate information on induced development scenarios to answer this concern, and the scoping document does not provide clear standards on how induced development should be assessed or considered. The IS currently emphasizes a project footprint in Nunavut with little observed content regarding future marine traffic scenarios. The cumulative effects assessment appears to focus on potential expansion of Project infrastructure/facilities but not on understanding the impacts associated with increased development or shipping.

Gwich'in have and continue to conduct traditional land marine and resource use (TLMRU) along coastal and marine areas and rely on species that spend critical life stages in waters and coastal environments that could be affected by marine shipping or accidents at sea. The current process does not provide assurances that Indigenous rights along the coast will be addressed and, if needed, accommodated outside of Nunavut. Governments must be able to demonstrate the means and commitment to uphold Indigenous rights and interests prior to approving/supporting projects that pose a risk to those rights and interests.

GTC notes that this question also applies to Indigenous groups whose TLMRU activities occur throughout the Northwest Passage and to coastlines/shorelines thru to Montreal, which WKR has identified as a main port area for mobilization and logistics/resupply efforts.

Information Request

1. *How will the identified Governments fulfill their Duty to Consult and Accommodate obligations to ensure Indigenous rights (constitutional, treaty and inherent) and interests are not jeopardized by an accelerated and uncontrolled increase in induced developments enabled by the Project?*

2. *What tools and commitments will the identified Governments take to ensure that marine traffic and vessel activities are kept to a sustainable level that preserves the health of valued species and continuance of Indigenous rights and interests in areas affected by induced development outside of Nunavut?*

Proponent Response

Listed in NIRB Appendix B "Information Requests Directed to Other Parties"

GTC-03 (IR-269)

Subject

Clarity on the source and interpretation of Indigenous Knowledge used in the IS

Issue / Concern

Multiple Indigenous groups are participating in this EA as interested parties to the process. Each group has their own distinct set of concerns and unique Knowledge and value. This results in unique perspectives and comments that qualify concerns and specific context to understanding potential interactions with the Project and the respective Indigenous valued components. Likewise, the suggestions and recommendations put forth by each Indigenous group may be nuanced and distinct. It is therefore vague and unclear when Indigenous Knowledge is used as a blanket term to qualify input from all Indigenous groups based outside of Nunavut. It is also disingenuous to classify each group's unique knowledge and learnings as common or ubiquitous to all Indigenous groups. This is neither appropriate nor accurate.

It is important that the Impact Statement (IS) clearly differentiates between Indigenous Knowledge (including both Inuit & Indigenous Knowledge) and Community Knowledge, as described by WKR.

Information Request

Where the IS refers to Indigenous Knowledge attributed to non-Nunavut Indigenous groups, WKR to provide the following quality assurances and controls:

1. *Clearly identify the sources of Indigenous Knowledge and the regional area from which it originates and applies. This is necessary to maintain the contextual and regional basis for which the knowledge applies, and to identify regional gaps where Indigenous views and perspectives have not contributed to the proponent's understanding of potential impacts and impact pathways.*
2. *Identify the accuracy of the Indigenous Knowledge the proponent is using.*
    - *2.1. Primary information (e.g., information gathered by the Proponent or its consultants for the impact statement) should clearly describe the way Indigenous Knowledge was obtained, the context in which it was given and applies, and attributed to the group it comes from.*
        - *2.1.1. In the methodology section, WKR should identify their internal validation process with Indigenous groups that have provided first hand information, and what principles WKR applied when interpreting and managing that data.*
    - *2.2. Secondary information used by the Proponent (e.g., information obtained from other formal sources) should clearly describe the context in which the original data was provided, whom it comes from, and how it is specifically being applied by the Proponent or their consultants. This should include or acknowledge any uncertainties or assumptions in the use of the information and should avoid generalizing the knowledge.*

Proponent Response

1. **Sources of knowledge**

The Impact Statement describes the differentiated Inuit Knowledge / Indigenous Knowledge / Community Knowledge framework in Volume 3, Section 4.1; the integration methodology in Volume 3, Section 5; and the confidentiality framework in Volume 3, Section 4.2.

The Impact Statement differentiates these three separate knowledge categories in Volume 3, Section 4.1:

Inuit Knowledge (Volume 3, Section 4.1.1) — refers to the knowledge of Kitikmiut and Inuit in the Kitikmeot Region, applied through Inuit Qaujimajatuqangit principles as directed by the Nunavut Agreement, the Nunavut Planning and Project Assessment Act (NuPPAA), and the NIRB Proponents Guide (NIRB 2020);

Indigenous Knowledge (Volume 3, Section 4.1.2) — refers to "the knowledge of Indigenous Peoples and Indigenous groups outside of the Kitikmeot exercising their section 35 rights of the Constitution Act, 1982, within the Kitikmeot, including Inuit, First Nations, and Métis" (Volume 3, Section 4.1.2);

Community Knowledge (Volume 3, Section 4.1.3) — refers to the NIRB IS Guidelines definition, to "the wisdom and experience of community members, including observations and understandings about the environment and how knowledge is generated, stored, applied, and shared with others" (Volume 3, Section 4.1.3, citing NIRB 2026). Community Knowledge is sourced through the Inuit Advisory Group (IAG) workshops, socio-economic interviews, and other community-based primary research documented in Volume 3, Section 6.

WKR further acknowledges at Volume 3, Section 5.2 (Indigenous Knowledge, Values, and Perspectives) that *"Indigenous Knowledge is proprietary to the individual Knowledge Holders and collectively to the Indigenous group sharing the information. Values and perspectives shared by each engaged Indigenous group are unique to the Indigenous group and, where available, have been integrated into the IS"* .

As noted in Section 4.1, various sources of Inuit Knowledge, Indigenous Knowledge, and Community Knowledge were considered and integrated in the IS, including the NTKP Report, publicly available literature, and Project-specific engagement events. For example, Volume 9, Section 24 (Traditional Land, Marine, and Resource Use) documents the TLMRU Valued Component (VC) methodology, which identifies engaged Indigenous groups by name (Kitikmiut, Inuvialuit, First Nations, and Métis) and specifies the source-by-source integration of Indigenous Knowledge for each group.

2. **Accuracy, primary information, and internal validation process**

The Impact Statement's approach to accuracy, primary information collection, and internal validation is documented in Volume 3, Section 4.1 and Volume 3, Section 5 (Integrating Inuit, Indigenous, and Community Values and Perspectives). Specific elements include:

- **Kitikmiut Knowledge Report** — the Project-specific Kitikmiut Knowledge report compiled from the Naonaiyaotit Traditional Knowledge Project (NTKP) is identified in Volume 3, Section 4.1.1 as the primary source of verified Inuit Knowledge integrated in the IS;
- **Community-based primary research** — the community-based primary research conducted for the Project (i.e., socio-economic interviews) involved an Informed Consent process that included reviewing the purpose of the research, potential risks, privacy and confidentiality, withdrawing from the study, and conditions for releasing recorded information (Volume 3, Section 5.3);
- **Inuit Advisory Group workshops** — four IAG workshops (GBEEC 2018a, 2018b; IAG 2025a, 2025b) documented WKR's engagement with Inuit land users, Elders, and Knowledge Holders (Volume 3, Section 4.1.3); the workshops held in 2025 were done so under community-based primary research permit (04 012 25R-M) granted by the Nunavut Research Institute (Volume 3, Section 4.1.3); A fifth workshop, held in May 2026, was under research permit (04 019 26R-M); [GL1]
- **Meeting records shared back with participants for transparency and accountability** — Volume 3, Section 5 notes that *"Meeting records, including IAG What We Heard reports were shared back with participants for transparency and accountability (see Section 6)"* (Volume 3, Section 5).

For engaged Indigenous groups outside the Kitikmeot Region (Yellowknives Dene First Nation, Tłı̨chǫ Government, Athabasca Denesųłiné, Ghotelnene K'odtineh Dene, North Slave Métis Alliance, Northwest Territory Métis Nation, and others), the Impact Statement's validation approach is documented through the multi-phase engagement record (Volume 3, Section 6.3) and the integration methodology (Volume 3, Section 5). Records of engagement meetings are documented in Volume 3, Appendix 6C/6E, and the concerns raised by engaged NWT Indigenous groups (Tłı̨chǫ Government concerns regarding Project effects on the Bathurst caribou calving grounds and increased harvesting; Yellowknives Dene First Nation concerns regarding increased access and importance of caribou and fish; North Slave Métis Alliance concerns regarding caribou habitat) were integrated into the relevant VC assessments (Volume 6, Section 16 caribou; Volume 9, Section 24 TLMRU; Volume 9, Section 27 Employment and Economy).

Where the Impact Statement integrates secondary Indigenous Knowledge from publicly available literature, the sources are cited in the VC-specific literature reviews in Volumes 5 through 9. Volume 9, Section 24 (TLMRU) specifically identifies the source-by-source integration of secondary Indigenous Knowledge for each engaged Indigenous group, including the context in which the original data was provided and the application in the VC assessment. WKR further acknowledges that *"a lack of TLMRU information for a specific area or activity does not necessarily represent an absence of use, occupancy or interest in that location or activity. WKR will continue to respond to questions and*

concerns from Indigenous groups through its ongoing engagement efforts. WKR has endeavoured to review and integrate all information received, where applicable. Information provided following submission of the IS as well as any potential omissions will be reviewed in the context of the IS and for incorporation into project planning, including adaptive management and monitoring, as appropriate" (Volume 9, Section 24). WKR is committed to continued engagement with Kitikmiut, other Indigenous groups, and other potentially affected communities during the advancement of Project design, planning, and monitoring, and throughout the life of the Project (Volume 9, Section 25.1.1). If there is additional publicly available information that GTC deems important to consider as part of the assessment, WKR welcomes a further discussion with GTC staff to identify those sources.

GTC-04 (IR-270)

Subject

WKR administrative structure, responsibilities, expectations, and liabilities; additional details lacking on how WKR is structured to successfully complete the Project while ensuring necessary terms and conditions, Project Certificates, etc., are realistic for WKR to achieve.

Issue / Concern

It is understood that WKR has limited staff and personnel, most of whom are administrative (e.g., management or office/community liaison workers). The proposed Project will require a substantive workforce of competent crews and significant assets/equipment to complete. Unlike other major projects, it does not appear that WKR will itself significantly expand its workforce or capacity to complete the Project. Rather, the mobilization and construction phase of the project is proposed to be completed through the hiring of contractors and facilitators to complete the works.

The potential risks and challenges to Canadians and affected Indigenous groups from this arrangement needs to be explored. This includes an understanding of what WKR's current corporate structure looks like and how it will change as it transitions to full operations, the capacity of WKR to independently manage necessary terms and conditions for the Project's approval, and the safeguards WKR will employ to ensure any outsourcing of its responsibilities to contractors will be maintained to the standard and intent established through the EA process, including WKR's own quality control and assurance practices to ensure contractor compliance.

Information Request

1. *How many employees does WKR currently employ? How many employees does WKR anticipate employing during the different phases of the Project?*
    - 1.1. *This information should clearly identify the extent that WKR is directly hiring people for the project and the type of positions expected by those positions (e.g., management, skilled or unskilled).*
    - 1.2. *WKR employment numbers should be additionally represented as a percentage of the overall number of employees anticipated to successfully complete each phase of the project.*
2. *The Impact Statement should also very clearly detail the legal contractual terms and conditions WKR will employ with its contractors to ensure the intent of any mitigation measures, Project Certificates, and other relevant terms and conditions (e.g., through permitting) will be enforceable by WKR and that WKR retains the legal responsibilities and liabilities for Project-related activities in its capacity as a prime consultant/contractor.*
3. *The Impact Statement should identify the internal policies and practices WKR will employ as quality control and quality assurance measures that its contractors are complying with contractual terms and the associated regulatory terms and conditions set for the Project, including any Project Certificates set by NIRB and their equivalents in jurisdictions outside of Nunavut.*

Proponent Response

GTC-04 (IR-asks WKR to discuss (1) current WKR employee count and anticipated employees during different Project phases, and (2) the extent that WKR is directly hiring people for the Project, including the type of positions expected (management, skilled or unskilled).

The Impact Statement addresses these questions through Volume 2, Section 2.5.5 (Contracting and Procurement) and Volume 9, Section 27 (Employment and Economy). WKR's overall responsibility and accountability for Project implementation, and its contractor quality control and assurance framework, are addressed at Volume 11, Section 37.1.9 (Roles and Responsibilities) and Section 37.1.1 (Environmental Management System).

1. Current and anticipated WKR employees during different Project phases

   Current WKR staffing. As of October 2026, WKR directly employs an owners' team of around 15 individuals, all in managerial or skilled roles. This team is further supported by around 300 contracted staff, who provide subject matter expertise and short-term capacity across a wide range of disciplines. WKR is currently hiring and expects its owner's team to increase to around 50 – primarily in managerial or skilled roles – by the start of major construction, currently targeted for 2030.

   Anticipated staffing during Construction and Operations and Maintenance phases is stated in Volume 2, Section 2.5.5 (Contracting and Procurement):

   > "*WKR expects the construction phase to be largely staffed by contractors, due to the shorter-term nature of the work. The construction phase is expected to require 200 to 500 people per year. These jobs are expected to be approximately 10% management, 50% skilled, and 40% unskilled workforce...*
   >
   > *The Operations and Maintenance phase will employ a much smaller number of people, estimated at around 20 personnel for port operations and approximately 22 personnel for road operations based at the port, and approximately 12 people based at Jericho Station. These jobs are expected to be approximately 5% management, 50% skilled, and 45% unskilled workforce*" (Volume 2, Section 2.5.5).

   The exact split between direct WKR employees and contractor staff has not been determined at this time. However, as is typical for large-scale infrastructure projects, the construction workforce will be largely contractor staffed, while the operations and maintenance workforce will be a mix of employee and contractor staff.

2. WKR contractor oversight, quality control, and assurance

   IS-committed compliance framework — Roles and Responsibilities is within Volume 11, Section 37.1.9 which identifies specific roles and responsibilities at three organizational levels:

   "*Proponent (WKR): Hold overall responsibility and accountability for the implementation of the Project management and monitoring plans. Confirm adequate resources (financial, human, logistical) are allocated for management and monitoring plan activities. Maintain compliance with all relevant permits, licences, and regulatory requirements pertaining to the construction, operation and maintenance of the road and port. Lead engagement with affected Inuit and Indigenous Peoples and consultation with regulatory agencies regarding the management plans. Oversee the adaptive management process and approves substantial changes to management plans.*"

   "*General Manager (or equivalent): Manage the day-to-day implementation of the Project management and monitoring plans. Coordinate and supervise inspection, monitoring and maintenance activities. Serve as the primary point of contact for management plan-related matters. Oversee data quality, analysis, interpretation, and timely preparation of monitoring reports. Lead the review of inspection results and initiate adaptive management responses as needed. Facilitate Inuit and Indigenous participation in inspection activities and information sharing.*"

   "*Site Personnel: Adhere to all requirements of Project management and monitoring plans during onsite activities. Implement effects management measures as specified in Project plans and contract documents*" (Volume 11, Section 37.1.9).

   Contractor role in individual management plan development. Volume 11, Table 37.1 (Summary of Monitoring Plans) and Table 37.2 (Summary of Management Plans) identify the "Plan Developed By" party for each individual plan. For plans identified as "WKR / Construction Contractor" (e.g., the Erosion and Sedimentation Control Plan; the Explosives Management Plan; the Hazardous Materials Management Plan), the plan development is a joint responsibility between WKR and the construction contractor(s), with WKR retaining overall accountability under the Volume 11, Section 37.1.9 framework. Site Personnel are required to "Adhere to all requirements of Project management and monitoring plans during onsite activities. Implement effects management measures as specified in Project plans and contract documents" (Volume 11, Section 37.1.9).

3. WKR's Environmental Management System framework (Volume 11, Section 37.1.1) provides the operational structure through which WKR fulfills its overall compliance responsibility and delivers contractor oversight, including through management plans specifying (i) roles and responsibilities of WKR and contractors; (ii) inspection, monitoring, and reporting requirements; (iii) contractor performance oversight through the General Manager role; and (iv) corrective action processes.

   Please refer to the Information Request responses to KAA-6 (IR-06; workforce and Inuit employment commitments), NIRB IR-412 (IR-890; Environmental Management Plan), and GNWT 13 (IR-384; procurement participation framework) for further detail on WKR's contractor oversight and workforce management framework.

GTC-05 (IR-271)

Subject

WKR administrative structure, responsibilities, expectations, and liabilities; additional details lacking on how Regulatory Authorities will ensure WKR and its contractors are compliant with Project Certificates and their equivalent measures outside of Nunavut, and corresponding regulatory terms and conditions associated with the Project.

Issue / Concern

GTC is concerned that compliance and enforcement time for Project requirements will be complicated by an administrative structure where the bulk of Project activities are not carried out by the Proponent, WKR.

Regulatory Authorities need to provide clarity on what measures and precautions they utilize in such situations to ensure that project activities are carried out in a manner that respects the expectations and intentions of the regulatory process. This should clearly articulate if Regulatory Authorities have the capacity to follow-up with third party contractors and what challenges and lessons learnt can be applied to this Project.

Information Request

1. *How is your Agency's ability to monitor, follow-up, and enforce on Project related concerns or compliance issues affected when it is a third party completing the activities/works and not the Proponent?*
2. *What lessons learnt from past major projects or public-private ventures can your Agency offer where contractors have failed to live up to terms and conditions of an environmental assessment? What came of the occurrences, and what lessons can be learned from these and applied to the current project?*
3. *What current capacity constraints would limit your Agency's ability to adequately monitor and enforce proposed Project-related activities, including for transboundary activities and impacts and those related to induced development and cumulative effects?*

Proponent Response

Listed in NIRB Appendix B "Information Requests Directed to Other Parties"

GTC-06 (IR-272)

Subject

Future expansion of Project infrastructure and activities; risk for project splitting.

Issue / Concern

It is unclear how future expansion plans are being assessed in the Impact Statement (IS). Are expansion plans being assessed to the same degree in this EA process, or being left for future study and consideration? Does WKR intend for them to be included as part of the current assessment and not subject to future screening? How are expansion plans incorporated into the cumulative effects assessment? Clarity on how Project expansion will occur and the regulatory context surrounding those developments is required to properly understand what is being assessed under the IS and what will be assessed in later processes. If the Project is being built and designed for anticipated induced development scenarios, then the expansion portions of the Project should be included in the scope of items to assess.

There should be a clear distinction made by WKR and NIRB to ensure that project splitting is not occurring. If expansion scenarios are not to be included under the items to assess, clear triggers for each expansion component should be identified. This is necessary for regulatory certainty and consistency in how induced developments are managed in this assessment, including cumulative effects assessment.

Clarity on how expansion components should be assessed is necessary for a meaningful review and consideration of cumulative effects related to induced development. This will inform reviewers on how much time and attention they need to focus on these expansion proposals during the current review, and whether additional information is required to understand the potential impacts of these planned Project components. If a future assessment process is anticipated, then that should be clearly articulated and noted by NIRB and other regulators. That course of action would make those future expansion components appropriate for consideration under the cumulative effects assessment. If, on the other hand, WKR wants these screened into the assessment of this project, the full scope and scale of the expansion portions should be under review as part of the current IS.

Information Request

1. *WKR should clearly state whether the identified expansion components are intended to be assessed as part of a future regulatory process and, if so, explain why their exclusion from the current assessment does not constitute project splitting.*
    - *1.1. In responding, WKR should address the apparent inconsistency between: (a) the stated purpose of the Project to facilitate or induce future development; and (b) the identification of expansion components intended to accommodate the scale of induced development anticipated by WKR.*

1.2. The response should explain how the identified expansion scenario differs materially from the Project as currently proposed, and from the future development scenario that forms part of WKR's assessment assumptions, such that separate assessment at a future stage is warranted.

2. *WKR to clearly identify all future expansion plans and list the triggers for their construction. Include any assumptions related to these management decisions, and the approximate timeline required between assessing the need, the decision to build, and the anticipated time and process required for the expansion project to manifest or become operational.*

2.1. This should identify if WKR considers these as project components being screened as part of this project or if WKR anticipates applying for a new application to build and operate those components, potentially triggering a new environmental assessment.

Proponent Response

As described in Volume 2, Section 2.3, future development components are not part of the current Project, however, space has been allocated, and in some cases, preliminary development is proposed, to facilitate their future installation. These components include:

- extension of the 1,800 m gravel airstrip up to 2,400 m gravel airstrip
- addition of bulk fuel storage containers to increase the volume of fuel capacity at full build out to 160 million L at the Port and potential future expansion for fuel storage of up to 20 million L at Jericho Station, if required
- development of a permanent all-season road from the southern terminus of the Grays Bay Road to the NU/NT border
- ability to accommodate a future utility corridor along the Grays Bay Road alignment

The Project site infrastructure is designed to accommodate initial third-party use for activities such as Canadian Coast Guard resupply operations, mineral exploration, and mine development and operations. The conceptual layout of the port landside infrastructure includes areas intended to support anticipated future third-party user needs for mineral concentrate storage, cargo import/export, multiple laydown areas, explosives manufacture and storage, secure storage, bulk fuel storage and equipment maintenance. WKR has selected these areas based on suitable terrain, drainage, and access to facilitate future site development. While the construction and operation of facilities within these areas are outside the current scope of the Project, they are relevant to the consideration and assessment of cumulative effects. Any third-party activities or projects subject to the jurisdiction of the NIRB would also be required to undergo screening and/or review under the *Nunavut Planning and Project Assessment Act* (NuPPAA), including the consideration of cumulative effects.

WKR has not established specific plans, trigger thresholds, or schedules for any of the potential future expansion components. Future expansion would only be considered if a demonstrated operational or commercial need arises, such as increased demand for port services, aviation infrastructure, fuel storage, transportation connections, or utility services. Any decision to proceed would be informed by operational requirements, technical feasibility, regulatory requirements, environmental considerations, and available

funding. As these expansion opportunities are conceptual and dependent on future conditions that cannot currently be predicted, no implementation timelines have been identified. Should an expansion be proposed, it would be subject to separate planning, engineering, permitting, and regulatory review processes, which could include screening and/or review under the NuPPAA. The future development components are not required for the Project to operate as proposed and are therefore not considered part of the current Project scope.

GTC-07 (IR-273)

Subject

Clarity on transportation networks for Project mobilization and resupply of materials and equipment.

Issue / Concern

WKR has listed different transportation network options to supply equipment and materials for mobilization, construction, and operations. However, it is unclear how these transportation networks differ materially in terms of their potential impact to locally affected communities and environments.
This information is necessary to understand the corresponding risks and opportunities associated with each option. GTC therefore seeks clarity on the likelihood and scale of transportation networks proposed for the Project. Each of the options require sufficient detail to assess if and what potential impacts might occur, to whom, and to what extent. GTC notes that in the Yellowknife December workshop, WKR made a public commitment[3] to explore three parallel mobilization/construction pathways:

1. *Sealift from ports in Quebec to Gray Bay (main route)*
2. *Secondary transport via the Tibbitt-to-Contwoyto Winter Road*
3. *Northwestern transport route (Dempster & ITH) to Tuktoyaktuk, then barge (with potential for barging along the Mackenzie River)*

From the IS, it is recognized the sealift from ports in Quebec is WKR's most likely, or preferred, transport route. To improve the accuracy of the assessment and refine the understanding of impact pathways and potential impacts, it is necessary to quantify the approximate reliance on each of the considered transportation networks, and to add detail on what each option entails.

Information Request

The following information seems a minimum expectation for the IS; WKR is asked to provide updated information on:

1. *Number of shipments per transport network option, including estimated numbers and relative percentage of total transport loads.*
    - *1.1. Heavy vehicle loads*
    - *1.2. Number and type of shipments*
    - *1.3. Reliance on local resources (i.e., fueling, accommodations, health and social services, other)*
    - *1.4. Communities traversed or in proximity to the transportation routes*
        - *1.4.1. Health and social considerations to anticipate and reduce potential adverse impacts associated with an influx of transient workers*
2. *Local economic valuation of work, employment, and/or contracting opportunities associated with the activities, according to regional breakdown (i.e., Gwich'in Settlement Area, Inuvialuit Settlement Region, Wek'eezhii, Quebec, etc.).*

Proponent Response

1, 1.1–1.2 **Heavy Vehicle Loads and Number and Type of Shipments**

The Impact Statement (IS) identifies three mobilization and resupply pathways:

- **Sealift from St. Lawrence River ports near Montreal** – the primary marine transportation route to Grays Bay Port (Volume 2, Section 2.6.2). Construction: 1 fuel tanker and 2 cargo ships per year (Table 2.14); Operations and Maintenance: 1 fuel tanker and 1 cargo ship per year (Table 2.20).
- **TCWR from the south (winter season only)** – overland mobilization and annual resupply to the Project (Volume 2, Section 2.6.2). Construction: up to 1,000 truckloads and mixed-use vehicles per season (Table 2.16); Operations and Maintenance: approximately 30 truckloads and mixed-use vehicles per season (Table 2.22).
- **Barging from western ports (Hay River, Inuvik, or Tuktoyaktuk)** – an alternative supply route (Volume 2, Section 2.6.2). Approximately 3 barges per year; each barge staged at Inuvik or Tuktoyaktuk is expected to require approximately 45 inbound truckloads through the Inuvialuit Settlement Region (ISR) from the Yukon border, for approximately 135 inbound truckloads per year (Table 2.16, Note 3).

Barging from Hay River, Inuvik, or Tuktoyaktuk would be used to supply equipment or materials that are more readily available in western Canada, or to reach Grays Bay in advance of the first sealift from Quebec during Construction. Trucks would arrive at receiving locations from approximately April to July, with materials and equipment staged at existing facilities in those communities. Barges and tugs would transit to Grays Bay and return to their home ports during the open-water season, primarily in August and September (Volume 2, Section 2.6.2).

Trucks transporting Project materials to staging facilities at Inuvik or Tuktoyaktuk are anticipated to be conventional five-axle tractor-semitrailers operating within non-permit weight and dimension limits under the Northwest Territories *Large Vehicle Control Regulations* (R-091-2013). Project logistics-support services within the ISR are only anticipated during the five-year (2029–2034) Construction phase; post-construction logistics will be provided through the annual eastern sealift and the Grays Bay Road.

Materials transported for the Project include equipment, fuel, explosives, parts, supplies, and prefabricated structures such as mobile camps, culverts, and bridge components (Volume 2, Section 2.6.2). Vehicles authorized to use the Grays Bay Road are expected to include semi-truck trailers, dual-powered road trains, and light vehicles (Table 2.10). Cargo delivered to Jericho Station via the TCWR would arrive by semi-truck, and fuel by tanker truck (Volume 2, Table 2.11). Payload and gross vehicle weights for haul on the TCWR are not specified in the Impact Statement; these will be confirmed during construction logistics planning.

1.3 Reliance on Local Resources

Materials and equipment moved through the ISR would be transported using existing transportation corridors and staged at existing facilities in Inuvik or Tuktoyaktuk (Volume 2, Section 2.6.2). Potential effects on access to health infrastructure and services, including medical travel and medical evacuation, are assessed in Volume 9, Section 26.3.3.

1.4 Communities in Proximity to Transportation Routes

The northwestern route would use the existing Dempster Highway and Inuvik–Tuktoyaktuk Highway, together with existing Mackenzie River and marine routes. Potential effects on community health and well-being are assessed in Volume 9, Section 26.

2. Regional Economic Valuation

Employment and economy effects, including changes in economic development and opportunities, employment, education and training, and contracting and business opportunities, are assessed in Volume 9, Section 27. Inuvialuit participation in economic and employment opportunities is addressed in the responses to IRC-01 (IR-394) and IRC-02 (IR-395). See also the responses to GTC-04 (IR-270) and GNWT 13 (IR-384) on workforce and procurement participation.

GTC-08 (IR-274)

Subject

Uncertainties regarding a perpetual operational Project

Issue / Concern

The operational period of the project has no planned closure period and is proposed as perpetual. WKR has selected a design life of 75 years. Additional context and details are necessary to understand what the perpetual risks and liabilities are over the 75-year timeframe and for WKR to operate the road in perpetuity.

Information Request

The impact statement should clearly identify:

1. *Anticipated changes and additions to the basic project over the 75-year timeframe, including when proposed expansion activities might occur, or how long they will take (this should consider any adjustments based on WKR's response to IR GTC-06).*
2. *Which aspects of the project, including proposed expansion activities, are likely to require replacement or significant repair in the 75-year operational period.*
3. *What the plan is beyond the 75-year timeframe to ensure project components are maintained to an operational standard in perpetuity.*
4. *If no perpetual plan is identified, then, as part of a precautionary approach to sustainable development, develop a closure and reclamation plan for the Project that meets current regulatory standards and expectations.*

Proponent Response

The Impact Statement describes the Operations and Maintenance phase as commencing in 2035 and continuing indefinitely, with the Project components considered permanent infrastructure with a design life of 75 years (Volume 2, Section 2.2). All engineered infrastructure has a design life, which is the planned time period an asset, structure, or product is expected to function safely and reliably under specified operational and environmental conditions. This guides material selection, safety margins, and maintenance schedules from the start of the engineering process. While the design life is a target date for the "lifetime" of designed components, the infrastructure and Project components that are built to operate the Project are expected to be maintained, repaired or replaced as the life of those components reaches their end of life. Maintenance, repairs and replacement can and will be done based on a regular schedule for the Project and will be updated as necessary to continue the operation of the road and port into perpetuity. There is no plan to remove the port and road in the future, thus no final closure and reclamation plan for the Project.

GTC-09 (IR-275)

Subject

Climate Change assumptions and predictions regarding barging along the Mackenzie River

Issue / Concern

Hay River is mentioned as a port option for mobilization and logistics in the Northwest Territories, alongside Inuvik and Tuktoyaktuk (Vol.1, MD-22, p.99). However, changes to water levels, attributed in part to climate change and upstream hydro projects, have made water levels unpredictable, and the river unnavigable for extended periods of time to heavy barge traffic. Local communities and governments are no longer relying on barge traffic to meet their resupply needs. The IS should include a discussion on climate-related risk to mobilization efforts and what contingencies will be planned to manage those risks. Discuss risks associated with low-water and climate change on barge travel from Hay River and how the removal of Hay River as a port option might affect logistics and mobilization considerations.

Information Request

1. *In the case of the port at Hay River, discuss how plans will be adjusted if barge traffic is not possible due to low water levels.*
2. *How would this change in the logistics affect other planned activities for equipment and material mobilization and resupply efforts?*
3. *Discuss other areas in the logistics supply chain where climate risks and low water levels might compromise the proposed activity? Include in the discussion:*
    - 3.1. *likely ripple effects on mobilization and resupply efforts, and*
    - 3.2. *contingency plans and transportation options to get the materials to site.*

Proponent Response

WKR's intent to use third party infrastructure to facilitate construction of the Grays Bay Road and Port, including the port at Hay River, is limited to the availability of this third party infrastructure. If water levels at Hay River, or along the Mackenzie River are not sufficient for barge traffic, movement of equipment would be via the available highway system to the Port of Inuvik or the Port of Tuktoyaktuk. The movement of equipment or materials via the existing public infrastructure would only be utilized if available, and if necessary based on construction needs of the Project.

Construction equipment and materials will be supplied for the Project via sealift from eastern Canada or via the TCWR via Yellowknife; shipping of equipment or materials through Hay River, Inuvik or Tuktoyaktuk is only being considered as a contingency alternative to the primary supply routes. This would include to supply equipment or materials more readily available in western Canada, or to reach Grays Bay in advance of the first Quebec sealift.

Specific transportation routes and staging locations in NWT, including the ISR, will be confirmed during detailed construction planning and will be selected based on availability, seasonal conditions, transportation capacity, project needs, and applicable approvals at the time of construction.

GTC-10 (IR-276)

Subject

Barriers to a meaningful review – simplification needed

Issue / Concern

GTC notes that its review of the Impact Statement was incomplete due to the high volume of material and limited time available to submit Information Requests. WKR's Impact Statement consists of 43 separate documents on NIRB's Public Registry, with a total page count of 7,195 pages, presented in four different languages. The information in its present form is very cumbersome to meaningfully review. Improving the layout and navigational options for reviewers would be very helpful for the next phase of the technical review.

As an example, WKR has provided a concordance table to facilitate navigation between the IS Guidelines and Scoping requirements. However, the table is 200 pages long, detracting from its utility. There are also no clear hyperlinks, meaning reviewers still need to navigate between 43 different documents.

In a similar vein, volumes are presented in each of the official languages of Nunavut. It seems more efficient to have the reports limited to a single language, with all volumes contained within a similar folder or, ideally, document. The information request below has suggestions for improving the ability of reviewers to find relevant materials. This will ultimately lead to a smoother review experience focused on outstanding issues and not on navigation.

Information Request

1. *Request for the concordance table to be a stand-alone document with hyper-links to the respective sections.*
    - 1.1. *The separate document should be formatted to reduce the overall length of the table (e.g., by adjusting the width of the comment column and other columns accordingly).*
    - 1.2. *The column "Page Range Start" should include the actual pdf page number to facilitate quick navigation by reviewers.*
    - 1.3. *WKR is requested to add hyperlinks to volumes and sections. Ideally this would link to the documents on NIRB's public registry. If not possible, WKR should create an online database (e.g., Dropbox, or something similar) where reviewers can easily navigate directly from a concordance table hyperlink.*
2. *Separate the documents into their respective languages for ease of review. This will substantially reduce the size and volume of each document, allowing documents to be amalgamated, thereby reducing the overall number of documents to keep track of.*
    - 2.1. *If NIRB follows a different protocol, then disregard this portion of the IR. Greater effort should then go into adding hyperlinks into the concordance table, as per request 1 above.*

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage".

GTC-11 (IR-277)

Subject

Ease of review and functionality - Mitigations and Commitments

Issue / Concern

WKR has provided a helpful list of mitigations and commitments. However, as with the concordance table and volume of material, the number of mitigations and commitments is extensive. The table in Volume 1, Appendix B, currently runs for 46 pages and lists 364 distinct IDs for commitments and mitigations. Presumably these are identified by order of appearance in the various documents. To improve the efficiency of the review and make it easier to compare and consider mitigations and commitments, WKR should amalgamate the mitigations and commitments wherever possible. For example, mitigations could be presented according to the pathway of effect they are targeting.

This will make it easier to manage and review similar measures and commitments. This will help ensure that review time is well-spent and efforts are not being duplicated. It will also ensure consistent standards and expectations are set, which should make it easier for WKR to develop and execute management plans and monitoring programs.

For example, if multiple mitigations and commitments relate to installing road signs to support public safety and reduce instances of wildlife collisions, these ought to be amalgamated. Similarly, erosion and sediment control measures, or adaptive management practices, etc., could be amalgamated, with specific nuances related to the topic discussed in that section or as sub-sections to the mitigation or commitment (e.g., coastal ESC considerations vs standard roadway, water crossings, site drainage, quarries, etc.).

Information Request

1. *To improve the efficiency of the review and make it easier to compare and consider mitigations and commitments, WKR should amalgamate the mitigations and commitments wherever possible.*

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage".

GTC-12 (IR-278)

Subject

Transboundary effects and assumptions related to marine traffic and vessels need clarification and potential adjustment.

Issue / Concern

WKR's selection of spatial and temporary boundaries for valued components identified in the NIRB final scoping document and impact statement guidelines do not appear to extend into areas outside of Nunavut. GTC considers this a deficiency of the Impact Statement that is not in alignment with the intent of the NIRB scoping and impact statement guidelines documents. The narrow scope taken for setting spatial and temporal boundaries for valued components affected by the Project outside of Nunavut, over the lifetime of the Project, significantly reduces the value of the transboundary effects assessment. This risks the perpetuation of significant knowledge gaps and issues of public concern related to transboundary effects, including direct project components that occur outside of Nunavut. WKR has selected a project-specific boundary that downplays the potential role of impacts outside of Nunavut. Section 33.3 of Volume 10 (pdf 94), for example, identifies three main categories of transboundary effects where residual project impacts are possible. However, because WKR has selected local and regional assessment areas (LAA, RAA respectively) relative to the project, the boundaries do not extend far from the project and remain wholly within Nunavut. This effectively excludes the assessment of transboundary effects under the LAA and RAA. In turn, this prohibits the identification of Project-associated residual effects for transboundary components.

This may prohibit transboundary effects from being included or considered in the cumulative effects assessment (CEA). The CEA need only consider project components that have a residual component AND interact with reasonably foreseeable future activities, and other projects identified on the Project Inclusion List (PIL). If there are no identified residual effects or no overlap between the projects, then WKR has no obligation to study them. By limiting the LAA and RAA to Nunavut and areas proximate to the Project, WKR is arbitrarily excluding most transboundary effects from consideration in the cumulative effects assessment. A similar challenge exists for the PIL, which limits projects and induced activities to those proximate to the port or road (e.g., project-centric). No projects or future activities outside of Nunavut were observed identified. This effectively means that issues of transboundary effects are unlikely to be assessed for project-related effects or in consideration of future developments and activities. In both cases, these boundary limitations can prohibit transboundary effects from being assessed in a CEA. Given the significant concerns expressed by participating parties about transboundary and cumulative effects experienced/felt outside of Nunavut, this may significantly limit the Impact Assessment's ability to meaningfully consider valued components affected by the Project that exist outside of Nunavut.

GTC is concerned that limiting the geographic range of the spatial boundary will result in an impact statement that does nothing to advance the understanding or shed light on knowledge gaps and uncertainties related to transboundary effects associated with this Project. Again, this includes direct project components with transboundary effects that will occur in perpetuity, as well as indirect and induced effects related to induced developments (as defined by NIRB).

For example, WKR identifies marine traffic scenarios to support the Project during both construction and operations, with marine vessels originating from Tuktoyaktuk, NWT, and from Montreal, Quebec (e.g., see Volume 1, MD.2 or GTC-07). These are direct project components. Marine traffic is also expected to increase under most, if not all, of the anticipated future development scenarios expected for the Project, including those on the Project Inclusion List (PIL). And while WKR's discussion on transboundary effects (e.g., in Volume 10 section 33.3.2) identifies nine VCs with potential transboundary effects, the assessment draws conclusions that are not intuitive given the potential for impact. For example, that marine effects are not significant because the RAA does not extend outside of Nunavut; that assessment of caribou does not contribute to determinations of significance; or that impacts of noise on marine mammals is not significant because it's only seasonal.

GTC therefore seeks an adjustment in the methodology used by WKR to use a valued-centric approach to spatial and temporal boundaries that captures concerns raised by participating Indigenous groups about transboundary effects, and for the meaningful consideration of transboundary effects in the cumulative effects assessment.

Information Request

1. *WKR to adapt a valued-centric approach and not a project-centric approach in its selection of spatial and temporal boundaries, especially those identified as having a likely transboundary effect.*
2. *Include identified issues of potential transboundary effects in the cumulative effects assessment.*
3. *Update the Project Inclusion List and cumulative effects assessment with more detailed descriptions and scenarios of the reasonably foreseeable future activities.*
4. *Extend the boundary of possible marine activities, including those associated with marine traffic, to recognize the travel routes of marine vessels from their anticipated port of origin. These marine components should be additionally recognized as transboundary effects if they extend outside of Nunavut.*
5. *WKR to update its impact statement and Reasonably Forseeable Induced list that makes up part of the PIL to reflect NIRB's definitions of Induced effects and Induced Development. GTC notes that the NIRB definitions (found on pdf page 7 of the Impact Statement Guidelines) do not match the logic WKR is using to assess issues of induced effects and induced developments (as noted from its position on the Project including no induced projects – Volume 10 pdf page 69).*

Proponent Response

1. Spatial assessment boundaries were "selected based on the geographical extent over which project activities and their effects are likely to occur (i.e., the zone of influence) and may vary among VCs" (Volume 4, Section 9.2.4.1). The Regional Assessment Area (RAA) for each VC "depends on physical and biological conditions and the type and location of other past, present, or reasonably foreseeable projects or activities," and represents the area within which cumulative effects on that VC may occur (Volume 5, Appendix 11A). Ecological ranges were considered, where available, in defining VC-specific RAAs, particularly for certain wide ranging wildlife species, such as BAH (Volume 6, Section 16.1.4.1, Section 18.1.4.1). The rationale for the boundary delineations for each RAA is provided in each VC assessment.

   As outlined in Appendix B, Transboundary Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package the spatial definition of an RAA for a VC does not preclude consideration of transboundary effects to that VC beyond the boundaries of the RAA, and the methodology used in the Impact Statement to assess potential transboundary effects does not follow the same methodology used for potential Project residual or cumulative effects.

   Please see Addendum Appendix B, for further discussion on the transboundary effects methodology.

2. The transboundary effects considered in the assessment, including cumulative effects, are described in the IS Volume 10, Section 33 Transboundary Effects Assessment and in Addendum Appendix B.

3. The IS assesses potential effects for various scenarios. These start with the Project alone and then, in the Cumulative Effects Assessment, for possible future scenarios as described in Appendix A, Cumulative Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package.

4. As noted in response to Part 1 of this IR no 'study area' is defined for transboundary effects, and the LAA/RAA's identified for each VC do not constrain the discussion of transboundary effects to those aforementioned areas. The assessment of potential transboundary effects as a result of marine activities are not constrained by the marine RAA.

   On a point of clarification, the marine mammal transboundary effects assessment (Volume 10, Section 33.4.9) did not conclude, as noted in the information request, "*that marine effects are not significant because the RAA does not extend outside of Nunavut*".

   Volume 10, Section 33.4.9 concluded the following;

   > *Potential effects to marine mammals that are likely to be transboundary relate to sensory disturbance and mortality/injury risk due to marine shipping.*

Any transboundary disturbance to marine mammals from underwater noise associated with vessel activity outside the RAA would be transitory and only occur within the open water season. Given the estimated source levels and infrequency of traffic, the disturbance is anticipated to be minor and relatively brief in duration, even with the variance in marine mammal species densities and distribution outside of the RAA.

The probability of collisions between vessels and marine mammals is very low, but on infrequent occasions, whales and vessels do collide, resulting in injury or death to the marine mammal (Laist et al. 2001; Moore and Clarke 2002). The cumulative effects assessment (Sections 23.4.4 and 23.5.2.3) concluded that, given the low marine mammal densities in the RAA and the implementation of mitigation measures, the potential for vessel strikes is low, and changes in mortality and/or injury risk due to vessel strikes are characterized as not significant.
The probability of vessel strikes associated with transboundary vessel traffic outside the RAA would still be considered low, even in higher-use marine mammal areas, primarily attributable to the comparatively small amount of vessel traffic.

5. The NIRB IS Guidelines (January 30, 2026) provide the following verbatim definitions (pdf p. 7):

   "Induced effects - are indirect effects that are not specifically the result of project activities, works or undertakings but that may be more likely to occur if project activities, works or undertakings occur. For example, a community may see growth in non-project related economic activity and increased spending in the local economy because investors view the local economy more favorably after a project has been developed in the region" (NIRB IS Guidelines, Definitions and Terms).

   "Induced Development: New projects or activities that happen because the current project makes them possible (for example, due to new access, infrastructure, or economic opportunities)" (NIRB IS Guidelines, Definitions and Terms).

   The scope of the Project as assessed in the IS includes Project components under WKR's control and regulatory responsibility. Induced Development advanced by other proponents in response to the Project, is included in the scope of the assessment in the context of cumulative effects.

   Reasonably Foreseeable Induced (RFI) Physical Activities are defined in the IS (Volume 4, Section 9.4.3.1) as *"projects and activities that would likely only advance if the Project were approved and operational"* which aligns with the NIRB IS Guidelines definition of Induced Development above.

   Induced effects are assessed through a cumulative effects assessment framework at which characterize the effects of RFI Physical Activities on VCs in combination with the Project's effects. Under this framework, "Induced effects" arise from the interactions between Induced Development (i.e., RFI Physical Activities) and VCs in the Regional Assessment Area.

GTC-13 (IR-279)

Subject

Project Inclusion List (PIL) may be missing or omitting important and reasonably foreseeable future activities.

Issue / Concern

The PIL is missing or provides inadequate detail on anticipated projects that are likely to occur if the Project is constructed and operated. These projects need to be specifically added to the PIL list and considered in detail as part of the cumulative effects assessment. WKR also needs to justify why marine components identified on the PIL are limited to a 10km radius from the Project and do not include the full extent of their marine vessel transit. For example, WKR identifies marine traffic scenarios to support the Project during both construction and operations, with shipments originating from Tuktoyaktuk, NWT, and from Montreal, Quebec (e.g., see Volume 1, MD.2 or GTC-07). These are direct project components. Marine traffic and the number of vessels are also expected to increase under most, if not all, of the anticipated future development scenarios expected for the Project, including those on the PIL. It is therefore important that marine traffic and vessel components are given appropriate and meaningful consideration in the cumulative effects assessment. It is also not obvious if the PIL contains WKR's own future plans and activities that will be influenced by the construction and operation of the Project. WKR's website identifies various mineral properties and projects, including Arcadia Bay, a "significant drill program", and Other Projects. This includes projects in the Coronation Gulf that would become more economically viable if the Project is approved. If these projects are not currently a part of the PIL, then WKR should justify their exclusion from the Reasonably Forseeable Induced (RFI) list.

Information Request

1. *Update the PIL to include marine traffic and vessel components directly related to the Project and to other projects identified on the PIL to capture the expected marine route travelled by those ships.*
    - *1.1. Explain the rationale for marine components on the PIL that have a listed distance of less than 10km.*
    - *1.2. Update the RAA for marine vessels and marine traffic to reflect their likely port of origin.*
    - *1.3. Update the cumulative effects assessment accordingly should this result in the identification of potential residual project effects or interactions with the project during the construction phase or for the perpetual operational period.*
2. *Update the PIL to include WKR's future plans and projects that will become more likely if the Project goes ahead. These projects should be added to the Reasonably Forseeable Induced (RFI) list.*
    - *2.1. For projects WKR deems inappropriate to add to the RFI, provide a rationale as to why they should not be added to the list. This rationale should meaningfully address the improved economics and logistics that the Grays Bay Road and Port project offer, and WKR's own improve finances and corporate stability that come with owning the facilities and collecting tolls from Project-users, for perpetuity.*

3. *Update the PIL as appropriate based on the additional information provided by governments and participating parties to NIRB during this round of Information Requests.*

Proponent Response

1. Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List does include marine vessel traffic in the Reasonably Foreseeable Induced (RFI) Scenario, identified in the table as a "*Grays Bay Road and Port: Port Traffic (Proponent Pending)*" Project/Activity. Further details on such traffic are provided in the PIL's Attachment 9A2 Spatial Metrics and Descriptive Information for RFI Physical Activities, and, Volume 8, Section 23 Assessment of Potential Effects on Marine Mammals, including Section 23.4 Assessment of Cumulative Effects, including Table 23.16 Summary of Annual Project-related and Reasonably Foreseeable Induced Vessel Traffic During the Operations and Maintenance Phase (2035-2055).

   1.1 The distance listed in Table 9A1.1 of the PIL is the "*approximate closest distance and direction from Grays Bay Road and Port Project*" (Attachment 9A1, Table 9A1.1, Note 4); it reflects proximity to the Project, not the extent of vessel transit.

   1.2 Each VC section includes a description of its RAA (Volume 10, Section 32.2.1). Potential effects of vessel transits outside of the RAA are assessed in the transboundary effects assessment (Volume 10, Section 33.4.9). See response to GTC-12, part 1 (IR-278). See also the Addendum Appendix B for further discussion on the transboundary effects methodology.

   1.3 See response to part 1 of this response and GTC-12, part 3 (IR-278).

2. Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List provides details as available and relevant for the physical activities identified.

   2.1 The PIL does include, to the extent appropriate and relevant, physical activities associated with WKR, including Arcadia Bay.

3. Information provided following submission of the IS will be reviewed in the context of the IS and for incorporation into Project planning, as appropriate. See response to GTC-12 (IR-278).

GTC-14 / 15 (IR-280)

Issue / Concern

The Project is receiving financial and regulatory support from numerous governments and was originally advanced for development by KIA, with support from Canada and GN.

It is a reasonable assumption that the various government agencies responsible for pursuing and supporting the Project have done their own due diligence assessments regarding potential economic and socio-economic benefits associated with a permanent road and port. In other words, that some level of studies or analysis have occurred by these governments to justify their support of the Project.

Information related to economic and induced development scenarios identified by these governments is important to understand what reasonably foreseeable induced development scenarios Governments anticipate should the Project be built and come into operation.

The various and respective government agencies are therefore requested to provide relevant studies and assessments related to economic analysis and socio-economic costs and benefits of an operational road and port at Grays Bay. A summary of anticipated induced development scenarios used to inform the studies, and induced development scenarios considered likely to occur because of the Project being built are requested. This information is necessary to inform parties and WKR on future scenarios and induced development associated with the project and may reduce existing knowledge gaps related to a future with the Project. This is also in keeping with NIRB's use of the precautionary principle in considering how the Project may interact with valued components. Clarity on this topic was not evident in the initial impact statement review.

Information Request

1. / 3. *Submit related studies and summaries of analysis to the NIRB Public Registry of government-led or funded analyses, studies, or other forms of assessment related to economic and socio-economic costs, benefits, and potential of an operational road and port at Grays Bay like that proposed by WKR.*
2. / 4. *Provide a summary of anticipated induced development scenarios, including a minimum anticipated scenario, and an anticipated likely scenario, of projects, activities, and potential over the lifetime of the project (e.g., in perpetuity).*
    - 2.1. / 4.1. *Identify underlying assumptions related to the development scenarios.*
    - 2.2. / 4.2. *Provide the timeline of construction and operation of projects or activities identified.*
    - 2.3. / 4.3. *Identify marine traffic or vessel components related to the construction or operation of the Project or for those supporting terrestrial-based projects, as well as expected increases in marine traffic and vessels anticipated with the development of a major port at Grays Bay, and the likely source of travel of these vessels within and beyond Nunavut.*

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage".

Government of Nunavut

West Kitikmeot Resources Corp. (WKR), thanks the Government of Nunavut (GN) for its Information Requests (IRs) dated July 3, 2026 (NIRB Document 260703-24XN038-GN Comments Re Impact Statement-IR1E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038). WKR's responses to each of the GN's IRs are provided below.

GN IR 01 (IR-281)

Subject

Inclusion of the Beverly and Ahiak Caribou Herds

Issue / Concern

Section 16 of Volume 6, Part 1 of the Impact Statement (IS) for West Kitikmeot Resources Corp.'s (WKR, Proponent) Grays Bay Road and Port Project (Project) states:

> *"The assessment considers potential Project effects and cumulative effects on caribou using two representative herds: [Bathurst Caribou Herd], the primary mainland caribou interacting with the Project; and [Dolphin and Union Caribou Herd], the primary island caribou interacting with the Project... Other mainland caribou, such as the Bluenose-East Herd and Beverly/Ahiak Herd, interact infrequently with the Project; however, when they do, their space use and movements are similar to those of the [Bathurst Caribou Herd] (see Appendix 16A, Wildlife Baseline Report)." (WKR, 2026, p. 16-1)*

The Government of Nunavut (GN) believes that excluding the Beverly and Ahiak caribou herds from the IS creates a critical information gap for reviewers. Without consideration of these herds, the GN and others cannot fully understand the potential impacts of the proposed Project on wildlife, which cannot be fully understood or predicted due to the absence of information.

Information Request

The GN requests that West Kitikmeot Resources (WKR, Proponent) include the Beverly and Ahiak herds into the scope of the IS.

Additional Comments: The assessment does not need to cover the entire Beverly and Ahiak herds; it can only focus on areas where the herd may interact with the Project and its assessed zone of influence (ZOI).

Proponent Response

Please refer to the response to GC IR-02 (IR-149) for a discussion of how other herds were considered in the assessment, including the Beverly/Ahiak and Bluenose East herds.

GN IR 02 (IR-282)

Subject

Engagement Record with Kitikmeot Wildlife Board and Affected Hunter and Trappers Organizations/Associations

Issue / Concern

The Kitikmeot Wildlife Board (KWB) and the Kitikmeot Hunters and Trappers Organizations/Associations (HTA/HTOs) are the regional and community-level elected wildlife representatives, respectively. The KWB and Kitikmeot HTOs work to represent the views of harvesters as elected representatives of their membership and hold valuable knowledge of wildlife.

However, the Proponent's IS does not clearly describe/present:

- *The level of engagement undertaken with the KWB or the Kitikmeot HTA/HTOs.*
- *A summary of KWB or Kitikmeot HTA/HTOs shared Inuit Qaujimaningit and/or Inuit Qaujimajatuqangit (IQ), traditional knowledge and/or community knowledge on the concerns regarding this Project.*

The Project's Environmental Management System framework (e.g., Section 37.1.1) provides a non-exhaustive list of Inuit Organizations that will help assist with the development of monitoring programs. The GN notes that the KWB is not identified here, even though the Board is responsible for regional wildlife issues.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully understand the extent of community-based wildlife knowledge considered in the assessment.

Information Request

The GN requests that the Proponent include the following summaries in their IS:

- *The level of engagement undertaken with the KWB and the Kitikmeot HTA/HTOs.*
- *A summary of the knowledge and/or concerns shared by the KWB and HTA/HTOs regarding this Project, including:*
    - *Information on how potential concerns were addressed or responded to by the Proponent.*
    - *How the knowledge provided was incorporated into the Proponent's assessment of potential impacts, where applicable.*

Additional Comments: A list of meeting dates, including details of discussions held with KWB and HTA/HTO board members at quorum, would help assess the effectiveness of engagement.

Proponent Response

WKR acknowledges the Government of Nunavut's (GN) request that the Impact Statement (IS) include summaries of the level of engagement undertaken with the Kitikmeot Wildlife Board (KWB) and the Kitikmeot Hunters and Trappers Organizations/Associations (HTA/HTOs), a summary of the knowledge and/or concerns shared by the KWB and HTA/HTOs regarding this Project, and a list of meeting dates and details of discussions held with KWB and HTA/HTO board members at quorum. This response identifies the specific IS locations where the KWB (referenced in the IS as the Kitikmeot Regional Wildlife Board [KRWB]) and the Kitikmeot HTA/HTOs engagement, knowledge integration, and concerns responses are documented.

The IS documents engagement with the KRWB and Kitikmeot HTA/HTOs as follows:

Kitikmeot Region engagement parties (Volume 3, Section 6.1.1.1). Volume 3, Section 6.1.1.1 documents the engagement with Kitikmeot Region residents and organizations, including:

- Hunters and Trappers Organizations (HTOs) in Cambridge Bay (Ekaluktutiak HTO), Kugluktuk (Kugluktuk Angoniatit Association [KAA]), Gjoa Haven (Gjoa Haven Hunters & Trappers Association), Taloyoak (Spence Bay HTA), and Kugaaruk (Kugaaruk HTO);
- Burnside HTO;
- Inuit Advisory Group (IAG);
- Inuit community members of the five Kitikmeot communities;
- Kitikmeot Inuit Association (KIA);
- Kitikmeot Socio-Economic Monitoring Committee;
- Kitikmeot Regional Wildlife Board (KRWB);
- Kivalliq Wildlife Board;
- Nunavut Inuit Wildlife Secretariat;
- Educational institutions (Kiilinik High School, Kugluktuk High School, Kugaaruk High School, Netsilik Ilihakvik School, Qiqirtaq Ilihakvik High School, Nunavut Arctic College [Kitikmeot campus]); and
- Larga Kitikmeot Ltd.

KRWB engagement. WKR presented at the KRWB's Annual General Meeting in 2024 and 2025 (Volume 3, Appendix 6C).

Kitikmeot HTA/HTO engagement — illustrative example (Kugluktuk Angoniatit Association). Volume 3, Appendix 6C, Table 6C.1 documents specific KAA engagement events including:

- **April 16, 2024** (in-person meeting): "WKR discussed the Project, highlighting the road and port, the project timeline, and upcoming 2024 environmental studies. […] Kugluktuk HTO emphasized the importance of caribou and other wildlife. Kugluktuk HTO expressed concern regarding caribou movement and shared that the Beverly caribou herd should be included in the assessment. Kugluktuk HTO shared results from a study for Cod and Char and stated that there was no fish migration when vessel traffic increased. Kugluktuk HTO recommended to use snowblowers to clear the snow as graders cause windrows that act as barrier for caribou travel" (Volume 3, Appendix 6C, Table 6C.1).
- **November 5, 2024** (in-person meeting): "WKR and Kugluktuk HTO discussed concerns regarding effects on caribou and road alignment" (Volume 3, Appendix 6C, Table 6C.1).
- **April 30, 2025, May 21, 2025, and September 10, 2025** (in-person meetings): Discussion of the Project, Inuit Knowledge integration, the IAG, and a request to appoint a member of the KAA as a special advisor to the IAG (Volume 3, Appendix 6C).
- **August 12, 2025** (in-person meeting): "Conducted a tour of the Grays Bay port site" (Volume 3, Appendix 6C, Table 6C.1).

In addition to these in-person engagements, WKR conducted 3 virtual meetings and presented at the KRWB's Annual General Meeting in 2024 and 2025 (where members of the KAA were in attendance). The comprehensive engagement log with KAA (Engagement Record MASTER — Kugluktuk HTO) further documents engagements from March 25, 2024 through June 11, 2026, including approximately 80+ discrete engagements spanning emails, phone calls, virtual meetings, and in-person meetings, with WKR representatives, KAA board members, and KAA staff (predominantly Amanda Dumond as HTA Manager).

Engagement records for the other Kitikmeot HTA/HTOs (Ekaluktutiak HTO in Cambridge Bay; Gjoa Haven HTA; Spence Bay HTA in Taloyoak; Kugaaruk HTO; Burnside HTO) are documented in Volume 3, Appendix 6C, with comprehensive engagement logs recorded in the WKR master engagement record.

Additional specific engagement dates and content for each Kitikmeot HTA/HTO and the KRWB are documented in Volume 3, Appendix 6C, Table 6C.1.

Community-based primary research (Volume 3, Appendix 6D). WKR conducted 61 interviews with 70 community members in Cambridge Bay, Kugluktuk, Gjoa Haven, Kugaaruk, and Taloyoak in October and November 2024. The interviews included direct engagement with HTA/HTO representatives.

Inuit Advisory Group (IAG) workshops. Volume 6, Section 16.1.1 documents verbatim: *"Recent IAG workshops occurred in March 2025 (IAG 2025a) and September 2025 (IAG 2025b), and two additional workshops were held in 2018. During the September 2025 workshop, caribou was the primary focus of discussion"* (Volume 6, Section 16.1.1). Since the filing of the IS in March, an additional IAG workshop was held in May 2026 to discuss the WKR's IS conclusion noted in the filing, with a focus on marine, freshwater, and human environments. Members of the IAG were selected by the KIA and WKR based on their knowledge of wildlife, land use and access, and other Project-related matters. The IAG membership Terms of Reference also allow topic-specific advisors to be appointed to support workshop objectives, provided that appointees and advisors are not members of the IAG, providing a mechanism for HTA/HTO-related Inuit Knowledge to inform the assessment. At the KAA's request, WKR appointed a KAA representative as a topic-specific advisor during the September 2025 workshops to provide their input. The invitation was extended for the workshop in May 2026 to both the Kugluktuk and Cambridge Bay HTOs to attend in person or virtually, but scheduling conflicts prevented attendance.

Continued engagement commitment. Volume 6, Section 16.1.1 documents WKR's commitment verbatim: *"WKR commits to continued engagement with Kitikmiut, other Indigenous groups, and other potentially affected communities during the advancement of initial Project design and planning and monitoring throughout the life of the Project"* (Volume 6, Section 16.1.1).

The knowledge and concerns shared by the KRWB and Kitikmeot HTA/HTOs regarding the Project are documented across multiple VC assessments, with the primary consolidated compilations in:

Volume 6, Table 16.7 (Summary of Inuit, Indigenous, and Community Knowledge and Engagement Feedback Regarding the Caribou Effects Assessment, Page 16-31). Provides a four-column format (Comment / Source / WKR Response / Where Addressed) documenting KRWB and Kitikmeot HTA/HTO caribou-related engagement inputs.

Volume 9, Section 24, Table 24.4 (Summary of Inuit, Indigenous, and Community Knowledge and Engagement Feedback, Page 24-36). Documents Kitikmeot HTA/HTO engagement feedback on TLMRU including caribou harvesting.

Volume 3, Section 6.3.3, Table 6.2 documents specific issue categories where the KAA (as an illustrative example) raised concerns, with WKR responses and IS anchors:

- **Wildlife movement and migration:** Concerns regarding caribou movement and migration. Addressed in Volume 6, Sections 16.4.1 and 16.4.3.
- **Wildlife mortality:** Concerns regarding vehicle-wildlife mortality, overharvesting, and caribou population decline. Addressed in Volume 6, Sections 16.4.1, 16.4.2, 16.4.3, 16.4.4, and 18.4.3.
- **Shipping effects:** Concerns regarding the effects of vessel traffic on fish and marine mammals. Addressed in Volume 7, Section 20.3; Volume 8, Sections 22.3 and 23.3.
- **Travel and access:** Concerns regarding effects on travel and access, historical fishing and hunting sites, and increased access from unauthorized personnel. Addressed in Volume 9, Section 24.3.4.

Specific documented Kitikmeot HTA/HTO concerns. Volume 9, Section 24 documents specific Kitikmeot HTA/HTO concerns verbatim, including:

- Kugaaruk HTO concern regarding effects on wildlife from blasting (GBRP 2025).
- Gjoa Haven HTO observation regarding the effects of marine traffic on seal harvesting areas and identification that Sherman Inlet used to be ideal for seal hunting before marine traffic increased (Gjoa Haven Hunters & Trappers, Gjoa Haven, November 16, 2024, pers. comm.).
- Kugluktuk and Taloyoak HTOs concerns regarding increased access to harvesting areas that would affect land users by creating competition for resources (GBRP 2017, 2025; IAG 2025a).
- Gjoa Haven HTO concerns regarding wildlife-vehicle collisions increasing once wildlife become more familiar with the road and less likely to slow down (GBRP 2025).
- Gjoa Haven HTO concerns potential contamination of animals near abandoned infrastructure (Gjoa Haven Hunters & Trappers, Gjoa Haven, November 16, 2024, pers. comm.).
- Gjoa Haven residents and KIA in Kugluktuk identification of a fishing camp on the Back River east of the proposed road (Community member, Gjoa Haven, November 14, 2024, pers. comm.; Kitikmeot Inuit Association, Kugluktuk, November 7, 2024, pers. comm.).

Additional Kitikmeot HTA/HTO concerns raised through the WKR engagement program are documented in Volume 3, Section 6, Volume 6, Table 16.7 (Page 16-31), Volume 9, Section 24, and Volume 3, Appendix 6D (Community-Based Primary Research), with comprehensive engagement logs recorded in the WKR master engagement record.

Kitikmeot HTA/HTO knowledge was incorporated into the assessment through the following mechanisms:

- **Volume 6, Section 16.1.1 through Section 16.1.1.7** — documents the influence of engagement and Inuit, Indigenous, and Community Knowledge on the caribou VC assessment (see GN IR-02 response).
- **Volume 6, Table 16.7 (Page 16-31)** — provides the consolidated compilation of caribou-related Inuit, Indigenous, and Community Knowledge inputs including Kitikmeot HTA/HTO feedback, with WKR's response and the location in the IS where each input has been considered.
- **Volume 9, Section 24, Table 24.4 (Page 24-36) and Table 24.13 (Page 24-144)** — document Kitikmeot HTA/HTO TLMRU engagement feedback and Kitikmiut resource harvesting locations, respectively.
- **Volume 6, Section 16.8 verbatim confirmation** — "Key assumptions are reasonable and align with Inuit Knowledge and government mandates. High quality data and quantitative methods support the assessment of Project and cumulative effects. Mitigations align with best management practices, scientific literature, and address concerns of the Kitikmiut" (Volume 6, Section 16.8).

Environmental Management System framework (Volume 11, Section 37.1.1). Volume 11, Section 37.1.1 documents: *"Monitoring plans and programs will identify whether and how Inuit Knowledge, Indigenous Knowledge, and Community Knowledge have informed their design and how these knowledge systems will continue to guide adaptive management. Monitoring programs will be developed with consideration of feedback from Inuit organizations, such as Hunters and Trappers Organizations and the Kitikmeot Inuit Association, as well as regulators, to align monitoring indicators and methods with Inuit perspectives, community priorities, and regulatory requirements"* (Volume 11, Section 37.1.1).

WKR acknowledges the GN's observation that the KRWB is not explicitly named in the Volume 11, Section 37.1.1 framework. Continued engagement with the KRWB, along with the Kitikmeot HTA/HTOs and KIA, is intended through the ongoing engagement program under Volume 3, Section 6 and the Inuit Environmental Advisory Committee (IEAC) framework documented in Volume 3, Section 6.3.6, Table 6.4 (see below). WKR direction is required on whether Volume 11, Section 37.1.1 should be updated to explicitly reference the KRWB alongside the HTOs, KIA, KRWB and other Inuit Organizations (see Strategy).

Wildlife Mitigation and Monitoring Plan finalization (Volume 11, Appendix 37B). Volume 11, Appendix 37B, Section 3 documents verbatim: *"Further development and refinement of the WMMP will occur through ongoing Project planning initiatives, continued engagement with affected Inuit and Indigenous governments and organizations and potentially affected communities, and consultation with relevant government agencies"* (Volume 11, Appendix 37B, Section 3). Volume 11, Appendix 37B, Section 8.3.3 documents verbatim: *"Specific caribou-related triggers will be included in the Final WMMP and will be determined in consultation with the Kitikmeot Inuit Association, the GN, and the GNWT"* (Volume 11, Appendix 37B, Section 8.3.3).

Inuit Environmental Advisory Committee (IEAC). Volume 3, Section 6.3.6, Table 6.4 documents WKR's commitment verbatim: *"Inuit Environmental Advisory Committee (IEAC): In collaboration with the Kitikmeot Inuit Association, WKR will develop an IEAC (as a successor to the current Inuit Advisory Group) to review and provide feedback on the Project's monitoring and management plans with regards to study designs, the inclusion of monitors, monitoring findings, and adaptive management strategies, where applicable. Where possible, WKR will include relevant HTOs, Inuit land users, Elders, and Knowledge Holders in the membership, or as topic-specific advisors, of the group and will demonstrate its consideration for community input and Inuit and Community Knowledge as part of the group's function"* (Volume 3, Section 6.3.6, Table 6.4).

The IEAC is intended to provide a structured Project-level venue for Kitikmeot HTOs, KRWB, Inuit land users, Elders, and Knowledge Holders to participate in review of the Project's monitoring and management plans.

WKR acknowledges the GN's additional comment regarding the value of meeting dates and details of discussions held with KRWB and HTA/HTO board members at quorum. Detailed engagement logs for each Kitikmeot HTA/HTO — including dates, engagement type (email, phone, virtual meeting, in-person meeting), WKR representatives, and Kitikmeot HTO attendees — have been separately compiled in individual Engagement Record files for each Kitikmeot HTA/HTO. The Engagement Record — Kugluktuk

HTO documents, approximately 80+ engagements from March 25, 2024, through June 11, 2026, is provided in the Addendum, Appendix D Engagement and Knowledge Supplement.

Consolidated summaries of engagement with the KRWB, Kitikmeot HTA/HTOs, and other Inuit organizations are compiled in Volume 3, Section 6 and Volume 3, Appendix 6C.

Please refer to NIRB 3 (IR-481). WKR's consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Response Package. Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase.

GN IR 03 (IR-283)

Subject

Mapping: Wetland Plant Communities and Surface Drainage

Issue / Concern

Wetlands provide critical habitat for wildlife, especially herbivores such as moose, muskox, and caribou. However, the GN notes that Section 15 of the IS does not include a map depicting the distribution of wetland plant communities, combined with attributes illustrating surface-water flow direction.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and others cannot fully understand the extent of potential upstream and downstream impacts to wetlands near the proposed road corridor.

Information Request

The GN requests that the Proponent include, in Section 15 (Assessment of Potential Effects on Vegetation), a map showing the proposed road and corridor, the extent of wetland habitats within and adjacent to the corridor, and the direction of water movement through or across the proposed corridor.

Proponent Response

WKR acknowledges the Government of Nunavut's request for a map showing wetlands intersected by the Project and water flow paths. This level of detail is not available at this stage of the Project (10% [conceptual] engineering design stage). The information request will be addressed further at the technical review stage. Refinements of the project footprint and determination of culvert placement will influence the results.

GN IR 04 (IR-284)

Subject

References to Personal Communication Informing Professional Judgement

Issue / Concern

The term professional judgment is used throughout the IS (e.g., WKR, 2026, p. 14-28, 14-29, 14-34) with no additional reference regarding whether personal communication with a specialist or technical knowledge holder helped inform professional judgment being relied on for the assessment.
For transparency and clarity, the document should reference the individual(s) involved in making the professional judgment through the use of in-text citations (e.g., Jane R. Doe, John W. Doe, personal communication, 2026).

Information Request

The GN requests that in-text citations identifying personal communication with a technical or specialist knowledge holder(s) replace any mentions of professional judgment throughout the IS, where no further reference is provided.

Proponent Response

- WKR confirms that the term professional judgment is used in the IS in accordance with the Volume 4, Section 9 (Effects Assessment Methodology) framework, which relies on multiple documented sources including scientific literature, Inuit and Community Knowledge, engagement feedback, government data, and specialist expertise. The following are documented categories of information sources, which are considered professional judgement in support of the assessment:
- Inuit Knowledge documented in Volume 3, Section 4, Volume 6, Table 16.7 (Page 16-31), and Volume 6, Appendix 16A;
- Community Knowledge documented in Volume 3, Section 6 and Volume 6, Table 16.7;
- Indigenous Knowledge from transboundary Indigenous groups documented in Volume 10, Section 33 and Table 33.1;
- Engagement feedback from Kitikmeot HTA/HTOs, KIA, KRWB, and other Kitikmeot organizations (Volume 3, Section 6.1.1.1);
- Government wildlife data including collar data provided by GNWT-ECC and GN-DOE (Volume 6, Appendix 16A);
- Scientific literature and peer-reviewed studies cited throughout the IS as literature references;
- Specialist expertise applied by the WKR technical assessment team, including professional specialists from consultant teams supporting the Project.

When the term "professional judgment" appears in the IS without a separate citation, it refers to the specialist expertise applied by the WKR technical assessment team, acting within the scope of practice and codes of ethics of their respective professional regulatory organizations. In this context, professional judgment is not an uncited or unsupported input, but rather the discipline-based, professionally accountable presentation of the documented sources listed above, exercised by qualified practitioners and integrated with Inuit, Indigenous, and Community Knowledge and with applicable regulatory standards and guidelines.

GN IR 05 (IR-285)

Subject

Mapping: Cumulative Impacts of Induced Industrial Development on Caribou Habitat

Issue / Concern

The GN notes information in section 16.5, including Tables 16.8 –13 and Figures 16.14 and 16.15. However, as written, section 16.5 of the IS does not clearly assess the potential cumulative loss of seasonal range due to induced industrial development. Specifically, the IS fails to estimate or map the Potential connector roads between the existing and the proposed Project, as it is understood that the Proponent's Project is being advanced specifically to encourage resource extraction and other potential uses at a distance from the proposed road and corridor.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and others cannot fully understand the extent of potential cumulative loss of seasonal range for caribou.

Information Request

The GN requests that the Proponent develop an estimate of the potential cumulative loss of seasonal range, supported by a map illustrating possible connector roads and associated infrastructure to help visualize the overall scale of effects following the opening of the proposed road into the foreseeable future.

Proponent Response

Volume 6, Section 16.5 of the Impact Statement (IS) assesses cumulative effects on mainland and island caribou, but the tables and figures referenced by the Government of Nunavut (GN) (Tables 16.8 to 16.13; Figures 16.14 and 16.15) are in Section 16.4, which assesses Project-specific effects. These tables and figures do not include a discussion of cumulative effects, though Section 16.4 (including the above tables and figures) considers the disturbances from past and present physical activities.

Relevant tables and figures in Section 16.5 include the following:

- Tables 16.16 (p. 16-126)—a list of potential interactions with all past, present, reasonably foreseeable, and reasonably foreseeable induced (RFI) physical activities included in the cumulative effects assessment
- Table 16.17 (p. 16-130)—the project inclusion list of RFI physical activities and their associated Zones of Influence (ZOIs)
- Table 16.18 (p. 16-131)—the range disturbance calculation in the Bathurst Caribou Herd Range Assessment Area 1 (BCH-RAA1) under RFI conditions

- Tables 16.19 and 16.20 (pages 16-133 and 16-136)—summaries of selected seasonal habitat affected by the Project and RFI-related physical activities for the BCH and Dolphin and Union Caribou Herd (DUH)
- Figures 16.16 and 16.17—maps of selected seasonal habitat affected by the Project and RFI-related physical activities for the BCH and Dolphin and Union Caribou Herd (DUH)

Detailed spatial metrics and figures of all reasonably foreseeable and RFI physical activities are presented in Volume 4, Appendix 9A, Attachments 9A2 and 9A3.

GN IR 06 (IR-286)

Subject

Land-Cover Classification Uncertainty

Issue / Concern

Section 15.6.3 of the IS states, "Coarser scale mapping at the [Regional Assessment Area] level also limits the ability to identify landcover classes and therefore cumulative effects may be over or underestimated for some classes." (WKR, 2026, p. 37-1) However, the Proponent has not assessed the level or range of uncertainty numerically, as well as the classes within which these uncertainties exist.

This information should be provided by the Proponent in the IS to ensure the GN and other parties can properly evaluate the extent of impacts to various land-cover classes as they relate to wildlife habitat.

Information Request

The GN requests that the Proponent provide:

- *A numerical range describing the precision of landcover classifications within the study corridor.*
- *A discussion on how uncertainty in landcover classification may have influenced the Proponent's assessment of impacts on caribou, moose, and muskox and associated conclusions.*

Proponent Response

WKR acknowledges the Government of Nunavut's (GN) request for (a) a numerical range describing the precision of landcover classifications within the study corridor (i.e., Regional Assessment Areas [RAA]), and (b) how uncertainty in landcover classification may have influenced assessment of impacts on caribou, moose, and muskox, and associated conclusions. WKR respectfully requests that this IR be treated as a technical comment and deferred to the technical comment phase.

GN IR 07 (IR-287)

Subject

Project Routing and Caribou Habitat

Issue / Concern

The current proposed routing of the Grays Bay Road and associated corridor conflicts with the traditional spring and fall migratory routes, as well as the calving and post-calving range of the Bathurst herd and Dolphin and Union herds (and possibly the Beverly and Ahiak herds, though that information is missing from this IR).

However, Section 16.1.1.5 of the IS states the following:

> *"Proactive Protection Measures: WKR's commitment to avoiding or strictly mitigation know high-risk activities is crucial. This includes actions like avoiding or minimizing roads through calving grounds and migration routes…" (WKR, 2026, p.16-7.)*

The IS does not clearly describe what route modifications are being proposed to reduce impacts on calving, post-calving, and migratory barren-ground and Dolphin and Union caribou, nor whether such routing modifications are still under consideration to meet this requirement.

This information is necessary for the GN and other parties so that a thorough review and understanding of the extent of potential impacts associated with the proposed routing can be undertaken and better understood.

Information Request

The GN requests that the Proponent provide a detailed discussion of how and where road and corridor routing will be modified to minimize conflicts with calving, post-calving, and migratory barren-ground caribou herds and the Dolphin and Union caribou herd.

Proponent Response

The current Grays Bay Road alignment was the preferred route selected in the 2017 Kitikmeot Inuit Association/Government of Nunavut alternatives assessment to minimize conflicts with calving, post-calving, and migratory barren-ground caribou herds and the Dolphin and Union caribou herd. This information is detailed in Volume 2, Section 2.4 in the Impact Statement (IS):

> "*… an alternate road alignment was evaluated to avoid overlap of the published mapping of core calving grounds from the Government of Nunavut, which have subsequently been used in the Nunavut Planning Commission's Draft Nunavut Land Use Plan. This alignment was not carried forward based on the additional 50% length added to the road, two bridge crossings that would be greater than 100 m in length, the more rugged topography with a higher number of valleys and hills that would increase the road footprint and require additional fill areas; all of these resulted in*

additional design and construction costs for the road and less desirable vehicle operation and safety considerations. Therefore, this route option was not carried forward" (Volume 2, Section 2.4).

"*… the [current] Grays Bay location was identified as the preferred alternative by the Government of Nunavut and the Kitikmeot Inuit Association based on connectivity and a centrally located port location for marine transportation and safety.*" (Volume 1, Executive Summary; Volume 2, Section 2.4)

Volume 1 of the IS provides additional wildlife-related rationale for not carrying forward the alternative alignment: "The larger disturbed area would also cause increased indirect habitat loss due to increased noise, dust, traffic, and human activity. These impacts did not align with the design approach informed by Inuit Knowledge, which seeks to minimize land disturbance and protect key wildlife areas" (Volume 1, Executive Summary).

While the alternative alignment was specifically evaluated to avoid GN's published core calving grounds for the Bathurst Caribou Herd (BCH), the current Grays Bay Road alignment also avoids the BCH cumulative peak calving areas: "The cumulative peak calving areas from 2009 to 2024 indicate a very low probability of overlap with the PDA and LAA (see Figure 16.3). This observation is consistent with the bulk of pre-1996 and post-1996 calving areas identified by Kitikmiut (see Figure 16.4)" (Volume 6, Section 16.4.1.3).

Physical realignment of the Grays Bay Road (beyond the preferred alternative selected in the 2017 KIA/GN alternatives assessment) is not proposed, as the current alignment minimizes conflicts with calving, post-calving, and migratory barren-ground caribou herds and the Dolphin and Union caribou herd. Mobile Caribou Conservation Measures (MCCMs) implemented as part of the Trigger Action Response Plan (TARP) framework will initiate adaptive road closures to mitigate effects on caribou during seasonal migrations, calving, and post-calving (Volume 6, Section 16 and Volume 11, Appendix 37A). Furthermore, "specific caribou-related triggers will be included in the Final WMMP [Wildlife Mitigation and Monitoring Plan] and will be determined in consultation with the Kitikmeot Inuit Association, the GN, and the GNWT" (Volume 11, Appendix 37B, Section 8.3.3).

GN IR 08 (IR-288)

Subject

Additional Contributors to Caribou Mortality Risk: Distributional Shifts

Issue / Concern

In section 16.1.3.4 of the IS, the Proponent only considers the following effect pathways with respect to mortality risks to caribou:

> *"Caribou mortality may occur through collisions with vehicles using the Project. Vehicle collisions with caribou are known to occur along major highways with substantial traffic (EDI Environmental Dynamics Inc. 2015). The Project may also facilitate indirect caribou mortality through increased hunter access, thereby increasing hunting pressure, or through predator ambush (e.g., using road banks as cover to depredate caribou)." (WKR, 2026, p. 16-15)*

As such, the Proponent has not fully considered mortality risks associated with distributional shifts in migratory routes and associated seasonal range on feeding, health, productivity, and disease transmission to caribou. An assessment of these potential risks known to be associated with linear infrastructure, such as roads, will be required to fully understand impacts to caribou.

Without this information, the GN and other parties cannot fully understand the extent of mortality risks associated with shifts in caribou migration and seasonal range.

Information Request

The GN requests detailed information on the possible mortality risks associated with the known potential for roads to disrupt migratory behaviour and associated use of seasonal range.

The GN requests that the information also assesses effects on foraging success, reproductive productivity, and disease transmission, as these metrics are required to fully evaluate impacts on caribou.

Proponent Response

The assessment of changes in range disturbance, habitat, and movement implicitly incorporate pathways that affect caribou foraging, body condition (health), and herd productivity. In these assessments, a critical assumption is that range condition, habitat availability, and habitat connectivity must be adequate to support caribou populations. Nevertheless, caribou feeding, health, productivity, and disease transmission are considered within the Impact Statement (IS) but evaluated separately from mortality.

Caribou feeding, body condition (health), and herd productivity are integrated into the Caribou Herd Vulnerability Model (CHVM) as part of the transboundary effects assessment (Volume 6, Section 16.6.3.1).

The CHVM is used to explore “the relative outcomes in herd dynamics under different scenarios (i.e., comparisons among scenarios)”, “not numerical predictions (i.e., annual decline rates” (Volume 6, Section 16.6.3.3, page 16-156).

Caribou health as it pertains to exposure environmental pollutants is considered in the change in health assessment through the Environmental Risk Assessment (ERA) (Volume 6, Section 16.4.5).

Disease prevalence and transmission are discussed in the Wildlife Baseline Report (Volume 6, Appendix 16A).

However, discussion on how changes in movement would increase disease transmission would be speculative and hypothetical. There is limited documented evidence to suggest the mechanism for such an effect.

GN IR 09 (IR-289)

Subject

Additional Contributors to Caribou Mortality Risk: Predators

Issue / Concern

The Proponent discusses facilitated predation throughout the IS (e.g., sections VS.6.3.2, 16.2.2, and 16.4.4.4). For example, Table 16.7 of the IS, the Proponent assessed predator risk along the road as low due to the landscape, stating:

> *"However, the overall risk of facilitated predation is low; the surrounding opening landscape already provides mostly unobstructed predator movement." (WKR, 2026, p. 16-31)*

The Proponent's assessment fails to address the well-documented effect of linear infrastructure on caribou movement, including the slowing and funneling of animals along roads when attempting to cross, conditions that can increase predation risk. Inuit knowledge and observations from other tundra roads have long recognized that predators exploit these choke points, and substantial scientific literature describes how linear features create advantageous ambush locations within tundra habitats.
The Proponent must incorporate this information into the IS to fully assess predator–prey dynamics and associated mortality risks to caribou.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully understand the extent of predation risks associated with the proposed linear infrastructure.

Information Request

The GN requests additional information and analysis regarding the effects of tundra roads in slowing and concentrating caribou movement into choke points along linear infrastructure, and how these areas may be exploited by predators to hunt caribou.

Proponent Response

WKR explicitly acknowledges in the Impact Statement (IS) that ambush-style predation is a possibility: "The Project may also facilitate indirect caribou mortality … through predator ambush (e.g., using road banks as cover to depredate caribou)" (Volume 6, Section 16.1.3.4, page 16-15). "If roads alter caribou movements sufficiently to aggregate individuals near roads, predators may take advantage of the opportunity to depredate them" (Volume 6, Section 16.4.4.4, page 16-112). This is also acknowledged in response to comments by the Inuit Advisory Group (IAG): "If the Project results in caribou aggregating near the road, wolves may use the opportunity to depredate caribou" (Volume 6, Section 16.2.2.1, Table 16.7, page 16-31). The IAG also identified snowbanks as contributing to this type of predation: "High snowbanks along roads can trap caribou, making it easier for caribou to be injured or caught by predators (IAG 2025a, 2025b)" (Volume 6, Section 16.4.4, page 16-107).

However, WKR stands by the statement that it is unlikely that Project-facilitated predation will contribute to caribou mortality. The risk of chokepoints that increase caribou predation are mitigated in two primary ways: (1) Project design that reduces caribou aggregation, and (2) mitigation commitments to promote road permeability.

The Project Road design will limit, where possible, embankment heights, toe-slope angles, and the size of surface materials, thus, when approaching and crossing the road, caribou are likely to have greater visibility with fewer concealed areas for wolves (Volume 6, Section 16.4.4.3).

WKR has also committed to applying adaptive management strategies; specifically, a caribou Trigger Action Response Plan (TARP) that includes Mobile Caribou Conservation Measures (MCCMs) to initiate targeted and adaptive road closures (e.g., a closure between specified kilometre markers where and when caribou are observed migrating) and several traffic management protocols (e.g., speed limits, wildlife right-of-way) (Volume 6, Section 16.1.1.6).

The TARP and MCCM framework operate as adaptive road closures at specified kilometre markers when caribou are observed migrating, preventing the road from functioning as a barrier or a choke point during periods of high caribou traffic. Where crossing delays are reduced, the potential for choke-point predation is correspondingly reduced.

Traffic management also reduces the risk of caribou funneling and aggregation at the roadside. Reduced traffic speed at identified wildlife road-crossing locations facilitates caribou crossing and reduces the risk of caribou being funneled to non-optimal crossing points. Furthermore, wildlife will have the right-of-way when they occur on or immediately adjacent to the roadway (Volume 11, Appendix 37A, Section 7.1, Table 7.1).

Please refer to the response to KIA-IR39 (IR-109) for further discussion on the status and intent of the current Wildlife Mitigation and Management Plan (WMMP), including WKR's commitment to engaging with other parties to finalize road-related mitigation triggers and protocols for caribou.

GN IR 10 (IR-290)

Subject

Zones of Influence

Issue / Concern

The Proponent discusses only simple zones of influence (ZOI) and does not consider disruptions to migratory behaviour or the potential for amplified habitat loss downstream of the structural disturbance.

A road bisecting a terrestrial migratory corridor often creates an asymmetrical zone of influence. The deflection of migrating caribou can produce an expanded ZOI both upstream of the road—where caribou travel along the linear feature searching for a suitable crossing—and downstream of the road, where caribou may be unable to access preferred seasonal ranges due to upstream displacement. These effects would extend beyond what is captured by a standard ZOI analysis that the Proponent has provided.

An assessment for this more robust modified ZOI, resulting from altered migratory movement, should be completed by the Proponent and provided to reviewers. The GN believes that this is a critical information gap for reviewers. Without it, the GN cannot fully assess the full scope of potential impacts from the Project on migratory caribou moving through the area.

Information Request

The GN requests that the Proponent include a more robust assessment of ZOI effects to enable a realistic evaluation of negative impacts to caribou moving across the Project's linear infrastructure.

Proponent Response

The Zone of Influence (ZOI) applied to the Project Road is used to assess habitat-related effects, not movement- or migration-related effects. Based on the wording of the Information Request ("*A road bisecting a terrestrial migratory corridor …*"), the GN is primarily referring to migration effects on the Bathurst Caribou Herd (BCH). The Impact Statement (IS) assesses change in habitat for the BCH during three seasons (calving/ post-calving, summer, and fall) (Volume 6, Section 16.4.2), excluding the key migration window/corridor during spring. Road permeability is the crucial metric for spring migration, when BCH cows are urgently moving towards their calving range. Thus, spring migration is a focus during the assessment of change in movement (Volume 6, Section 16.4.3).

To assess change in movement, including potential effects on migration location and timing, the IS does not rely on simple ZOIs. WKR also contends that additional “asymmetrical ZOI” analyses are not required. The IS presumes that any potential, future interactions with the Project Road can affect local movement and broad scale migration. Brownian Bridge Movement Model (BBMM) utilization distributions are used to determine where BCH and DUH migrations overlap with the Project, identifying the location and extent of areas where the Project may act as a physical and/or perceptual filter to migration (Volume 6, Section 16.4.3.1).

Volume 6 Section 16.4.3.4 discusses mitigation to reduce broad-scale movement effects on migration routes and timing.

GN IR 11 (IR-291)

Subject

Proven Efficacy of Mitigation Measures

Issue / Concern

In Appendix 37B of the IS, WKR states,

> *"In accordance with the guidance provided by the Inuit Advisory Group to WKR, and a suggestion to not "re-create the wheel" when it comes to protection measures (Inuit Advisory Group (IAG) 2025), best management practices to avoid or reduce Project-related effects on the land, water, and the animals that use it were adapted from previously approved major development projects in the Arctic". (WKR, 2026, p.7)*

The GN notes that mitigation techniques remain largely unverified and untested in tundra environments. In particular, Mobile Protection Measures (MPM) or Mobile Caribou Conservation Measures (MCCMs) (which the Proponent intends to use; e.g., WKR, 2026, p.15) are poorly defined, lack demonstrated effectiveness over a long-term period, and have few, if any, documented examples of successful application.

The GN was unable to identify where in the IS the Proponent discusses the validity and reliability of mitigation techniques in relied upon to reduce impacts on caribou.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the effectiveness or feasibility of the proposed mitigation measures.

Information Request

The GN requests that the Proponent include a full discussion and literature review of past and present successful applications of MPM's and other possible mitigative measures proposed to be used to offset potential negative impacts to caribou.

Proponent Response

Overview of Mobile Caribou Conservation Measures

Mobile Caribou Conservation Measures (MCCM) are a critical management tool identified in the Bathurst Caribou Range Plan (2019). The MCCM framework was developed based on decades of study of Arctic caribou and mining projects (Poole and Gunn 2015). MCCM "restrict non-essential project activities when caribou are present" (Bathurst Caribou Range Plan, page 4; Government of Northwest Territories 2019) and require appropriate monitoring, compliance, and enforcement. The Plan notes that:

> "*MCCM have not been applied to a great extent in the north or other jurisdictions in Canada, and where they have been used their effectiveness was not assessed. Some work has been done to develop a rigorous method for detecting, triggering and taking action as caribou approach a development, as well as an analysis of the potential effectiveness of MCCM. These documents provide a reasonable starting point to test implementation in an adaptive management framework. The Review of MCCM commissioned by the Government of Nunavut (GN) recommends the application of MCCM on a trial basis to assess effectiveness "across one or more seasonal ranges of one of a few overlapping herds." The recommendation below proposes the trial development and application of MCCM on the Bathurst range. The GN review suggests implementation proceed in three phases: planning (creating a MCCM framework), operation (application of MCCM at sites) and review (assessment and reporting on effectiveness). Given the large geographic areas and dynamic range use patterns of barren-ground caribou, MCCM appear to provide the best combination of disturbance reduction effectiveness for caribou and operational flexibility for industry.*"
> (Bathurst Caribou Range Plan, pages 55 to 56; Government of Northwest Territories 2019)

Thus, the Plan acknowledges the limited efficacy testing of MCCM but argues it can be a useful and practical framework with the proper planning, operation, and review. Some testing has been conducted; for example road closures can reduce crossing delays during migration by up to 68% (Boulanger et al. 2024) and forms of traffic management, such as convoying (under RFI conditions), may reduce the degree to which caribou avoid roads (Prichard et al. 2022).

WKR is committed to implementing a robust MCCM framework as part of the Project's Wildlife Mitigation and Management Plan (WMMP) (Volume 11, Appendix 37B) and will develop the protocols and triggers/thresholds through consultation with co-management parties. As a first step, WKR has already coordinated information sharing with GNWT-ECC to support current understanding of caribou–Project interactions. Through MCCM Information Release Agreement MCCM-WLD-0008, GNWT-ECC provides WKR with regular collar maps.

Validity of Mitigations

The Impact Statement (IS) concludes high confidence in the effectiveness of proposed mitigations based on a variety of information sources:

> "*There is high confidence in the success of standard mitigation and management measures based on their effectiveness in past projects (Golder Associates Ltd. 2020; Agnico Eagle Mines Ltd. 2020; Arctic Canadian Diamond Company 2022).*" (Volume 6, Section 16.8.4, page 16-162).

> "*The projects considered by WKR to be relevant sources of best practices included the Mackenzie Valley Highway, the Inuvik Tuktoyaktuk Highway, the Sabina Gold and Silver Corporation's Back River Project [B2Gold Nunavut], Agnico Eagle Mines Limited – Meadowbank Complex and associated access roads, Agnico Eagle's Hope Bay Mine, Agnico Eagle's Meliadine Division, the Baffinland Mary River Project, and Mineral and Metals Group's Izok Corridor Project. Developed with Inuit, Indigenous, and Community Knowledge, best practices from these projects, along with information shared with WKR in workshops with the Inuit Advisory Group (IAG) and engagement with communities, form the basis of the mitigation measures and monitoring strategies presented in this document.*" (Volume 11, Appendix 37B, Section 3, page 7).

> "*In addition to these, the primary tools to address potential habitat, movement, and mortality risk effects on caribou—the Project design and TARP framework—further increase the confidence of mitigating any residual Project or cumulative effects. The proposed mitigation, management, and enhancement measures align with local perspectives and the available scientific literature. The IAG has expressed support for adjusting the road location to avoid caribou habitat (where possible), establishing mobile protection zones during migration to calving grounds, and restricting blasting and traffic when needed (IAG 2025b). Road closures, when needed, can reduce crossing delays during migration by up to 68% (Boulanger et al. 2024). Traffic management, such as convoying (under RFI conditions) may reduce the degree to which caribou avoid roads (Prichard et al. 2022). Though the amount of evidence testing the effectiveness of these mitigations is not abundant, the mitigation, management, and enhancement measures proposed for the Project are substantial and precautionary, aligning with the principles and recommendations provided in the Bathurst Caribou Range Plan (GNWT 2019).*" (Volume 6, Section 16.8.4, page 16-162)

GN IR 12 (IR-292)

Subject

Methods to Detect Caribou

Issue / Concern

Section 16.4.2.3 of the IS states that Minimum Count Confidence Method/Metric (MCCM)-based adaptive road closures and traffic management will be used to mitigate impacts to caribou (e.g., WKR, 2026, p. 16-94); however, no further details are provided.

If road closures are adopted as a mitigation strategy, the method used to detect caribou and determine their distance from the road will be critical for initiating closures before caribou movement behaviour is affected.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the effectiveness or feasibility of this element of the proposed mitigation measures.

Information Request

The GN requests that the Proponent provide detailed methods for the detection of caribou approaching the road, including distance and timing thresholds, and a clear protocol for suspending road-based activities. The GN notes that this information should be provided during the review phase of the Project, not after.

Proponent Response

Please refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on the Mobile Caribou Conservation Measures (MCCM), Trigger Action Response Plan (TARP), and mitigations and commitments outlined in the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B). WKR is committed to updating the WMMP before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and after the final hearing is completed.

GN IR 13 (IR-293)

Subject

Evidence Supporting Confidence in Road Mitigation

Issue / Concern

With respect to caribou mitigation and monitoring, section 16.8.4 of the IS states, "there is high confidence in the success of standard mitigation and management measures based on their effectiveness in past projects (Golder Associates Ltd. 2020; Agnico Eagle Mines Ltd. 2020" (WKR, 2026, p.16-162). However, the GN notes that the Proponent does not substantiate this position in the IS with any supporting discussion or analysis.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the Proponent's position with respect to the efficacy of the proposed mitigation for the road.

Information Request

The GN requests that the Proponent provide a detailed discussion of the mitigation methods used, the seasonal ranges in which they were applied, and the quantitative results demonstrating their effectiveness and relevance to the Greys Bay Road.

Proponent Response

Please refer to the responses to Information Request KIA-IR39 (IR-109) and GN-IR11 (IR-291) regarding support for the proposed mitigations and WKR's commitments to developing detailed protocols and thresholds/triggers through consultation with co-management parties.

GN IR 14 (IR-294)

Subject

Road Monitoring Options

Issue / Concern

The GN notes that road-based monitoring can be a source of disturbance to wildlife and may affect the effectiveness of natural landforms in its effectiveness for early detection of approaching herds.

While section 16.9 of the IS states "Regional monitoring from continuous review of GPS collar data (in coordination with GN and GNWT), and local-scale monitoring along the Project Road by dedicated Inuit Monitors, will provide early warning systems as part of the caribou TARP" (WKR, 2026, p.16-163) the IS does provide a broader discussion on alternative methods (e.g., collars, drones) that could be used for early warning of approaching caribou.

The GN believes that the absence of this additional information regarding alternative methods in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the Proponent's position with respect to the efficacy of the proposed mitigation for the road and the methods used to achieve stated goals.

Information Request

The GN requests that the Proponent provide a detailed discussion on remote monitoring methods, such as telemetry and aerial drones, to allow for the detection of migrating caribou before being influenced by the road and its associated activities, including road-based wildlife surveys.

Proponent Response

Please refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on the current early design stage of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B). WKR has committed to developing detailed methods for the caribou Trigger Action Response Plan early warning systems, including monitoring via GPS collars and possibly drones, through consultation with co-management parties.

GN IR 15 (IR-295)

Subject

Shipping Traffic and Sea Ice Crossing Corridors for Dolphin and Union Caribou

Issue / Concern

The GN notes Figure 23.10 in Volume 8 of the IS, which illustrates the Northwest Passage Shipping Route and the Project Access Corridor. The GN also notes Figure 4.38 in Volume 6, Part 12 of the IS, which illustrates Dolphin and Union spring and fall migration routes across the sea ice of Dolphin and Union Strait, Coronation Gulf and Dease Strait.

However, the GN notes that the GN could not locate in Volume 6 of the IS, a map showing the proposed shipping routes (e.g., Northwest Passage Shipping route) overlaid with Dolphin and Union caribou sea ice crossings.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the Project's potential effects on the Dolphin and Union caribou.

Information Request

The GN requests that the Proponent provide a map of the proposed Northwest Passage shipping route overlaid with known Dolphin and Union caribou sea-ice crossing corridors, accompanied by a discussion of potential risks to sea-ice stability and caribou migration.

Proponent Response

Please refer to the responses to Information Requests KAA-20 (IR-20) and KAA-21 (IR-21) for details on the timing, frequency, and extent of Project-related shipping. Key points include the following:

Project-operated shipping (operated by WKR) is open-water only (late June through October), does not include icebreaking, and is conducted on a marine approach route approximately 40 nautical miles south of the Northwest Passage shipping lane.

Shoulder-season activity at the Grays Bay Port (early June and November) is by the Canadian Coast Guard and other approved vessels. As stated in Volume 2, Section 2.6.3.3: "ice breaking during this period is not anticipated to affect human or wildlife transiting trails to and from the mainland".

Figure 1.1 in the Project Description identifies the Northwest Passage relative to the Project (Volume 2, Section 1.2, page 1-5). An additional map overlaying the Northwest Passage and DUH migration corridor is not needed for the reasons outlined above.

GN IR 16 (IR-296)

Subject

Missing References to Recent Caribou Surveys

Issue / Concern

Section 4.5.1.2 of Volume 6, Part 12 of the IS does not include references to a 2021 survey of the northeast mainland herds, including the Ahiak herd and a 2023 survey of the Beverly herd (Campbell et al. 2022; Campbell et al. 2025). These more current reports should be fully integrated into the discussion of these herds to ensure the IS reflects the best available information.

The most recent demographic information on the Beverly and Ahiak herds is absent from the discussion on these subpopulations and should be included in the discussion, along with an updated assessment of collar movements, in order to properly assess potential impacts from the Project on these herds.

Information Request

The GN requests that the discussion for section 4.5.1.2 be updated to incorporate the most recent information regarding the abundance, trend, and distribution of the Ahiak and Beverly caribou herds.

Proponent Response

WKR confirms that Campbell et al. (2025) is already included in the Impact Statement (IS) across multiple sections (i.e., Volume 6, Section 16.3.5; Volume 6, Section 16.6.3.3; Volume 6, Appendix 16A, Section 4.5.1.3; and Volume 6, Appendix 16B, page 15). However, Campbell et al. (2022) is not currently cited. See below for updated text.

Impact Statement Updates

Additions to Volume 6, Appendix 37B, Section 4.5.1 of the IS, including demographic and collar-based movement/distribution information from Campbell et al. (2022) are indicated by **bold** text and previously incorrect statements are indicated by a ~~strikethrough~~.

The following update addresses new demographic information:

> "**GN-ENR has provided two extrapolated whole-herd estimates for the Beverly herd since 2011: 103,372 ± 5,109 caribou in 2018 (Campbell et al. 2019), increasing to 152,131 ± 13,072 caribou in 2023 (Campbell et al. 2025).**
>
> The Ahiak herd (initially known as the Queen Maud Gulf herd) is one of the most poorly monitored of the large migratory mainland caribou herds. The herd was initially estimated at roughly 200,000 animals in 1996 (Gunn et al. 2000). Surveys completed in June 2011 had an abundance estimate of 71,340 ± 3,882 caribou (Campbell et al. 2012). ~~No additional surveys of the Ahiak caribou herd have occurred since 2011.~~ **However, this estimate was adjusted to 58,090 ± 3,536 caribou to be**

comparable to the more recent June 2021 survey, which excluded eastern strata near Kugaaruk (associated with the Wager Bay herd) (Campbell et al. 2022). The June 2021 abundance estimate was 30,369 ± 2,034 caribou, indicating an approximate 52% decline since 2011 (Campbell et al. 2022).

~~The Beverly/Ahiak abundance estimates for 2018 suggested a total of 103,372 ± 5,109 caribou based on a whole herd estimate of adult females (Campbell et al. 2019). In 2023, the Beverly/Ahiak herd population estimate was found to increase to 152,000 animals (Beverly & Qamanirjuaq Caribou Management Board 2025).~~ **Considering the most recent, separate estimates for the Beverly (2023) and Ahiak (2019) herds, the combined Beverly/Ahiak abundance is approximately 182,500 caribou.**" (Volume 6, Appendix 37B, Section 4.5.1.2, page 128)

The following update addresses the collar-based movement/distribution information:

"Post-2011, calving occurs within the Queen Maud Gulf area, and wintering varies from tundra habitats just north of tree line, to forested and tree line transition areas near the east end of Great Slave Lake (see Figure 4.1). **Using 2016 to 2021 collar data, Campbell et al. (2022) demonstrated that Ahiak caribou had a relatively low fidelity to their calving grounds (i.e., a 44% return probability in successive years), often moving towards the Beverly calving grounds (29% switching probability). This increasing mixing of Beverly/Ahiak caribou** ~~More recent survey observations and collared cow telemetry locations have also documented~~ **coincides with** a general shift in the **Beverly** calving distribution east from the Perry River area, towards the Adelaide Peninsula's western and southern extents (Campbell et al. 2025)." (Volume 6, Appendix 37B, Section 4.5.1.3, page 128)

Reference

Campbell, M., Boulanger, J., Ringrose, J., Roberto-Charron, A., and Mutch, C. 2022. Abundance Estimates of the Northeastern Mainland Tundra Wintering Subpopulations of Barren-Ground Caribou (*Rangifer tarandus groenlandicus*) on the Nunavut Eastern Mainland – June 2021. Report to the Nunavut Department of Environment and Co-management Partners. Government of Nunavut.

GN IR 17 (IR-297)

Subject

Seasonal Range Maps for Other Caribou Herds

Issue / Concern

The GN notes that section 4 of Volume 6, Part 11 of the IS includes figure 4.1, which shows the range of caribou herds (Bathurst, Dolphin and Union, Ahiak, Bluenose East and Beverly) overlaid with the Project footprint.

However, the seasonal ranges for each of these herds are not provided in this section.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the Project's potential effects on the Dolphin and Union, Ahiak, Bluenose East and Beverly caribou herds.

Information Request

The GN requests that the Proponent include seasonal range maps for the Bluenose East, Beverly and Ahiak herds in Section 4.

Proponent Response

The Impact Statement (IS) uses official annual herd ranges (acquired from GNWT's Species and Habitat Viewer; Appendix 37B, Section 4, Figure 4.1) as an initial filter for the selection of representative mainland and island caribou herds that interact with the Project. WKR contends this approach is reasonable since an annual range delineates the full extent of a herd's distribution. The IS then provides seasonal ranges for the representative mainland caribou herd—Bathurst Caribou Herd (BCH) (Appendix 37B, Section 4, Figure 4.6; Section 16, Figure 16.2)—and the complete mainland distribution of the representative island caribou herd—Dolphin and Union Caribou Herd (DUH) (Appendix 37B, Section 4, Figure 4.30; Section 16, Figure 16.7)—to support the assessment on caribou. Thus, seasonal ranges for other herds, in WKR's opinion, are not critical information gaps.

Please refer to the response to GC-IR 02 (IR-149) for further discussion of how other herds were considered in the assessment, including the Beverly/Ahiak and Bluenose East herds.

GN IR 18 (IR-298)

Subject

Data Gap - Collar Data Removed from Analysis

Issue / Concern

Section A.1.3 of the IS describes procedures for preparing telemetry data for analysis, and summarizes that,

> *"Thus, for a caribou to be retained for analysis, its GPS locations in a given season and year needed to cover at least 50% of that seasonal period within the 95% [Utilization Distribution (UD)] seasonal range (see Caribou Collar Data and Seasonal Ranges in Section 4.1.2)." (WKR, 2026, p. A-2)*

The GN notes that all normally functional telemetry data from collared caribou has ecological significance and should be displayed for review and consideration to fully assess potential impacts of the road project on Barren-ground caribou.

Information Request

The GN requests the Proponent list and seasonally map all normally functional barren-ground caribou telemetry data that was removed from the spatial analysis to allow for the assessment of the significance of the data removed up to and including the 95% UD. The GN believes that this additional spatial information could better inform understanding of potential Project impacts to barren-ground caribou.

Proponent Response

GNWT-ECC's seasonal ranges delineated for the Bathurst Caribou Herd (BCH) (Volume 6, Appendix 16A, Section 4.1.2.1, page 27) and WKR-developed seasonal resource selection functions (RSFs) presented in the Impact Statement (Volume 6, Appendix 16A, Appendix A, Section A.1.3, page A-2) use the same collar data requirements: individual collared caribou must have >50% daily coverage of a seasonal period to be included for analysis. This requirement ensures that the individual-level data used to describe range use and habitat selection are representative of each caribou's seasonal ecology. Please also refer to the response to Information Request KIA-IR34 (IR-104) for clarification on the BCH seasonal ranges delineated by the Government of Northwest Territories.

For the development of RSFs, the data requirement resulted in 156–196 unique caribou from the BCH (2009–2024) (Appendix 16A, Appendix A, Section A.1.3, Table A.1, page A-3) and 61–62 unique caribou from the Dolphin and Union Caribou Herd (DUH) (2015–2023) (Appendix 16A, Appendix A, Section A.1.3, Table A.2, page A-4), depending on the season. These large sample sizes, along with the appropriate analytical techniques—i.e., 1:20 used-available ratios and large-weighted availability (Appendix 16A, Appendix A, Section A.1.5, page A-6)—are sufficient to estimate unbiased coefficients of resource selection.

Unlike the RSFs, migration movement modelling using Brownian bridge movement models (BBMMs) considered all caribou trajectories during spring and fall migration for the BCH and DUH (Appendix 16A, Section 4.1.2.2, pages 30 to 31). The reason for using all collar data in this analysis was to identify all movement paths (cumulatively) that could interact with the Project.

GN IR 19 (IR-299)

Subject

Uncertainty Regarding Vessel Activity Outside of Open-Water Season

Issue / Concern

Section 23.4.1 of the EIS states,

> *"WKR does not plan to receive vessels outside of the open-water season. Furthermore, all third-party user groups, including those listed as Reasonably Foreseeable Induced (RFI) projects/activities, have committed to using the port only during open-water season, typically from late June through October.*

WKR has agreed to accommodate crew changes for icebreaking vessels operated by the CCG (via the airstrip), but only during the open-water season. Icebreaker operations in the Arctic generally occur from June to November, after which vessels return south. No regular vessel traffic, including CCG ships, will access the port outside the open-water season." (WKR, 2026, p.23-107)

As demonstrated above, the IS does not clearly confirm whether shipping could occur outside the open-water season. This lack of clarity is significant, as shipping during non-open-water periods could disrupt sea-ice formation or stability and pose substantial risks to Dolphin and Union caribou during their spring and fall sea-ice migrations.

The GN requests that the Proponent clarify whether there are any foreseeable situations in which shipping traffic could occur outside the open-water season, including activities that may affect sea-ice formation or occur before sea-ice melt.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the Project's potential impacts on the Dolphin and Union herd.

Information Request

The GN requests further discussion on the likelihood that shipping traffic in the spring or fall could disrupt sea-ice conditions in ways that may affect Dolphin and Union caribou migrations.

The Proponent must describe what assurances or measures, if any, will be implemented to prevent interference with Dolphin Union caribou sea-ice migrations from shipping activity and/or icebreaking operations.

Proponent Response

Please refer to the responses to KAA IR-20 (IR-20) and KAA IR-21 (IR-21) for Project-related shipping and vessel operations. Key points include the following:

1. Project-operated shipping (operated by WKR) is open-water only (late June through October), does not include icebreaking, and is conducted on a marine approach route approximately 40 nautical miles south of the Northwest Passage shipping lane.
2. Shoulder-season activity at the Grays Bay Port (early June and November) is by the Canadian Coast Guard and other approved vessels. As stated in Volume 2, Section 2.6.3.3: "*ice breaking during this period is not anticipated to affect human or wildlife transiting trails to and from the mainland*".

Thus, normal operations within the scope of the Project will not affect sea-ice formation or occur before sea-ice melt.

GN IR 20 (IR-300)

Subject

Cumulative Impacts of Public Use and Ecotourism on Wildlife

Issue / Concern

The GN anticipates that public desire to use the proposed road will be high for activities such as harvesting, establishing camps, and increased ecotourism or sport-hunting. These induced activities are likely to result in additional seasonal range disturbance and increased impacts on wildlife, particularly caribou, muskox and moose. However, the GN notes that the IS does not provide a cumulative impact assessment of wildlife impacts from these activities.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the combined effects of these activities on wildlife.

Information Request

The GN requests a more detailed assessment of the cumulative impact on wildlife arising from the use of the road for harvesting, establishing camps, and increased ecotourism or sport-hunting.

Proponent Response

Controlled Access

The Grays Bay Road is not an open public road. Access will be controlled by WKR, and third-party users will have to adhere to Project mitigation measures, as stated in the Impact Statement (IS):

> "As a privately owned Project, access to the Road and Port will be controlled by WKR. This provides the unique opportunity to require third-party users to adhere to mitigation measures (protocols and procedures) that contribute to the reduction and management of cumulative effects. […] Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association. If no approval process is in place, WKR anticipates that use of the road for harvesting purposes would be prohibited." (Volume 10, Section 32.5, page 32-17)

The access-management framework is set out in the Road Management Plan (Volume 11, Appendix 37A, Section 5.1.1), including security gates operated by WKR staff at Grays Bay Port and Jericho Station, sign-in and radio check-in procedures, entry/exit logging, and Access and/or Code of Conduct Agreements for commercial and Community Users (Volume 11, Appendix 37A, Sections 5.1.1 and 6).

Access-related Concerns Addressed in the Impact Statement

The potential for increased access to raise harvesting pressure on caribou is explicitly considered as part of Project effects (Volume 6, Section 16.4.4) and cumulative effects (Volume 6, Section 16.5.5). For example, the IS states:

> "*Increased access to a landscape from roads can lead to legal overharvesting and illegal hunting and poaching (Thomas et al. 1976; Jalkotzy et al. 1997). Without appropriate mitigations or access control, illegal road-associated hunting can substantially increase caribou mortality and wastage (e.g., Beverly and Qamanirjuaq Caribou Management Board 2025). Caribou vulnerability to hunting is greatest near infrastructure that facilitates hunting (e.g., roads and camps), and accessibility and landscape visibility increase hunter success (Plante et al. 2017). If hunting pressure is high along roads, caribou may avoid them altogether (Wells 2024), which may affect local- and broad-scale movement patterns (see Section 16.4.3). The level of hunting pressure will depend on how frequently the Project is used for harvesting and on the broader regional regulatory framework (e.g., TAH limits)*." (Volume 6, Section 16.4.4.2, pages 16-108 to 16-109)

Given the potential pathways, the IS concludes that:

> "*Indirect mortality from harvesting is expected to occur in a controlled manner consistent with territorial legislation and co-management objectives. Harvesting will not contribute to excess mortality because it will occur within TAH limits. Access control is a key Project mitigation, management, and enhancement measure that could act to limit illegal harvesting and poaching. Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and an Inuit Wildlife Organization (HTA), and these permits are expected to align with the current tagging system and TAH. This measure addresses a key access management issue identified as critical during the five-year review of the Bathurst Caribou Range Plan (Compass Resource Management Ltd. 2025)*." (Volume 6, Section 16.4.4.4, page 16-113)

Therefore, the IS sufficiently considers effects from increased access on caribou.

GN IR 21 (IR-301)

Subject

Snow Clearing and Management

Issue / Concern

Appendix 37B of the IS states that,

> *"Snowbanks will be maintained so they are not an obstruction to movement for caribou and other wildlife. Creation of snowbanks will generally be avoided (for operational reasons to avoid snow drifts on the road on the lee side of the bank), except where not technically feasible; the height of snowbanks will maintained at less than 1 m and snow plowing will be conducted in such a way as to limit the angle and vertical height of the snowbank edge." (WKR, 2026, p. 17)*

Furthermore, WKR states that the 'Effectiveness Monitoring Schedule' for this mitigation will be "as needed" (WKR, 2026, p. 17).

As such, the GN notes that the IS provides no clarity on how snow clearing along the approximately 230 km road will be consistently monitored, measured, and managed to prevent interference with wildlife movement across or directly adjacent to the road.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the potential impacts of the proposed Project on wildlife movement.

Information Request

The GN requests that the Proponent include additional information in Appendix 37B of the IS regarding how snow clearing will be measured, monitored, and managed to mitigate potential negative effects on migratory movements across the road corridor.

Proponent Response

Please refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on the current early design stage of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) and WKR's commitments to developing detailed protocols through consultation with co-management parties.

GN IR 22 (IR-302)

Subject

Wildlife Protection Measures: Missing Criteria Determining Wildlife Right-of-Way

Issue / Concern

The IS states,

> *"Wildlife will have the right-of-way when they occur on or immediately adjacent to the roadway. All vehicles and equipment must slow down to 30 km/h when wildlife occur within line of sight of the driver and must stop for 20 minutes when wildlife are within 100 m of the road and show intent to cross. Vehicles may proceed after 20 minutes when wildlife no longer show intent to cross. When animals are on the road, drivers must stop and wait for them to leave the area. If wildlife do not leave the road after 20 minutes since stopping, vehicles are to move forward no faster than a walking pace until the individuals leave the road, and may resume the posted speed limit once the vehicle has driven past the animals." (WRK, 2026, p.15).*

However, based on the above, the GN notes that the EIS does not describe the behavioural cues or other criteria that will be used to distinguish an animal intending to cross from one that no longer poses a crossing risk.

Additionally, the GN notes that "a walking pace" is not defined, and it is unclear whether any deterents (e.g., vehicle horns) would be used to encourage wildlife to move off the road.

The GN believes that the absence of this information in the EIS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the efficacy of the proposed monitoring/mitigation approach.

Information Request

The GN requires a more detailed explanation of:

1. *The criteria that will be used to distinguish an animal that intends to cross the road from one that does not.*
2. *The speed of a walking pace.*
3. *If other deterrents are planned to be used in this situation.*
4. *Any training programs or other methods that are planned to standardize the approach of collecting and interpreting behaviour.*
5. *The methods incorporated to measure approach distances, observe wildlife, determine and quantify behaviour.*

Proponent Response

Please refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on the current early design stage of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) and WKR's commitments to developing detailed protocols through consultation with co-management parties.

GN IR 23 (IR-303)

Subject

Triggers for Road Restrictions

Issue / Concern

Section 6 of the IS states that the Proponent will "[restrict] road use during sensitive periods or when caribou are observed in close proximity to the road." (WKR, 2026, p. 18)

The GN notes that some triggers are discussed in Section 6 of the Appendix 37B. For example, WKR states

> *"At least 10 caribou cows with calves moving onto or towards the road or other infrastructure during the caribou summer season (i.e., June 29 to September 6)" (WKR, 2026, p. 12)*

However, full details, such as the trigger distance, are generally not provided.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the efficacy of the proposed monitoring/mitigation approach.

Information Request

The GN requests that the Proponent provide detailed information on how road activity and traffic will be restricted during sensitive periods, including clearly defined restriction categories, the specific trigger distances and conditions for each category, and the expected duration of restrictions once triggered.

Proponent Response

Please refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on the current early design stage of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) and WKR's commitments to developing detailed protocols and thresholds/triggers through consultation with co-management parties. WKR is committed to updating the WMMP before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and after the final hearing is completed.

GN IR 24 (IR-304)

Subject

Communication Protocols for Road Management

Issue / Concern

Communication of site alerts and temporary shutdowns due to wildlife is discussed throughout section 6 of Appendix 37B. For example,

> *"All personnel onsite will be alerted by radio when a temporary shutdown occurs and for what area of the Project, and what everyone's responsibilities are for the temporary shutdown. Temporary shutdowns will also include email communications, postings on information boards, and discussions during morning meetings." (WKR, 2026, p.12)*

However, the Proponent does not indicate what communication protocols will be in place to ensure the general public and other commercial users of the road will follow the same protocols as WKR staff for site alerts and temporary shutdowns in real time.

The GN notes that without clear, enforceable communication measures for all road users, mitigation actions cannot be applied consistently, and the effectiveness of the entire system could be compromised.

The GN believes that the absence of this information in the IS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the efficacy of the proposed monitoring/mitigation approach.

Information Request

The GN requests that additional protocols for communication and compliance of site alerts and shutdowns with the public and other users of the road be provided and discussed.

Proponent Response

Communication Is Required of All Road Users, Not Only WKR Staff

The Road Management Plan (RMP) requires that *"Project and contractor vehicles will be equipped with radio communication controls set to the requisite road frequency to maintain communications at all times,"* and that the system is used to report vehicle locations, accidents or stranded vehicles, unauthorized vehicle use of the road, presence of wildlife on the road, and road conditions (Volume 11, Appendix 37A, Section 5.1.2). The RMP further sets out radio-use protocols requiring all vehicles to *"[s]tay on the designated channel at all times while travelling"* and to observe convoy-calling, overtaking, and signage rules, and provides that *"[a]ll signs, posting, notices, closures and barriers shall be observed and obeyed."*

The Compliance Mechanism for Non-WKR Users: Controlled Access and Agreements

Because Grays Bay Road is a controlled-access road, communication and compliance obligations are extended to commercial and community users through binding access instruments rather than voluntary adoption. The RMP provides that *"[p]rior to using the road all commercial and Community Users will be required to sign an Access and/or Code of Conduct Agreement, which will include road use rules and expectations, including those measures implemented for the protection of wildlife"* (Volume 11, Appendix 37A, Section 6). Road use is managed and monitored at security gates operated by WKR staff, with sign-in procedures and radio check-ins, and *"[u]nauthorized use may lead to security alerts and reports to local authorities"* (Volume 11, Appendix 37A, Section 5.1.1). This is the mechanism through which site alerts, closures, and shutdown directions are made enforceable against all road users.

How Shutdowns and Closures Are Communicated

Within the Wildlife Mitigation and Monitoring Plan (WMMP), a temporary shutdown *"can be initiated by the Site Manager,"* with all personnel alerted by radio, supported by email communications, postings on information boards, and morning meetings (Volume 11, Appendix 37B, Section 6.4). For caribou specifically, adaptive road closures under the caribou TARP / Mobile Caribou Conservation Measures suspend vehicle traffic when triggered, and *"[a]ll signs, posting, notices, closures and barriers shall be observed and obeyed"* by all vehicles on the road (Volume 11, Appendix 37A, Sections 5.1.2 and 6; Volume 6, Section 16.4.3). Wildlife signage, including signage pertaining to known wildlife crossings and key wildlife habitat areas, is posted on Grays Bay Road to inform all drivers (Volume 11, Appendix 37A, Section 6).

Community users will be strongly encouraged, though not required, to carry radios, satellite phones, or other communication devices while using Project facilities. WKR's code of conduct will outline communication expectations for all facility users, including protocols for temporary shutdowns triggered by wildlife or environmental alerts. Environmental monitors stationed at the Port, Road, and Jericho Station will regularly patrol all facilities to identify vehicle locations, accidents, stranded vehicles, unauthorized road use, wildlife presence, and environmental or road condition concerns. Should an alert be issued while community members without communication devices are on-site, WKR will implement protocols to locate those individuals, communicate the nature of the alert and associated expectations, and help where necessary.

GN IR 25 (IR-305)

Subject

Seasonal Range Use Monitoring Before and After Road Development

Issue / Concern

The IS states that the primary monitoring metrics (to verify effects predictions in the Project's effects assessment and to verify the effectiveness of mitigation and measures) for caribou are the following:

"• Amount of direct and indirect selected habitat loss

• Species occurrence and distribution (within and outside of an expected ZOI)

• Timing and location of PDA crossings

• Mortality events" (WKR, 2026, p. 21)

However, the GN notes that the proposed primary monitoring metrics focus almost entirely on post-construction conditions. To meaningfully verify effects predictions and assess the effectiveness of mitigation, these metrics must also incorporate pre-construction occurrence and distribution data. Without a baseline, it is not possible to determine how caribou behaviour, seasonal range use, or migratory patterns have changed in response to the road. Including pre- and post-construction comparisons, such as ratios or other measures of change, would provide a clearer understanding of range-wide impacts and allow reviewers to evaluate whether the Project is altering caribou movement at a meaningful scale.

The GN believes that the absence of this information in the EIS creates a critical information gap for reviewers. Without it, the GN and other parties cannot fully evaluate the efficacy of the proposed monitoring/mitigation approach.

Information Request

The GN requests that the primary monitoring metrics include an assessment of seasonal range use before road construction and after the opening of the road.

Proponent Response

The primary monitoring metrics identified for caribou in the Wildlife Mitigation and Monitoring Plan (WMMP)—direct/indirect habitat loss, occurrence and distribution, timing and location of PDA crossings, and mortality events (Volume 11, Appendix 37B, Table 8.1, document page 21)—have pre-construction estimates that will be compared to monitoring outcomes post-construction. Pre-construction (baseline condition) estimates are presented throughout the caribou assessment and are derived from geospatial data and GPS-collar location data, not ground-based monitoring:

- range disturbance (Section 16.4.1, Table 16.11, page 16-88);

- direct and indirect habitat effects (Section 16.4.2, Tables 16.12 to 16.13 and Figures 16.14 to 16.15, pages 16-95 to 16-99); and,
- local- and broad-scale movement (Section 16.4.3.4, pages 16-105 to 16-107).

The use of caribou collars for monitoring is explicitly discussed in the WMMP (Section 8.2.1.2) to allow comparison of pre-construction and post-construction estimates for the relevant monitoring metric. Additional, ground-based methods involving remote cameras (Section 8.2.1.1) and active monitoring by Environmental Monitors (Section 8.2.1.3), as well as incidental observations (Section 8.2.1.4), are meant to supplement the analysis of collar data.

With regards to the last metric—mortality events—the pre-construction estimate is zero, so any mortalities caused by Project-related infrastructure or activities would indicate an increase relative to baseline conditions.

GN IR 26 (IR-306)

Subject

Update Government Departments

Issue / Concern

Throughout Section 28, the proponent references the GN-Department of Community and Government Services (CGS). For example:

> *"The GN's Department of Community and Government Services is now responsible for annual dry cargo resupply, and the Petroleum Products Division is responsible for bulk fuel resupply." – pg. 28-23*

> *"Emergency services (i.e., ambulance, policing, and fire services) within Kitikmeot communities are provided either by the agencies and departments of the GN (e.g., Health and Social Services, Community and Government Services)" – pg. 28-26*

The Government of Nunavut announced a department reorganization in 2024, restructuring GN-CGS and GN-Economic Development and Transportation into the following new departments: Community Services; and Transportation and Infrastructure Nunavut.

Where appropriate, ongoing reference to the relevant GN divisions should use the updated associated department. Draft project management plans or new plans and mitigation measures must be updated to align with the appropriate GN services and contacts.

Information Request

The GN requests that the proponent:

1. *Confirm the appropriate GN departments and divisions within the Impact Statement.*
2. *Update existing documents as necessary and ensure development of Mitigation and Management plans, etc., includes the correct GN department and appropriate contacts.*

Proponent Response

WKR confirms the correction. References in Volume 9, Section 28 of the Impact Statement to the former Department of Community and Government Services and the former Department of Economic Development and Transportation will be updated to the successor departments established by the Government of Nunavut's 2024 reorganization: the Department of Community Services and the Department of Transportation and Infrastructure Nunavut, including the applicable divisions. References to the former departments or contacts in the mitigation and commitment tables in Volume 1, Appendix B will also be updated.

WKR will make these adjustments prior to the technical meeting/pre-hearing conference.

GN IR 27 (IR-307)

Subject

Consultation Summary

Issue / Concern

WKR notes their use and integration of community/public/indigenous engagement throughout the Impact Statement, such as through primary research, previous consultation efforts in 2017, through NIRB submissions, and from the 2025 IAG Meetings.

Introduction for each Valued Components (VC) in Volume 9 acknowledges the efforts to consider knowledge and feedback and to incorporate it into the project:

> ***Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment …****Through various meetings, workshops, and direct conversations, WKR listened to the cultural, environmental, and social priorities shared by engaged groups. These have been considered in the IS and project design. A summary of engagement activities conducted from 2016 to 2025 is presented in Volume 3, Section 6 (Public Engagement).*

A list of People and Community Interviews (Volume 9, Appendix 25A, Appendix A, A-1) supports the People and Communities Baseline Report (Appendix 25A). Methods and analysis are described as follows:

> *"The findings of primary research interviews, focus groups, and meetings were recorded by written notes and audio recording, when consent was granted. Written notes and audio recordings were typed and transcribed, respectively. Primary research underwent thematic analysis, which grouped findings into major themes that align with the various People and Communities VCs. Key findings of data analysis were integrated into the baseline report."*

Table 6.2 (Volume 3) and several Tables summarizing Inuit, Indigenous, and Community Knowledge and Engagement Feedback related to each VC (Volume 9), provide high level concerns attributed to organizations or consultation activities.

However, an intermediate summary of interview/focus group/personal communication (both the questions and feedback) is not presented. Notably, there are reports on the IAG meetings that do offer more detail on issues raised and discussed. Such a summary document on the remaining consultation activities would guide the reviewer from the context of what was said or group agreement on 'community' or organization perspectives to the major themes and key findings which the proponent integrated into their assessment and mitigation measures. For example, the IS includes several quotations as part of their assessment that is attributed to a single community member or an organization during community engagement activities.

Such a consultation summary allows reviewers to better understand context behind concerns raised by community members and organizations including the breadth of issues raised within organizations or communities, any contrasting perspectives within communities, and to better inform reviewers on the adequacy of the proposed management or mitigation to meet expectations of those consulted.

Information Request

For each consultation and engagement activity listed, the GN requests the proponent provide, where possible:

1. *A summary of consultation questions and responses that lead to the major themes and key findings integrated in the Impact Statement.*
    a. *Include context such as the nature of the consultation activity, how the questions were asked, whether general agreement to statements existed within groups or communities, and if common/competing statements were made among several groups or communities.*

Proponent Response

The primary-research methodology is set out in Appendix 25A (People and Communities Baseline Report, Section 3, Primary Data Collection). The Impact Statement records that a gap analysis of secondary data was used to "identify priority topics and interview questions for further community-based research," that community-based research in the five Kitikmeot communities was conducted in October and November 2024 under a Nunavut Research Institute licence (Licence No. 04 018 24N-M), and that a total of 61 interviews with 70 community members were conducted in-person and virtually, complemented by focus groups and meetings with HTOs, Elders, youth, and other sub-populations, and by key-person interviews with Yellowknife organizations in May–June 2025 under a GNWT research licence (17604) and Aurora Research Institute ethics approval (24-09).

The analytical method that carries interview and focus-group input into the assessment is documented in Appendix 25A: "The findings of primary research interviews, focus groups, and meetings were recorded by written notes and audio recording, when consent was granted. Written notes and audio recordings were typed and transcribed, respectively. Primary research underwent thematic analysis, which grouped findings into major themes that align with the various People and Communities VCs. Key findings of data analysis were integrated into the baseline report."

The methodology for analyzing this information, grouping it into major themes, and integrating it into the report, while preserving strict confidentiality, is detailed in the data collection license applications issued (NRI Licence No. 04 018 24N-M and GNWT research licence 17604).

WKR believes that the level of disaggregation presented in the Impact statement aligns with the constraints of the informed-consent terms under which the primary research was conducted and by the confidential-information protocols set out in Volume 3, Section 4.2 (Managing Confidential Information).

GN IR 28 (IR-308)

Subject

Data Inconsistencies or errata

Issue / Concern

Table 27.8 presents educational attainment for each Kitikmeot community for Men+ and Women+ and includes totals. However, some of the numbers for Men+ and Women+ do not add up to Total. Please clarify.

Information Request

The GN requests the proponent:

1. *Clarify and/or correct the values in Table 27.8 Highest Certificate, Diploma or Degree.*

Proponent Response

The values in Table 27.8 are drawn from the Statistics Canada 2021 Census of Population (Census Profile) and are subject to Statistics Canada's random rounding to maintain confidentiality of the data, under which each cell is independently rounded to a base of 5. As a consequence, independently rounded Men+ and Women+ values may not sum exactly to the independently rounded Total for a given category. The apparent discrepancies identified by the GN are a characteristic of the rounded source data rather than transcription errors in the Impact Statement.

This explanation is documented in the supporting baseline material. The People and Communities Baseline Report (Appendix 25A) states in the notes under Table 7.3, "Due to Statistics Canada rounding (Statistics Canada 2022a) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables."

GN IR 29 (IR-309)

Subject

Estimated Impact on Gross Domestic Product

Issue / Concern

While we are informed of the GDP impact, we have no information on the level of investment leading to this outcome. The relation between the cost of a project and its GDP impact is important. It determines how efficient is the project in maximizing the economic impact for each dollar invested. This ratio or relation varies across Canada. A lower impact is expected in remote regions.

On page 27-57, we read: '… the five-year construction phase … in Nunavut are estimated to total $74.8 million annually.' It is unclear what will be the capital expenditure leading to this yearly GDP impact of $74.8 million for each of these five years.

Being publicly funded, the cost of the project needs to be stated in the proponent application. The yearly GDP impact stated does not give us this information.

Information Request

The GN requests the proponent:

1. *Clarify the level of capital expenditure that will be required to generate the stated yearly GDP impact.*

Proponent Response

The GDP estimates presented in the Impact Statement are based on the Project's forecast capital and operating expenditures. Volume 2 identifies the construction cost estimate directly, noting that: "Based on the current construction cost estimate of $1.2 billion, Project construction is expected to contribute a total of $375 million to Nunavut's GDP over five years, equivalent to $75 million ($74.8 in Volume 9, Table 27.14) each year, inclusive of direct and spin-off economic benefits" (Volume 2, Section 2, Economic Benefits, Table 2.4).

GN IR 30 (IR-310)

Subject

Main labour assumption underlying the GDP impact

Issue / Concern

Table 27.20 informs us that 675 workers will be working in Nunavut on a yearly basis. The following table, which is unnumbered, indicates that 192 of them will be Nunavut residents. The remaining 483 workers will be non-residents on fly-in fly-out arrangements. Therefore, in terms of employment, we have two very different figures at the bottom of the two Nunavut-labeled columns. However, the GDP impact presented in Table 27.14 has only one Nunavut column and thus only one number. It is unclear which employment numbers (675 or 192) the GDP impact of $74.8 million is predicated on.

Obtaining this information would reduce confusion, i.e. how many workers will be needed to achieve the impact stated.

Information Request

The GN requests the proponent:

1. *Clarify which of the following two employment numbers: 675 (resident Nunavummiut + non-resident non-Nunavummiut) or 192 (resident Nunavummiut) the GDP impact of $74.8 million is predicated on.*

Proponent Response

Table 27.20 (pp. 27-69 to 27-70) presents the estimated employment associated with Project construction. As described in the Impact Statement, employment opportunities are reported by both location and residency to distinguish between where Project-related work occurs and where workers reside, including situations where fly-in/fly-out employment arrangements are used (Volume 9, Section 27.3.1).

Under the Annual Employment by Location (FTE) section, the total reported for Nunavut represents all Project-related positions located within Nunavut, regardless of workers' place of residence. In contrast, the total reported for Nunavut under the Annual Employment by Residency (FTE) section represents employment attributable to Nunavut residents and therefore excludes non-resident fly-in/fly-out workers. Presenting employment results from both perspectives provides a more complete understanding of the employment opportunities generated by the Project and the anticipated participation of Nunavummiut.

Table 27.14 (p. 27-57) presents the annual gross domestic product (GDP) effects associated with Project construction. Unlike employment, which is reported separately by location and residency, GDP is reported at the territorial level. The Nunavut GDP estimate includes direct and indirect economic activity generated by Project expenditures, including activity associated with both Nunavut resident workers and non-resident fly-in/fly-out workers. It also includes induced economic activity resulting from spending by Nunavut residents and businesses within the territory.

Consistent with the territorial focus of the GDP analysis, the assessment assumes that most employment income earned by fly-in/fly-out workers is spent outside Nunavut. As a result, while the direct and indirect economic activity associated with these workers is reflected in the GDP estimates, induced economic effects arising from their household spending are not attributed to Nunavut and are therefore excluded from the territorial GDP estimate. This modelling assumption is identified in the footnote accompanying Table 27.14.

GN IR 31 (IR-311)

Subject

Methodology used in the econometric model

Issue / Concern

An econometric assessment needs to be built around a model. In this case, the model would be the construction of a similar road that occurred in the past or the construction of a series of similar roads. Normally, the methodology accompanying the econometric model would give us information on this matter.

It is necessary for the reference points, the basis on which these estimates were developed, to be understood. This allows the reviewer to be confident in the value and rigour of the output of the econometric model.

Information Request

The GN requests the proponent provide:

1. *The road or roads used to inform the econometric model and in what years these roads were constructed.*

Proponent Response

The economic estimates presented in the Impact Statement were developed using the Statistics Canada Interprovincial Input-Output Model (SCIPIOM) and were not derived from an econometric model based on the costs or outcomes of comparable road-construction projects. As described in the IS, SCIPIOM is an input-output model that uses Project expenditures as the basis for estimating economic effects:

"An input-output model utilizes the expenditure patterns for the Project (often referred to as a 'shock') to depict the impact those expenditures will have on an economy. The model tracks the value-added component of every round of transactions that occur along the supply chain when a shock or change is introduced to the economy. The model also traces trade flows between Canada's provinces and territories as well as international imports and exports" (Volume 9, Section 27.3.1).

Accordingly, the economic estimates are based on the Project's forecast capital and operating expenditures and the inter-industry and inter-regional relationships embedded within Statistics Canada's input-output accounts. The primary inputs to the model are the Project's capital and operating cost estimates (Volume 2, Section 2), which are used to estimate associated GDP, employment, labour income, and government revenue effects through the SCIPIOM framework (Volume 9, Section 27.3.1).

Because the assessment relies on a project-specific input-output modelling approach, there are no "reference roads" or historical construction projects underlying the estimates. Rather, the results reflect the projected economic activity associated with the Project's anticipated expenditures and the economic relationships represented within the Statistics Canada input-output system.

The assumptions and limitations associated with the modelling approach are discussed in Volume 9, Section 27.3.1.2 (Economic Model Limitations), while the confidence and uncertainty associated with the predicted economic effects are addressed in Section 27.6.

GN IR 32 (IR-312)

Subject

Inuit Human Resources and Business Development Plan

Issue / Concern

Community members and organizations have expressed interest and concerns to ensure Nunavummiut benefit from local employment and from economic or training opportunities. The Proponent repeatedly links mitigation and enhancement measures to the development of a Labour Relations Strategy, a Training Strategy, and a Procurement Strategy, which are briefly introduced:

A Labour Relations Strategy will be developed and implemented to enhance and retain local Inuit employment, with a focus on preferential Inuit hiring. The Labour Relations Strategy will detail skills and entrance requirements, employee benefits, employee communication, work rotation schedules, employee orientation programs and ongoing support for project workers during employment. A Training Strategy will be developed and implemented to identify specific skill requirements for employment on the Project, provide pre-employment training for Inuit and youth (in partnership with local educational institutions and Inuit organizations), and to implement on-the-job training and apprenticeship programs.

A Procurement Strategy, focused on Inuit contracting opportunities, will be developed and implemented to facilitate regional and Inuit business involvement. The Procurement Strategy will prioritize the use of local construction equipment to increase local revenues and reduce the need to transport equipment from outside of the region. Procurement packages will also be tailored to local businesses where possible (e.g., smaller packages). (Volume 9, Section 27.3.4.2)

These Strategies have not yet been developed, and only a few details of what the proponent may or will develop are suggested. It is unclear what activities will be proposed, how they will address project effects, and how the proponent will develop and implement them. Early awareness of skill requirements and contracting needs for the project provide residents and agencies the opportunity to develop the training and business development programs to meet these needs.

In the absence of these Plans and strategies, even in draft form, their adequacy as proposed mitigation cannot be determined.

It is not clear when these strategies will be developed and to what level of detail.

Further, it is not clear whether or how these strategies will align with appropriate organizations and agencies with training and skill development mandates, such as GN.

The Inuit Human Resources and Business Development Plan, which includes the Labour Relations Strategy, Training Strategy, and Procurement Strategy, should be developed with input from existing training/apprenticeship and skill development administrators in the territory, including the GN, to align resources and prepare Nunavummiut for project employment and business contracts. For example, hiring plans and skilled labour needs for the project should be sent to GN-Family Services, Career Development

Division to support Nunavummiut in meeting employment requirements and training. All apprenticeship and occupational certification for Nunavummiut is done through the GN.

The Plan must be developed as part of the Technical Review or prior to the Final Hearing for reviewers to determine the adequacy of the Plan.

Information Request

The GN requires the proponent:

2. *Prepare the Inuit Human Resources and Business Development Plan, including the Labour Relations Strategy, the Training Strategy, and the Procurement Strategy, and that includes at a minimum the following details:*
    a. *Skill requirements for employment, anticipated contracting needs, and proposed training programs necessary to support Nunavummiut in accessing employment and business contracts.*
    b. *Initiatives to support employee retention and career development.*
    c. *The Travel Policy, Employee Assistance programs, Apprenticeship programs.*
    d. *Whether and how these strategies and initiatives align with existing training and skill development agencies or programs, such as GN.*
3. *Develop these Strategies and initiatives during the Technical Review and complete a final draft prior to the Final Hearing.*
    a. *Any outstanding commitments or intentions must include a proposed timeline for development.*

Proponent Response

Listed in NIRB Appendix A “Information Requests Not Requiring Response at This Stage”

GN IR 33 (IR-313)

Subject

Missing information

Issue / Concern

Table 28.7 Project Interactions with Infrastructure and Services identifies the project activities that might interact with the identified effects: Change in community infrastructure/access to services; Change in accommodation and housing availability; Change in transportation infrastructure; Change in community resupply. Interactions are identified by either a check (anticipated effect) or dash (no anticipated effect).

Near the end of the table (pg. 28-40) there are two interactions that do not have either a check or dash. Specifically:

- *Project Activity – Winter Road construction and use creating change in community infrastructure and access to public services;*
- *Project Activity – Waste management creating change in accommodation and housing availability.*

Further, the second paragraph after Table 28.7 on page 28-40 contains an incomplete sentence (highlighted):

> *"Activities for each Project phase will have labour requirements, which could affect community services and infrastructure. However, it is not possible to isolate the effects of individual activities related to local spend Therefore, these effects are addressed collectively as part of the "procurement of goods, and services; employment of workers" activity for each phase."*

In both cases, updates and clarity on the proponent's conclusions or discussions are necessary for reviewers to assess the assumptions, considerations, and conclusions.

Information Request

The GN requests the proponent:

1. *Update Table 28.7 with the appropriate check or dash.*
2. *Update the identified sentence to clarify the proponent's intent.*

Proponent Response

WKR acknowledges the two omissions in Table 28.7 and the incomplete sentence on document page 28-40 and confirms both will be corrected.

Proposed IS edits (future-facing):

Volume 9, Table 28.7, document page 28-40:

i. Winter road construction and use × Change in community infrastructure and access to public services should include a **checkmark**
ii. Waste management × Change in accommodation and housing availability should include a **dash**

These revisions are consistent with the corresponding effects pathway discussion in Section 28.3.3.1 and Section 28.3.4.1

In Volume 9, Section 28.3.2, document page 28-40, the incomplete sentence will be corrected to read as follows (revised text in bold):

"… However, it is not possible to isolate the effects of individual activities related to local **spend. Therefore,** these effects are addressed collectively as part of the 'procurement of goods, and services; employment of workers' activity for each phase."

GN IR 34 (IR-314)

Subject

Travel Policy

Issue / Concern

The proponent proposes that resident project workers will use commercial airlines to the hubs of Cambridge Bay or Kugluktuk or Yellowknife, possibly with short-term overlap, then chartered further to/from site. Approximately 15% Nunavut employees during construction (which is estimated at 200-500 people per year) and approximately 50-100% Nunavut employees during operation/maintenance (which is estimated at 54 total operational workforce) – s. 28.3.1.1, pg. 28.36.

The proponent presents potential impacts of transporting employees, including on community infrastructure and services and on accommodations/housing availability in communities.

> *“WKR will implement a Drug and Alcohol Policy which will apply to all personnel and contractors on-Site, at work camps, and during transit through communities. Implementation of the Drug and Alcohol Policy will reduce demand on police services as a result of potential substance use by workers who are transiting through Yellowknife, Cambridge Bay, and Kugluktuk. WKR will also develop and implement a Travel Policy if personnel transiting to/from the Project site are weathered in in a community. Implementation of the Travel Policy will govern personnel behaviour in LAA communities during travel delays, including acceptable social interactions with residents" - s. 28.3.3.3, pg. 28-46.*
>
> *"Project activities during Construction and Operations and Maintenance may increase demand on temporary accommodations in the LAA. This effects pathway is associated with the use of temporary accommodations (i.e., hotels, motels) in communities through which workers transit on their way to and from the Project and project work camps." - S. 28.3.4.1, pg. 28-49.*
>
> *"WKR will develop and implement a Travel Policy in the event that personnel transiting to and from the Project site are weathered in in a community. The Travel Policy will include plans for accommodation, meals, use of medical services, and other needs for personnel." - s. 28.3.4.2, pg. 28-49.*

The proponent has suggested their Travel Policy will mitigate potential impact of employee transit through communities, using temporary accommodations, and governing their behaviour while to reduce impact on local infrastructure and services.

However, there is no Travel Policy developed to review and consider the adequacy of the mitigation presented.

Information Request

The GN requests the proponent:

1. *Prepare a draft Travel Policy to articulate how the proponent would mitigate any potential effects of transiting employees in Nunavut communities. This may include:*
    a. *What temporary accommodations would be utilized*
    b. *How the proponent would accommodate employees if traditional accommodations were not available, and*
    c. *Policies and guidelines the proponent aims to include regarding employee behaviour while still under company transportation and how the company may address issues*
    d. *Other expectations the proponent determines necessary to include in their policy*
2. *Develop the Travel Policy during the Technical Review and complete a final draft prior to the Final Hearing.*

Any outstanding commitments or intentions must include a proposed timeline for development.

Proponent Response

Listed in NIRB Appendix A “Information Requests Not Requiring Response at This Stage”.

GN IR 35 (IR-315)

Subject

Risk Management

Issue / Concern

The assessment of project impact on community search and rescue services is speculative and presents broad assumptions, limited evidence for conclusions, and residual effects that 'may' or 'could' result. For example,

> *"Project construction will result in new land- and marine-based infrastructure in the RAA, which **may** increase the number of commercial ships, community members, Project workers, and visitors to the Kitikmeot Region traveling through the land and marine environment. In turn, this **may** increase demand on Coast Guard, Coast Guard Auxiliary, and search and rescue services in the event that travelers require assistance in unfamiliar terrain or during adverse weather events." (Vol. 9, s. 28.3.3.1, Coast Guard and Search and Rescue, pg. 28-42*

The assessment relies heavily on proposed or under-developed mitigation. Proposed mitigation is summarized as:

- *Develop and implement a Risk Management and Emergency Response Plan for all phases of the project*
- *Be self sufficient for SAR operations, informing relevant authorities as needed*
- *Include any protocols for notification or compensation if required (Vol. 9, s. 28.3.3.2, pg. 28-44)*

Residual Effects concludes an increase in the number of people using the land and marine environments may increase demand on the CCG and SAR activities (Vol. 9, s. 28.3.7, pg. 28-63). Similar mitigation is applied. Cumulative Effects present a similar overview, conclusions, and mitigation. The broad speculation and lack of certainty on project effects requires a robust management plan with clear roles and responsibilities for the proponent and other emergency responders.

Mitigation has been proposed as commitments to future development of measures or as broad statements of intent. The Risk Management and Emergency Response Plan is very rudimentary, describing only what will be developed or included, challenging the ability to assess the adequacy or success of the mitigation. For example, there is no certainty provided on whether the proponent's search and rescue teams, protocols, or equipment will be as efficient as existing resources. There is little clarity on how existing resources may be utilized or relied upon.

In addition to the above, the GN notes that Table 28.1 (Vol. 9) does not include the Emergency Measures Act or the Fire Safety Act.

The Government of Nunavut, Department of Community Services includes responsibility for Nunavut Emergency Management. Alignment with GN on SAR and other emergency measures is necessary to prepare adequate response, and the Emergency Measures Act allows for the Emergency Measures Officer (notably the Director of Nunavut Emergency Management) to review, make recommendations, and keep on file an emergency measures plan from any Government, Agency, or Corporation operating in Nunavut Territory. As such, a project of this size and the vast area under consideration requires engagement with the GN Director of Nunavut Emergency Management. Alignment with the Fire Marshal may also be necessary.

The Risk Management and Emergency Response Plan must be developed with input from search and rescue or emergency response leaders in the territory, including the GN. The Plan must be developed as part of the Technical Review or prior to the Final Hearing for reviewers to determine the adequacy of the Plan

Information Request

The GN requires the following:

1. *The proponent engages with GN-Nunavut Emergency Management.*
2. *The proponent includes the Emergency Measures Act and the Fire Safety Act in Table 28.1 and in their obligations under relevant legislation.*
3. *The proponent prepares a Risk Management and Emergency Response Plan with input from search and rescue and emergency response leaders in the territory, including the GN.*
    a. *The Plan should be developed during the Technical Review and a final draft complete prior to the Final Hearing.*
    b. *Any outstanding commitments or intentions must include a proposed timeline for development*

Proponent Response

A Risk Management and Emergency Response Plan (RMERP) is included in the Impact Statement as Attachment H4 to the Environmental Protection Plan (Volume 11, Appendix 37H). The RMERP "describes details pertaining to incident response, investigation, review, and corrective measures in accordance with the findings of the investigations," and its measures "will be combined with a spill contingency plan for events that require reaction to emergency spills" (Volume 11, Section 37, Table 37.2; Appendix 37H, Attachment H4). The mitigation for Coast Guard and SAR demand documented in Volume 9 includes developing and implementing the RMERP for all Project phases, being self-sufficient for SAR operations while informing relevant authorities as needed, and including protocols for notification or compensation if required (Volume 9, Section 28.3.3.2, page 28-44).

WKR commits to engaging with search-and-rescue and emergency-response leaders in the territory, including GN-Nunavut Emergency Management, during the Technical Review process. However, WKR notes that a “final draft” version of this document cannot reasonably be completed prior to the Final Hearing, as the level of engineering detail required to inform emergency response planning will not yet be available at that stage. Accordingly, WKR proposes to submit the document as a “draft” at the time of the Final Hearing based on the engineering design available at that time, with the document being further developed through the regulatory processes that follow the NIRB Project Certificate.

WKR acknowledges that the omission of the *Emergency Measures Act* or the *Fire Safety Act* in Table 28.1 (Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Infrastructure and Services) was an oversight. The Impact Statement already references the related territorial framework in narrative, recording that Nunavut Emergency Management "is responsible for safety and emergency preparedness" and "oversees the provisions of search and rescue operations" (Volume 9, Section 28.2.2, Emergency Services), supporting the addition of these statutes to Table 28.1.

GN IR 36 (IR-316)

Subject

Community Sealift Operations Originating from Grays Bay

Issue / Concern

The proponent's submission notes potential benefits to sealift resupply services to four Kitikmeot communities (Kugluktuk, Cambridge Bay, Gjoa Haven and Taloyoak). The Proponent indicates that improved sealift access would be valued by various community stakeholders, and this may be part of the rationale for major public funding anticipated for the project.

For reasons of geography, the existing sealift resupply service in these communities is poor in comparison to most other Nunavut regions, with only one sailing which arrives late in the season. As the proponent has noted, in theory project infrastructure would make it possible to transport non-perishable items (e.g. construction materials) overland from Yellowknife to Grays Bay and then by barge to the communities.

The viability of such a sealift service is dependent on certain assumptions such as the ability of a shipping business to transport goods by truck along private roads, access laydown space at Grays Bay, and make use of marine infrastructure at Grays Bay.

The assertion that the project will enhance community resupply cannot be validated as a realistic business opportunity unless the proponent undertakes measures to ensure that user terms will be unambiguous, non-restrictive, and economically feasible.

Information Request

The GN requests the proponent:

1. *Clarify whether the proponent will facilitate access to Grays Bay Port and Road infrastructure by one or more transport businesses for the purposes of providing sealift resupply services to Kitikmeot communities.*
2. *Clarify in what ways this access would be different from that available to mining companies and their contractors.*
3. *Clarify what, if any, existing or planned arrangements the proponent has with the owners of the Tibbitt to Contwoyto Winter Road and the reasonably foreseeable Arctic Economic and Security Corridor. Confirm if or how the proponent's access to that infrastructure extends to a transport business delivering goods to Kitikmeot communities via Grays Bay.*

Proponent Response

1. WKR will facilitate access to Grays Bay Road and Port infrastructure for any transport business that is engaged in providing sealift resupply services to Kitikmeot communities at no cost, as long as such transport businesses agree to access agreements established through the Road Management Plan (Volume 11, Appendix 37A).

2. Mining/industrial users will only have access to the road on a tolled basis, and while community transportation users will have access at no cost. Both groups will need to agree to access agreements established through the Road Management Plan.

3. WKR does not have any existing arrangements with the owners of the Tibbitt to Contwoyto Winter Road (Tibbitt to Contwoyto Winter Road Joint Venture) or the Arctic Economic and Security Corridor (Tłı̨chǫ Government and Yellowknives Dene First Nation in partnership with the Government of the Northwest Territories).

   WKR plans to work to secure advantageous arrangements for community resupply businesses using these transportation corridors, but as they are owned and operated by third parties, cannot guarantee any specific access terms or conditions.

Athabasca Denesuline Né Né Land Corporation

West Kitikmeot Resources Corp. (WKR), thanks the Athabasca Denesųłiné NéNé Land Corporation (ADNLC) for its Information Requests (IRs) dated July 3, 2026, (NIRB Document 260703-24XN038-ADLNC IRs Re Impact Statement-IR2E) and July 5, 2026, (NIRB Document 260705-24XN038-ADLNC IRs Re Impact Statement-IR2E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the ADNLC's IRs are provided below.

WKR looks forward to continuing to work with ADNLC, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

ADNLC IR 01 (IR-317)

Subject

Project Purpose and Need

Issue / Concern

To ensure responsible and sustainable development, the first step is for the proponent of any project to demonstrate the need for the project and that any alternatives have been considered to ensure the project is carried out in a way that provides the most benefits and the least harm. The Nunavut Impact Review Board's regulations require that the Board take into account the need and purpose of the project in the assessment.

There is not have enough information detailing the need for the project at this time, its purpose, and expected benefits, especially considering that the Project poses a risk to already extremely vulnerable caribou herds such as the Bathurst, and Dolphin and Union herds, as well as to other herds whose populations are not so critically low, but are still vulnerable to linear infrastructure and future associated developments such as the Beverly Caribou.

The Project Overview states that there are 3 main benefits to the project.

- *Economic – Transformative Benefits*
- *Community and Social – Supply Chain Resilience*
- *Sovereignty and Security – Strategic Presence*

It is not clear from the information provided which components of the Project are necessary to achieve each of the stated needs/ purposes and benefits.

Information Request

1. *Is the road portion of the project required for the Sovereignty and Security Need/Purpose listed? If so, please provide detailed information on how the road portion of the project is necessary to achieve the goal and benefit of increased Sovereignty, security and a strategic presence, or if the port alone achieves this goal / benefit. In particular, if there is no connection to southern road systems via a permanent access road or winter road in NWT, does. the currently proposed route of the Gray's Bay Road still achieve the stated purpose and estimated benefits?*
2. *It is unclear from the information provided how the proposed road will deliver the purported benefits to communities of "improved safety and supply chain reliability to communities". The Gray's Bay Road does not go through a single community and yet community supply chain and access to goods is listed as an important benefit. Please provide the economic breakdown and anticipated supply-chain pathways demonstrating how the construction of this road will improve the supply chain and a comparative analysis of existing supply chains and alternatives considered to improve them for the benefit of communities in the region.*

3. *The Project Purpose and Need descriptions throughout the IS focus on "unlocking the critical mineral wealth of the Kitikmeot Region", yet no information or analysis is provided demonstrating the difference to expected mineral development if the project moves forward or not. Please provide a detailed breakdown of how 'go' or 'no-go' scenarios for GBPR would impact future development. Please distinguish the road and the port as separate entities in the analysis.*

Proponent Response

The Project's purpose and need are set out in the Impact Statement (IS) in Volume 2, Section 1.6 (Project Purpose and Need), and the alternatives evaluated for the Project are set out in Volume 2, Section 2.4 (Alternatives). WKR notes that the Project Overview groups the benefits under three interrelated purposes; these correspond to the IS subsections Sovereignty and Security Benefits (Section 1.6.1), Mineral Resource Access Benefits (Section 1.6.2), and Community and Social Benefits (Section 1.6.3). The following response addresses each part of the Information Request. The purposes are interrelated rather than hierarchical, and the road and port together are intended to deliver them.

1. **Whether the road is required for the Sovereignty and Security purpose, or whether the port alone achieves it**

   The Project is defined in the IS as multi-use infrastructure comprising both the road and the port. Volume 2, Section 1.6 states:

   > "*The Project's principal purpose is to create multi-use infrastructure that will connect the Kitikmeot Region by land and sea, for the benefit of Inuit and Canadians. This vital infrastructure will meet the needs for improved community infrastructure and re-supply, strengthened Inuit and Canadian sovereignty and security over the Northwest Passage, and economic development by unlocking the critical mineral wealth of the Kitikmeot Region. … the Project will provide a controlled access, multi-user, multi-use transportation system to serve existing and foreseeable future needs in the Kitikmeot Region*." (Volume 2, Section 1.6, Page 1-20)

   With respect to the road's contribution to the sovereignty and security purpose specifically, Section 1.6.1.2 states:

   > "*The Project will be the only deep water port on the western Canadian Arctic Coast. […] The sailing distance from the Port of Nome to the Nanisivik Naval Facility is over 3,000 km, with no deep water ports in between*." (Volume 2, Section 1.6.1.2, Page 1-22)

   > "*The Project's winter road connection to southern Canada will provide the opportunity to stage supplies and equipment at the port that are too large, too heavy, or not cost-efficient to deliver by air, to be loaded in vessels during the open water season. This road connection can also support winter security operations and training exercises, such as Operation Nanook-Nunalivut (DND 2025)*." (Volume 2, Section 1.6.1.2, Page 1-22)

On this basis, the road is critical in achieving the Sovereignty and Security Need/Purpose and makes Port logistically sustainable, usable year-round, and integrated into Canada's transportation system. This makes the port a genuine sovereignty and security asset, rather than just a remote facility operating in isolation.

A "port-only" configuration is addressed within the Alternatives assessment (Volume 2, Section 2.4). The specific matter of the certainty of the Northwest Territories (NWT) southern connection, and the effect on Project components if no southern route exists, is the direct subject of ADNLC-IR-02; to avoid inconsistency, that analysis is addressed there and cross-referenced here rather than duplicated.

2. **How the road delivers community safety and supply-chain reliability benefits**

Although the road does not directly connect to a community, it enhances safety and supply-chain reliability for nearby communities through three pathways linked to this centrally located hub. This hub strengthens the current supply chain, which is fragile, expensive, and increasingly vulnerable to climate change.

Kitikmeot communities are currently served by three supply chains: annual sealift from Quebec, barging from Hay River via the Mackenzie River, and air freight from Yellowknife and Manitoba. Both are unreliable and expensive. IS Volume 9, Section 25.2.2.4 (p. 25-27 to 25-29) documents that transporting food by sealift costs approximately $1 per pound, while air freight costs 3–5 times that amount. The IS further documents that the 2018 barge resupply to Cambridge Bay and Kugluktuk was cancelled due to impassable ice and bad fuel, requiring a $4 million emergency airlift; and that the 2021, 2023, and 2024 barging seasons were disrupted by low water levels in the Mackenzie River (IS Volume 9, Section 25.2.2.3, p. 25-29). The existing supply chain is fragile, expensive, and increasingly vulnerable to climate change.

Pathway 1 — New marine access point at Grays Bay Port. The Port creates a new deep-water marine entry point to the western Arctic that is independent of the Hay River/Mackenzie River sealift route. Goods can be stored at the Port year-round and distributed to communities by barge, by short flights from the Project's aerodrome, or by an ice-road network during winter. This creates "redundancy in the supply chain in the event that existing sealift and air freight services are delayed or cancelled" (IS Volume 9, Section 25.3.4.3, p. 25-45). The Port's small craft harbour also allows individual community members to travel to Grays Bay personally for resupply.

Pathway 2 — Ground-based transportation from southern Canada via the road and TCWR. IS Volume 9, Section 25.3.4.3 (p. 25-45) explains: "Construction and operations and maintenance of the Grays Bay Road would allow for the transportation of goods and materials from Yellowknife to the Grays Bay Port via the TCWR." Yellowknife is connected by all-season road to southern Canada. During the winter road season, this creates a complete overland supply chain from southern Canada to Grays Bay Port — from which goods can then be distributed to communities.

Pathway 3 — Employment income and reduced food costs. IS Volume 9, Section 25.3.4.3 (p. 25-46) documents that the cost of transporting goods to communities may decrease through the new distribution pathway, with the Koomiut Co-op manager in Kugaaruk confirming that ground-based transport "would take some pressure off the cost, because you see, it's expensive. This transportation cost benefit will not be realized to the same extent every year, but when sealift transportation is disrupted, the cost of transportation to communities can suddenly increase 3-5x. Additionally, employment income from the Project directly improves food accessibility: "Households in the Kitikmeot communities currently spend a disproportionately high amount of their weekly income on food... an increase in Project-related employment can therefore provide individuals and families with increased income to purchase store-bought foods" (IS Volume 9, Section 25.3.4.3, p. 25-46).

3. **Distinguishing the road and the port in the mineral-resource-access purpose, and "go / no-go" development scenarios**

The mineral-resource-access purpose is set out in Volume 2, Section 1.6.2:

> "*The Project will enable access to the mineral-rich Slave Geological Province, an area with high potential for critical mineral development that spans the Nunavut-Northwest Territories border. […] However, limited infrastructure has been a major obstacle for several mineral developments, particularly base metals projects that require all-season road access to deep water ports.*" (Volume 2, Section 1.6.2, Pages 1-22 to 1-23)

Why gold and diamond mines can proceed without the road or port:

High-value, low-volume precious metal commodities — gold bullion, rough diamonds — can be economically transported by air. Gold bars and diamonds are light enough and valuable enough to fly out by charter aircraft. Projects producing commodities such as these are viable without the Grays Bay Road and Port Project because their value-to-weight ratio makes air transport economically feasible.

Why base metal mines cannot proceed without both road and port:

Copper, zinc, and lead concentrates are the opposite — low value-to-weight ratio, produced in enormous volumes. The Izok Lake and High Lake deposits (MMG) combined represent $25.2 billion in in-situ mineral resources (IS Volume 2, Table 1.6, p. 1-23). A copper-zinc concentrate mine of the scale envisioned for Izok Lake would produce hundreds of thousands of tonnes of concentrate per year. No aircraft in commercial service can economically transport bulk concentrate at that scale. The economics simply do not work without a deep-water port capable of loading bulk carriers and a road to move concentrate from mine to port.

This is directly confirmed by IS footnote 9 (Table 9A1.1 Description of Physical Activities, p. 9A1-5): MMG's Izok Corridor Project — which included its own 350 km all-season road and port at Grays Bay — "was paused in April 2013 due to economic feasibility concerns" in the absence of shared infrastructure. This is a clear statement of the go/no-go dynamic: without the Grays Bay Road and Port Project, the Izok Corridor Project's base metal deposits remain stranded.

Glencore's position on Hackett River is similarly clear: IS footnote 8 (Table 9A1.1 Description of Physical Activities, p. 9A1-5) records that "In February 2024, Glencore expressed support for the Grays Bay Road and Port Project, noting the Hackett River Project requires access to logistical infrastructure, including an all-season road and open water port." The Hackett River zinc, silver, and lead deposit — $25.1 billion in-situ (IS Table 1.6) — will have a huge boost to its economic viability from the Grays Bay Road and Port Project.

Road and port as separate components:

The IR asks WKR to distinguish the road and port as separate entities in the go/no-go analysis. The IS supports this distinction:

The port alone would be insufficient for base metal development. Without the all-season road connecting the port to the mine sites, concentrate cannot move from mines to tidewater. The port enables marine export but requires the road to deliver product.

The road alone would be of limited value for base metal export. A road connecting to the TCWR provides winter road access but no marine export capability. There is no base metal smelting or refining capacity in northern Canada, so access to deep-water is essential to make base metal projects viable.

It is the combination of all-season road to a deep-water Arctic port that unlocks base metal development — which is precisely why IS Volume 2, Section 1.6.2 frames it as such, and why the IS presents the road and port as a single integrated project rather than two separable initiatives.

ADNLC IR 02 (IR-318)

Subject

Rationale for current timing of Project Review

Issue / Concern

The timing of this review doesn't seem to be logical or strategic given that there is no certainty on the NWT route to connect the Gray's Bay Road to the south.

We note that throughout the IS, the assumption is made that the Gray's Bay Road will connect to the south via a winter road (Tibbitt to Contwoyto) and/or to an all-season road in the future. Given that there is no certainty that either of those roads will exist at the time that construction is supposed to start on GBPR, we question the effectiveness of a review at this time, and wonder if it would be a better use of time and resources to wait to have this review at a future date when those questions can be answered with any certainty.

Many foundational assumptions in the Impact Statement, including purpose/need for and benefits of the project, construction activities and timelines, mitigation and monitoring activities, road maintenance, and economic and community benefits, all rely on the assumption that the currently proposed route will connect to a winter road or all-season road in the NWT that will connect the Gray's Bay Road to southern Canada. Yet at this time this is not a certainty.

Our final concern regarding timing of this review relates to the timing misaligning with the current Nunavut Land Use Planning process. Given that in the IS WKR states that this is a "transformational project" and that in the absence of a Nunavut Land Use Plan, they will "monitor the status of the draft Land Use Plan to assess potential impacts and modifications to project planning" ...and... "…incorporate relevant aspects of the draft Plan where feasible", it seems to us more strategic to wait until a Plan is in place.

Information Request

1. *What is the rational for putting this project through the NIRB at this time before there is any certainty regarding the NWT portion of the route and before the Nunavut Land Use Plan is finalized?*
2. *For every project component that currently relies on a southern route in the IS (e.g. construction starting from the south, equipment or materials driving up from the south, benefits of having a connection to the south etc.) please provide an updated analysis in the event that no southern route exists.*
3. *In the event that a southern route is confirmed but does not join at the currently expected location at Contwoyto Lake, please provide WKR's strategy for responding to that new information. Will WKR propose a new route or keep the currently proposed route?*

Proponent Response

At the outset, WKR wishes to respectfully clarify a premise underlying the Information Request. The Impact Statement (IS) does not assume that the Project depends on a future Northwest Territories (NWT) all-season road. The Grays Bay Road connects to the existing approved Tibbitt to Contwoyto Winter Road (TCWR) via an annually constructed winter road at Jericho Station, and Project construction and Operations and Maintenance are described on the basis of that existing connection together with marine sealift to the port. The future NWT all-season road is described in the IS as a separate, potential future development, not as a Project component and not as a precondition to the Project. Each part of the Information Request is addressed below.

1. **Rationale for the timing of the NIRB review**

   The timing of the review is a function of the statutory assessment process under the Nunavut Agreement and the Nunavut Planning and Project Assessment Act (NuPPAA), which WKR entered by submitting its Project proposal. As described in Volume 2, Section 1.4:

   > "*The review process began with WKR's Project proposal submission to the NPC on June 26, 2024, for the conformity review against approved land use plans. The NPC determined the Project was outside the scope of an applicable regional land use plan and referred it to the NIRB under section 12.4.3 of the Nunavut Agreement on August 6, 2024. Following screening, the NIRB issued a decision on December 4, 2024, recommending that the Project undergo a full review in accordance with Article 12 of the Nunavut Land Claims Agreement and Part 3 of the Nunavut Planning and Project Assessment Act (NuPPAA).*" (Volume 2, Section 1.4, Page 1-8)

   This recommendation was confirmed by the federal Minister of Northern Affairs on February 14, 2025 (Volume 2, Section 1.4, Page 1-8).

   On the Nunavut Land Use Plan. The current review does not misalign with the land use planning process; the Project was screened into the NIRB review in part because it lies outside an applicable approved plan. As Volume 2, Section 1.2 states:

   > "*There is currently no approved Land Use Plan in effect for the Kitikmeot Region though a single plan for the entirety of Nunavut is in development by the Nunavut Planning Commission (NPC) … Although the Project is outside the area of an applicable land use plan, WKR will monitor the status of the draft Land Use Plan to assess potential impacts and modifications to project planning. WKR will incorporate relevant aspects of the draft Land Use Plan where feasible, in alignment with its intended purpose and principles.*" (Volume 2, Section 1.2, Page 1-6)

   On certainty of the southern connection. The Project's construction and operation are described on the basis of the existing TCWR, not a future road. The Project connects the port to the northern terminus of the TCWR (Volume 2, Section 1.5, Page 1-13). During construction, "the majority of construction materials will be delivered to Grays Bay Port by sealift during open water season, and to Jericho Station via the TCWR during winter, prior to construction and annually thereafter" (Volume 2, Section 2.2, Page 2-9). The IS also notes that the annual construction of

the TCWR from the shoreline of Contwoyto Lake to the NU/NT border is not a Project component, as the NIRB has previously screened those works (Volume 2, Section 1.5, Page 1-17). The future NWT all-season road is identified as a potential upgrade "under development" (Volume 2, Section 1.6.1.2, Page 1-22) and, in Section 2.3, as an extension that "would be pursued as a separate project or as a future expansion of the Project" (Volume 2, Section 2.3, Page 2-10). Accordingly, the certainty of the future NWT all-season road is not a precondition to the assessment now before the NIRB.

2. **Updated analysis for Project components in the event no southern route exists**

The Project is proposed to connect to the existing Tibbitt to Contwoyto Winter Road (TCWR), which will provide the current overland connection to the National Highway System; it does not rely on the future NWT all-season road for construction or Operations and Maintenance (Volume 2, Section 1.5, Page 1-13; Section 2.2, Page 2-9). The Alternatives evaluation describes the selected Grays Bay option as one that "provides overland road access to southern Canada via the NWT winter road network" (Volume 2, Section 2.4, Table 2.2, Page 2-19) — a winter-road connection, not an all-season connection. Specific to ADNLC's concern regarding the future of the winter road connection, WKR describes mitigation of this concern in IR-460 (MVEIRB-03)

Because the Project relies on the reasonably foreseeable existence of the winter-road connection rather than a future southern all-season road, an updated analysis of a scenario in which no southern route exists is not required.3. WKR's strategy if a southern route connects other than at Contwoyto Lake

If an all-season route from the NT is proposed to connect to the Grays Bay Road at a different point than Jericho Station, WKR would still need to construct a connection to Jericho Station and onward to Contwoyto Lake to gain access to the existing NT winter road network during construction and during operations until the all-season connection is completed.

If the all season route, once built, connects at a different point then Jericho Station (assuming the connection point is farther north from Jericho Station along the existing proposed Grays Bay Road route), the road segment between that connection point and Jericho Station would have far fewer uses, since it would not carry any traffic heading to or from the NWT. This road segment, or “stub” road, between the all season connection point and Jericho Station would only support traffic to Jericho Station (e.g., to access the existing airstrip and federally-managed Jericho mine site, or to facilitate community access to Contwoyto Lake).

WKR intends to begin discussions with stakeholders on how the Jericho ‘stub’ road in this scenario should be used, or alternatively if it should be reclaimed entirely.

ADNLC IR 03 (IR-319)

Subject

Future third-party use of the road must be considered in analysis of impacts

Issue / Concern

The IS page 1-14 of Volume 2 states that no future third-party use of the Project or future development coming off the Project, including spur roads, mineral shipping or transport, are part of the Project and therefore are not part of the Project Impacts Assessment. However, the purported Project benefits are based on the 3rd party use of the Project infrastructure and on 'unlocking the critical mineral wealth' of the region.

If the foundational purpose of the Project is specifically for future 3rd party use, how can an analysis of impacts of the road be considered without a full understanding of the potential amount and impact of traffic?

Information Request

1. *Please provide an analysis of possible future traffic scenarios based on known and foreseeable future developments that would use the road, as well as other possible users of the road (DND, tourism, community use, etc.). This should include how different minimum and maximum traffic scenarios would impact factors that have effects on caribou including:*
    - *Expected volume, frequency, timing, and type of vehicle traffic*
    - *Expected transport of dangerous goods and associated mitigation plans*
    - *Expected noise, vibrations, lights, smells, and other anthropogenic disturbances coming from the road*
    - *Potential for harvest and poaching off the road*
    - *Footprint of spur roads and other infrastructure that will be required to connect the proposed GBPR to the reasonably foreseeable future developments*
2. *Please update the relevant analyses in the Impact Statement to include impacts of traffic from third party use. These should include any analysis of effects on caribou from the above sources as well as cumulative effects.*

Proponent Response

1. **Third-party use is assessed through the cumulative effects RFI scenario**

   The Cumulative Effects Assessment (CEA) for the Project did assess a reasonably foreseeable induced (RFI) scenario. That scenario is described in: Volume 10, Section 32 Cumulative Effects Assessment Overview; as road traffic and other details in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, including Section 9A2.4.2 Operations (Cumulative Effects Case); and, in Volume 6, Section 16 Assessment of Potential Effects on Caribou, including Section 16.4 Assessment of Cumulative Effects on Caribou.

   Further summary and details are provided in Appendix A, Cumulative Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package. This includes a new High Use Development Scenario (HUDS). The HUDS describes the Grays Bay Road and Port Project operating at a high use design capacity at the port, and includes details on port operation, shipping and truck traffic. 2. Future traffic scenario for third-party / induced use.

2. As discussed in the response to ADNLC-3, part 1, such analysis has been done, as appropriate and relevant, and as such an update to the Impact Statement is not required.

ADNLC IR 04 (IR-320)

Subject

Use of Inuit Qaujimajatuqangit (IQ), Indigenous Knowledge (IK), and Community Knowledge (CK)

Issue / Concern

In section MD 3.2.4 Integration Methodology, the IS lists how IQ, IK, CK were integrated into the IS. More information is required for ADNLC to understand specifically which areas of the IS were informed by IQ/IK/CK and how.

While use of IQ/IK/CK are stated to be central to the development of the Project and throughout the Impact Statement, it is unclear exactly how IQ/IK/CK was used in the determination of significance of effects of the Project, to assess route alternatives, and whether the conclusions reached in this Impact Statement were corroborated by IQ / IK / CK.

Information Request

1. *The Banci and Spicker 2024 report is referenced as the primary source of Inuit Knowledge / Qaujimajatuqangit. While ADNLC respects the OCAP principles of IQ and IK, including sensitivities around data ownerships, confidentiality and the sensitivity of publicly sharing IQ and IK, we wonder if WKR can share the methodology used in the Banci and Spicker 2024 so that we can understand how the Project-specific IQ referenced throughout the IS was gathered and validated.*
2. *It is unclear how the IQ/IK/CK that is cited was used beyond determining Valued Components. Was IQ/IK/CK used in any of the modelling or analysis of significance of effects, cumulative effects, caribou herd vulnerability or important habitat/ habitat selection? Please demonstrate how IQ/IK/CK was used.*
3. *Were final conclusions of this Impact Statement brought back to Knowledge Holders to validate / corroborate the conclusions and findings? If so, please provide an account of the validation / corroboration discussions.*
4. *For questions regarding route selection and IQ/IK/CK, see ADNLC-IR-05*

Proponent Response

1. **Banci and Spicker (2024) — source and methodology**

   Verified Inuit Knowledge integrated in the IS was drawn primarily from a Project-specific report, Kitikmiut Knowledge of the Proposed Kogloktoakyok (Grays Bay) Port and Road Project (Banci and Spicker 2024), compiled by the Kitikmeot Inuit Association. The report draws its Inuit Knowledge from the Naonaiyaotit Traditional Knowledge Project (NTKP), a database managed by the Kitikmeot Inuit Association of recorded, geo-referenced Inuit Knowledge for the Kitikmeot Region. Development of the database began in 1995 and is ongoing. Some 515 unique individuals have participated in NTKP studies and shared information for inclusion in the database. The NTKP

stores maps and their accompanying information and stories together in a GIS database. Kitikmiut planned and carried this process out and wholly own it; local Hunters and Trappers Organizations first designed it. Its overall aim is to bring Inuit Knowledge together with western science to inform land management decisions.

The report documents Inuit Knowledge under the same research principles that govern western science. The report states that in order for IK to be credible, four conditions must be met:

1. The individual knowledge holders are identified.
2. Their knowledge is confirmed to have been recorded accurately.
3. They give informed consent for its use.
4. The information is verified by multiple sources.

The report treats verification as the equivalent of peer review. Knowledge counts as being verified only in two ways:

- **Intergenerational transmission:** the holder learned it from a parent, who learned it from a grandparent, and so on.
- **Group confirmation:** knowledge holders confirm one another's knowledge.

Knowledge holders answered only questions they knew the answer to. Otherwise, they referred NTKP interviewers to people who knew a particular area or topic better.

The report differentiates three kinds of information:

- **Inuit Knowledge:** knowledge that has been verified and passed down.
- **Local Knowledge:** individual observations and anecdotes that can't be confirmed as IK because they lack context. These are still valuable, especially for monitoring current changes on the land, and may be used to frame questions for later IK interviews.
- **Consultation input:** community opinions, which may not reflect majority views. These help a proponent understand concerns and correct misinformation, but are not be presented as IK.

Individual interviews are the Kitikmeot Inuit Association’s preferred method of IK collection. If IK comes up in another setting, such as a community meeting, it can be treated as IK only if three questions are answered:

1. Is there evidence it was passed down from ancestors? Knowledge held by only one person is otherwise considered Local Knowledge or opinion.
2. Have other knowledgeable holders confirmed it?
3. Is there written informed consent?

IK is treated as the intellectual property of the individual holder, not the community. Use requires informed consent, documented through signed consent forms, which are on file with the Kitikmeot Inuit Association for all NTKP studies.

2. **How IQ/IK/CK was used beyond identifying Valued Component**

The IS documents how Inuit, Indigenous, and Community Knowledge were integrated across each phase of the assessment — not only in identifying VCs. The consolidated integration methodology (Volume 1, Section MD.3.2.4; Volume 3, Section 5.4) records how integration occurred into:

- Spatial Boundaries — informing the areas used to characterize baseline conditions and for the Project-specific and cumulative effects assessments (Volume 3, Section 5.4.2, Page 5-5);
- Baseline Conditions — reflecting both Inuit, Indigenous, and Community Knowledge and measured scientific data (Volume 3, Section 5.4.3, Page 5-6);
- Project Effects and Effects Pathways — anticipated effects and concerns shared by Kitikmiut and others helped to target and validate potential effect pathways (Volume 3, Section 5.4.4, Page 5-6);
- Assessment of Cumulative Effects — Inuit, Indigenous, and Community perspectives were woven with western science to develop a holistic view of potential change over time (Volume 3, Section 5.4.5, Page 5-7);
- Significance of Effects — Inuit Advisory Group (IAG) feedback identified priorities considered in evaluating unacceptable change, including that the Project not negatively affect the ability to harvest caribou, that water and wildlife be protected, and that healthy caribou herds be supported (Volume 3, Section 5.4.6, Page 5-7; Volume 1, Section MD.3.2.4);
- Mitigation, Management, and Enhancement Measures — adjustments were made based on advice from IAG members, the Kitikmeot Inuit Association, other Indigenous groups, and communities (Volume 3, Section 5.4.7, Page 5-8).

The incorporation of engagement results and Inuit, Indigenous, and Community Knowledge into the assessment methodology is described in Volume 4, Section 9.2.3, and each VC assessment (Volumes 5–9) includes a "Scope of the Assessment (Influence of Inuit, Indigenous, and Community Knowledge)" subsection describing how this knowledge influenced spatial boundaries, baseline characterization, effects and cumulative effects assessment, and significance determinations for that VC (Volume 4, Section 9.2.3, Page 9-4; a representative example can be found in Volume 5, Section 11.1, Page 11-2). For caribou specifically, the influence of Inuit, Indigenous, and Community Knowledge is documented within the Volume 6, Section 16 (Caribou) assessment. Specifically, Section 16.1.1 (Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment) outlines how Inuit, Indigenous and Community Knowledge influenced the assessment of effects on caribou.

3. **Validation / corroboration of conclusions with Knowledge Holders**

   WKR established the IAG with the purpose of discussing and receiving feedback from its members on the environmental and socio-economic aspects of the proposed Project. WKR's IAG meeting held in May 2026 focused on discussing the significance determination conclusions presented in the impact statement and providing IAG members with opportunities to validate and/or question or challenge them. This discussion is summarized in the Inuit Advisory Group Workshop #3 Summary Report - Impact Statement Conclusions, which is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Proponent Response Package.

4. **Route selection and IQ/IK/CK**

   As suggested by ADNLC, the use of IQ/IK/CK in route selection and alternatives is addressed separately in response to ADNLC-IR-05 (IR-321) and is not duplicated here.

ADNLC IR 05 (IR-321)

Subject

Alternative Routes Considered

Issue / Concern

The section on alternatives considered requires more information on the three routes proposed as well as more alternatives to be considered. Not enough information has been provided to understand the data and assessment that went into determining which route was preferred and why.

Information Request

1. *Throughout the document, WKR states that IQ and IK were used to inform route selection, yet based on the conclusion in the IS it seems that the route was chosen primarily to support connection to mineral claims and to favour a shorter route. Please provide detailed evidence of whether and how IQ/ IK/CK were used in the analysis of alternative route selection and the corroboration or validation of results and conclusions of the analysis.*
2. *The IS states that the route alternative that would avoid the calving grounds was not chosen because it was a longer corridor. However, not all land is the same in terms of impacts to caribou and other wildlife, nor to land users. A longer route does not necessarily translate into a greater negative effect. In order to meaningfully assess alternative route options, it's necessary to see a detailed analysis of each alternative route and how each route interacts with important caribou habitats (and other values on the landscape). Please provide maps and reports demonstrating each alternative route, the number of critical habitats such as calving grounds, post-calving grounds, water crossings, critical movement and migration routes, eskers, important spring, summer, winter habitats and important rutting habitat that the routes cross, including detailed knowledge from Inuit and Indigenous Knowledge Holders/ land users regarding which areas are the critical areas for caribou throughout the year. These maps should also include movement data, collar data and data demonstrating movement through the region and use of the region across all years that data is available.*
3. *We do not have enough information to understand the need for the all-season road. More alternative analyses considering options including 1. analysis of port construction alone, without a road, and 2. Analysis of future mines building winter roads or accessing other means of transportation, should be provided with clear tables showing evidence of how benefits to the region would change if the road were not constructed, and what alternative means to achieve those goals/benefits could be considered (or have been considered?)*

Proponent Response

1. **How IQ/IK/CK were used in route selection and its validation**

   The IS records that the Grays Bay location (Option 3) was the alternative selected and advanced by the Government of Nunavut and the Kitikmeot Inuit Association in 2017, based on their assessment of alternatives (Volume 2, Section 2.4, Table 2.2). Alternatives were evaluated using criteria informed by, or based on, the consideration of Inuit, Indigenous, and Community Knowledge, potential effects to the biophysical and socio-economic environment, practicality and technical feasibility, and cost-effectiveness (Volume 2, Section 2.4).

   West Kitikmeot Resources (WKR) became the Project proponent in 2023 with the understanding that WKR would continue to advance the Project using the alignment KIA had selected. To confirm the validity of that earlier approach, WKR conducted its own alternatives assessment, which validated the previous selection (Volume 2, Section 2.4).

2. Inuit Knowledge also directly shaped the caribou information against which routing and design were considered. For caribou assessment boundaries, Inuit Knowledge provided spatial data (points, lines, and polygons) delineating travel routes and corridors, historical and current calving areas (*irniurviit*), wintering grounds (*ukiuviit*), and water crossings (*nadlok*) (Volume 6, Section 16.1.1.1, Page 16-5). Through the Inuit Advisory Group (IAG), members recommended that the road alignment bypass caribou trails and avoid calving grounds, and that alignment be fine-tuned around known crossing areas and migration routes (Volume 9, Section 24; IAG workshop record, Volume 3). Route-by-route interaction with critical caribou habitats, and supporting data

   The IS presents the three location options and their evaluation in Volume 2, Section 2.4 (Figure 2.2 and Table 2.2), including caribou-relevant characterizations for each (Volume 2, Section 2.4). In summary, as stated in the IS:

   - **Option 1** (Port East of Kugluktuk, road to Izok Lake): "The annual range of the Bluenose East, Beverly/Ahiak, and Bathurst caribou herds directly overlap the road route" (Volume 2, Table 2.2);
   - **Option 2** (Bathurst Inlet road and port): "The road route directly overlaps the Bathurst and Beverly/Ahiak caribou herd annual ranges," and would traverse historic calving ranges north of Contwoyto and Nose Lake (Volume 2, Table 2.2);
   - **Option 3** (Grays Bay — preferred): "The road alignment is west of the observed Bathurst caribou core calving area, outside of Bluenose East calving area and annual range entirely" (Volume 2, Table 2.2).

   In summary, the current Grays Bay Road and Port design and routing overlaps fewer herd annual ranges. The other two options increased overlap with the Bluenose East herd (Option 1) and Beverly/Ahiak herd (Option 2).

WKR acknowledges ADNLC's point that a longer corridor does not, by itself, translate to greater effect on caribou. The IS records that the selected Grays Bay alignment lies west of the observed Bathurst core calving area and outside the Bluenose East calving area and annual range (Volume 2, Table 2.2), and that since 2005 the Bathurst herd's annual peak calving area has shifted eastward with minimal overlap with the Project (Volume 6, Section 16.2.2). The caribou baseline draws on Bathurst Caribou Herd (BCH) collar data (1996–2024) and Dolphin Union Herd (DUH) collar data (1987–2024), seasonal-range kernel density estimation following the Bathurst Caribou Range Plan periods, resource selection function habitat modelling, and the Project-specific Inuit Knowledge report (Volume 6, Section 16.2; Appendix 16A Wildlife Baseline Report).

The IS presents alternative-route caribou characterizations qualitatively in Table 2.2 and presents detailed caribou habitat, calving, movement, and water-crossing mapping in Volume 6, Section 16 and Appendix 16A, but it does not compile a single comparative set of maps overlaying every alternative route against each critical-habitat type across all data years.

3. **Need for the all-season road; port-only and winter-road alternatives**

The comparative rationale for an all-season road versus a winter (ice) road is presented in Volume 2, Section 2.4, Table 2.3 (Road Type), which rates the all-season road as preferred on the basis of "substantially lower annual operating costs over the life of the project," year-round access, operational flexibility, and lower environmental risk, while noting greater upfront capital cost and greater construction disturbance; the winter road is rated Not Preferred (Volume 2, Section 2.4, Table 2.3). The "no Project" case and its implications are discussed at the opening of Section 2.4 (Volume 2, Section 2.4).

Please refer to the response to KAA-7 (IR-07) for a response regarding a port-only alternative.

ADNLC IR 06 (IR-322)

Subject

Noise and Vibrations

Issue / Concern

Noise and Vibration were only considered in the context of human disturbance and effects were determined based on regulatory thresholds based on human responses to noise. Caribou are extremely sensitive to noise and vibration and perceive it very differently than humans. Noise and Vibration were also only considered in the context of construction and operations and maintenance of the road and associated Project facilities; however, the expected future use of the road must be considered to understand the potential impacts of the road.

Due to the importance of caribou, a caribou-specific noise and vibration analysis is needed to understand potential impacts to caribou movement, migration, and use of nearby habitats. This analysis should consider the entire life of the road and potential minimum and maximum traffic activity on the road.

Information Request

1. *Please provide a caribou-specific analysis of noise and vibration with determinations of magnitude of significance of effects based on caribou responses to noise and vibration. (not on regulations designed for humans)*
2. *Potential future maximum traffic amounts should be included in this analysis to have an understanding of the range of potential noise and vibration that could be created by use of the road over the long-term lifespan. Without understanding the potential noise and volumes of traffic on the road, we cannot properly understand the potential response of or effects on caribou.*
3. *The cumulative effects analysis in Section 13.4 states that it doesn't consider vibrations because "vibration is localized and transient effect that does not persist once the activity has ceased". In the case of a road with constant traffic, vibration and noise could be constant. A cumulative effects analysis considering vibration based on potential minimum and maximum traffic levels and types of traffic for the lifetime of the road is important for the assessment of potential long-term impacts to caribou and necessary mitigations.*

Proponent Response

1. **Caribou-specific analysis of noise and vibration**

Noise and vibration are explicitly considered within the caribou assessment (see Volume 6, Section 16). Noise and vibration from equipment (e.g., trucks, drills) and activities (e.g., blasting) are potential forms of sensory disturbance that contribute to a zone of influence (ZOI) around the Project. The Impact Statement (IS) states that:

> "*Evidence suggests that caribou perceive sounds with frequencies >60 Hertz (e.g., voices, aircraft, vehicles, industrial noises) at 30 to 40 A-weighted decibels (dBA) (Perra et al. 2022). On the PDA, equipment sound [power] levels can be [high] (i.e., up to 120 dBA; see Volume 5, Section 13, Appendix 13B). Thus, sounds that propagate beyond the PDA may influence caribou space use and habitat selection. When accounting for noise-related mitigations, the sound levels from Construction activities and Operations and Maintenance activities attenuate considerably, ~3 km from the PDA, occurring just above or below the audible threshold for caribou (see Volume 5, Section 13, Appendix 13B)."* (Volume 6, Section 16.4.2.2, page 16-93)

The resulting ZOIs are used throughout the IS to assess changes in caribou range disturbance (Section 16.4.1), habitat (Section 16.4.2), and movement (Section 16.4.3), with each residual effect assigned a magnitude (following mitigations) that contributes to the significance determination for caribou.

2. **Future / maximum traffic noise and vibration**

Noise and vibration attenuate approximately 3 km from the Project Development Area (PDA), which is a distance threshold within the caribou Local Assessment Area (LAA). The LAA delineates the largest anticipated extent of unmitigated indirect effects (4 km zone of influence [ZOI]; see Volume 6, Section 16.1.4.1). Increased traffic is not expected to increase the threshold of attenuation beyond the LAA. The assessment decreases the Project road ZOI to 1 km following mitigation measures such as adaptive road closures that halt noise and vibration from Project activities.

3. **Vibration and cumulative effects**

As stated in response 1 of this Information Request, ZOIs are used throughout the caribou assessment. ZOIs, which explicitly consider noise and vibration, are applied to all landscape disturbances within the caribou assessment areas (i.e., Bathurst Caribou Herd Range Assessment Area 1 [BCH-RAA1] and Dolphin and Union Caribou Herd Regional Assessment Area [DUH-RAA]; see Volume 6, Section 16.1.4.1) and are included in the cumulative effects assessments of changes in caribou range disturbance (Section 16.5.2), habitat (Section 16.5.3), and movement (Section 16.5.4). As stated in response 2 of this Information Request, the increased traffic is not expected to increase the threshold of attenuation beyond the LAA. Therefore, the cumulative effects assessment for caribou (Volume 6, Section 16.5) includes the necessary information to understand the cumulative effects of noise and vibration on caribou. The mitigations proposed for the Project, particularly, adaptive road closures, and the expected mitigation applied by reasonably foreseeable

induced (RFI) physical activities, are expected to reduce indirect effects from noise and vibration on caribou. The IS also states that “Some regional-level coordination among the Project and RFI physical activities is expected during key time periods, such as BCH spring migration, calving, and post-calving” (Volume 6, Section 16.5.4.2, document page 16-138).

ADNLC IR 07 (IR-323)

Subject

Road lighting and traffic lights

Issue / Concern

No analysis of whether or how the road design will include lighting, and whether and how light pollution from the road and from traffic using the road may impact caribou and how it will be mitigated.

Information Request

1. *Please provide details of whether or not road design includes lighting or reflective surfaces that may cause avoidance by caribou?*
2. *Please provide an analysis including a scale from estimated minimum to maximum future traffic on the road and how traffic lights may impact caribou or other wildlife.*

Proponent Response

The Impact Statement (IS) assesses visual sensory disturbance to caribou — including from vehicles, workers, and Project infrastructure — as a pathway of indirect habitat loss in Volume 6, Section 16, and commits to lighting-management mitigation for Project facilities. Light will be limited to locations at the port or Jericho Station where necessary for the safe operations of those facilities. The road design does not include use of lights.

ADNLC IR 08 (IR-324)

Subject

Beverly Caribou not adequately addressed in the IS

Issue / Concern

Beverly Caribou are excluded from this section and largely excluded throughout the Impact Statement. While we recognize that the proposed road is on the edge of the Beverly annual range, Beverly caribou may overlap with the proposed route and experience effects of induced development, human activity, and cumulative effects in the region.

Information on Beverly caribou movement and potential interaction with the route should be considered in the Impact Statement. Not only from the perspective of caribou movement and habitat, but also from the perspective of other potential effects such as access for hunting, other human activity, and sensory disturbance.

Information Request

1. *Please include an analysis of how the Beverly caribou may interact with the currently proposed route including all available data on Beverly Caribou movement, annual and seasonal range use including historic, current, and potential future shifts in range.*
2. *Ensure that an analysis of induced development impacts and cumulative impacts include Beverly Caribou.*

Proponent Response

Please refer to the response to Information Request IR-149 (GC-IR-02), which reinforces the rationale for assessing the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH) as representative mainland and island herds, respectively, and why other herds are not considered explicitly in the assessment of potential effects (endpoints) (see Volume 6, Section 16.3.5) using the measurable parameters outlined in the Impact Statement (IS) (see Volume 6, Section 16.1.3). The response to Information Request IR-404 (NTI-7) provides additional supporting answers regarding other herds like the Bluenose East and Beverly/Ahiak herds.

For the reasons described in the responses above, expanding the caribou assessment to include other herds like Beverly/Ahiak does not change its conclusions. WKR contends that additional analysis for the Beverly/Ahiak herd is not warranted.

ADNLC IR 09 (IR-325)

Subject

Determination of the Local Assessment Area

Issue / Concern

No Inuit, Indigenous, or Community Knowledge was cited as supporting the 4km Zone of Influence for the Local Assessment Area.

Information Request

1. *Will WKR clarify if the cited literature in the "Local Assessment Area" section was the only information used to determine the LAA, or was any IQ, IK, or CK considered?*

Proponent Response

As cited in the Impact Statement (IS) (Volume 6, Section 16.1.4.1, document page 16-16), the Local Assessment Area's (LAA) 4 km buffer draws from multiple literature sources, including GNWT (2018): *Draft Bathurst caribou range plan supporting report: Caribou range assessment and technical information*. This supporting document informed the *Bathurst Caribou Range Plan* (GNWT 2019) and the Zone of Influence (ZOI) buffers used within the Plan, which Indigenous and Community Knowledge ultimately shaped, including ADNLC, a participating member of the BCRP working group. The IS also clarifies that "*the LAA considers the area where Project-specific environmental effects on caribou (direct or indirect) are expected to occur, including effects identified by Kitikmiut, other Indigenous groups, and other potentially affected communities (see Section 16.1.4.1)*" (Volume 6, Section 16.1.1.1, document page 16-4). WKR will commit to clarifying the influence of Indigenous and Community knowledge on the Bathurst Caribou Range Plan, which supported the ZOI determination.

ADNLC IR 10 (IR-326)

Subject

Residual Effects Characterization

Issue / Concern

No information is provided on how the categories/ criteria defined in Table 16.4 were translated into a threshold for significance in Table 16.6. For example, Under Magnitude, the Threshold for significance is stated as "High Magnitude" but there is no way to determine how that conclusion was reached. Isn't it possible that a Moderate Magnitude or even a Low Magnitude that persists over a long time period, may result in significant impact on caribou?

Information Request

1. *For each row in the Table 16.6, please provide more information and evidence demonstrating how the Threshold for Significance was determined.*

Proponent Response

Table 16.4 in Volume 6, Section 16.1.6, page 16-20 provides detailed definitions/measures for the criteria used to characterize residual effects: direction, magnitude, geographic extent, timing, duration, frequency, and reversibility. A significant effect is defined in Volume 6, Section 16.1.7, page 16-26 as: "*The Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management and enhancement measures*".

As indicated in Table 16.6 (page 16-26), the direction, magnitude and timing are key criteria linked to the definition of a significant effect for caribou. The remaining criteria (reversibility, geographic extent, duration and frequency) are not determinants for significance but are used as qualifiers to provide context for residual effects. Please refer to Table 16.4 for detailed definitions of residual effect descriptors (including definitions for high magnitude effects) to understand how these criteria were considered with respect to significance.

ADNLC IR 11 (IR-327)

Subject

Long-term funding to achieve long term proposed mitigation, monitoring, and maintenance of the road in perpetuity

Issue / Concern

Given that the road is expected to be permanent infrastructure, but mines are not permanent and may have lifespans of anywhere from only 10-40+ years, it is unclear if there will be adequate funding to continue monitoring and mitigation measures on the road in perpetuity if there are no income sources from mining operations.

Information Request

1. *Can WKR provide details regarding how long-term road maintenance and monitoring and mitigation measures will be guaranteed to be funded throughout the lifetime of the road?*
2. *Please ensure to consider and include increasing costs of these activities under various future climate change scenarios such permafrost melt, increased flooding, increased drought, increased wildfires and other scenarios that may impact long-term road maintenance, monitoring programs and mitigation programs.*

Proponent Response

Listed in NIRB Appendix A “Information Requests Not Requiring Response at This Stage”

ADNLC IR 12 (IR-328)

Subject

Access Control on the Road

Issue / Concern

ADNLC is concerned about whether or not access control on a 230km road is a realistic goal in perpetuity. And, despite the fact that access management is identified as an important mitigation measure, the IS lacks a detailed explanation of how access will be controlled.

Information Request

1. *Please provide a detailed Access Management Plan which should include possible or reasonably expected challenges and barriers to implementation and how WKR would address those as well as how this plan will be funded in perpetuity.*
2. *Based on WKR engagement and consultation to date, can WKR provide evidence for whether or not there is community support for access control and what it might look like?*

Proponent Response

1. **Access Management Plan, implementation, and funding**

   The Project's access management framework is set out in the Road Management Plan (RMP) (Volume 11, Appendix 37A), with related provisions in the Wildlife Mitigation and Monitoring Plan (Appendix 37B) and Port Management Plan (Appendix 37I). These plans have been developed to a level of detail consistent with the current stage of the regulatory process and will be further developed as the Project advances. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

   As described in Volume 11, Appendix 37A, Section 5.1.1 and Volume 11, Section 37.1.6, the Grays Bay Road controlled access will be managed by WKR through security gates at the Grays Bay Port and Jericho Station (on Inuit Owned Land) with sign-in, radio check-in, and vehicle logging. Unauthorized use will be reported to local authorities. Further detail on access-management and enforcement framework is set out in the response to KAA-2 (IR-02).

   On implementation, the gates govern road-corridor use only; off-road access by snowmachine or quad is not their target, and gate bypass would be identified through RMP monitoring and addressed under the Plan's enforcement provisions (see YKDFN IR #2 [IR-413]). Access controls are grounded in the terms of the Kitikmeot Inuit Association land use licence (with respect to Inuit Owned Land) and the CIRNAC land use permit (with respect to Crown land), along with other applicable authorizations (Volume 11, Appendix 37A, Section 2, Table 2.1). Under the RMP, WKR is responsible for confirming

that adequate financial, human, and logistical resources are allocated for RMP activities (Volume 11, Appendix 37A, Section 7.1).

2. **Community support for access control**

The IS does not quantify explicit community support for access control; rather, the approach has been developed and refined through engagement. The Inuit Advisory Group Workshop #2 Summary records that WKR proposed road access gates managed through a permitting system co-developed by the Kitikmeot Inuit Association and Hunters and Trappers Organizations, with members commenting that regulating access might be necessary and may help address issues associated with unwanted access (Volume 3, Appendix 6A, IAG Workshop #2 Summary, Table 3.2). Reflecting this, access to Project infrastructure for harvesting purposes will require a permit issued jointly by the Kitikmeot Inuit Association and Hunters and Trappers Organization, with WKR confirming permits and licences are in place before granting access; harvest licences and species authorization tag(s) remain managed through the existing Nunavut Hunting Regulations (Volume 11, Appendix 37A, Section 5.1.1). The joint permit process is further addressed in NTI-10 (IR-407).

ADNLC IR 13 (IR-329)

Subject

Determination of Significance of effects on caribou

Issue / Concern

ADNLC appreciates the amount of work provided as part of the review of potential effects on caribou. That said, it is unclear if or how all of these analyses in combination with IQ/IK/CK were used to achieve the final determination of no significant effects.

It is also unclear if or how mitigation measures impacted the determination of significance. Given that the effectiveness of all mitigation measures are unproven, it is important to see the effects assessment both with and without minimization of effects from the proposed mitigations.

Information Request

1. *Please provide a step-by-step explanation with accompanying flowchart or other clear visual to explain exactly what data was used and how it was used in the determination of significance of effects. These should include clear citations of where information came from for each data source and each decision point. This should also demonstrate how other analyses conducted such as the Caribou Herd Vulnerability Model and the Cumulative Effects Analysis were considered and weighted in the final determination of significance of effects.*
2. *Were any of the Significance Determinations conclusions reviewed with Indigenous Knowledge Keepers, land users or local communities to validate or question/challenge conclusions? If so, please provide reporting on this validation/corroboration step.*
3. *Based on the IS, it's unclear if and how the assumed success of mitigation measures was considered in the determination of significance of effects. If mitigation measures were incorporated into the analysis, please provide a table showing exactly what mitigation measures where included, what the significance effect was before the mitigation, how they were determined to change the effect, and how that change was incorporated or weighted in the final determination of significance. If this information is already in the report, please add report sections to the table for ease of cross-referencing.*

Proponent Response

1. Volume 6, Section 16.1.6 of the Impact Statement (IS) describes how residual effects are characterized (criteria) and what measurable parameters are used, including data sources. These criteria and measurable parameters are then used in the assessment of potential effects, as outlined in the relevant Analytical Assessment Techniques subsections (Volume 6, Sections 16.4.1.1, 16.4.2.1, 16.4.3.1, 16.4.4.1, and 16.4.5.1). Qualitative and quantitative rationale are provided depending on the potential effect being assessed. Using the results of the assessment—outcomes of the criteria and measurable parameters—a significance determination is made as described in

Volume 6, Section 16.1.6; please also see the response to Information Request ADNLC-IR-10 (IR-326).

The IS states that the Caribou Herd Vulnerability Model is not used in the significance determination for several reasons. Please refer to the response to Information Request NTI-11 (IR-408) for details.

The Assessment of Cumulative Effects has its own significance determination. Please see Volume 6, Section 16.5.

Since this information is already in the IS, WKR has not provided an additional flowchart as per the request.

2. WKR's IAG meeting held in May 2026 was focused on discussing the significance determination conclusions presented in the impact statement and to validate or question/challenge their conclusions. This discussion is summarized in the Inuit Advisory Group Workshop #3 Summary Report - Impact Statement Conclusions, which is appended to this response.
3. The application of mitigation, management, and enhancement measures is explicitly considered in the assessment of residual Project effects and the overall significance determination for mainland and island caribou. This approach is reflected in the structure of the IS and the steps used to assess each potential effect: (1) identify the analytical assessment techniques based on the measurable parameter; (2) identify how the Project might affect caribou based on well-studied effects pathways; (3) knowing the risks associated with each pathway, recommend the level of mitigations needed to minimize effects; (4) assess the residual effect following mitigations. The inclusion of mitigations when assessing significance is also clear in the definition of "significant":

   "Significant: The Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management, and enhancement measures". (Volume 6, Section 16.1.7, document page 16-26)

   WKR acknowledges that without the mitigations proposed in the Wildlife Mitigation and Management Plan (WMMP), the risk to the BCH and DUH would be high. For this reason, WKR committed to mitigations that have proven to be effective, including adaptive road closures and traffic management (e.g., convoying) (see the response to Information Request GN-IR-11 (IR-291), and will refine and implement measures through consultation with co-management parties. The mitigations applied prior to characterizing each residual effect are outlined in the relevant Mitigation, Management, and Enhancement Measures subsections (Volume 6, Sections 16.4.1.3, 16.4.2.3, 16.4.3.3, 16.4.4.3, and 16.4.5.3). The rationale for why mitigations drastically reduce potential effects is provided in the relevant Project Residual Effect subsections (Volume 6, Sections 16.4.1.4, 16.4.2.4, 16.4.3.4, 16.4.4.4, and 16.4.5.4).

   Since this information is already in the IS, WKR has not provided an additional table as per the request.

ADNLC IR 14 (IR-330)

Subject

Permafrost Thaw and Proposed Mitigations for Caribou

Issue / Concern

No mention is made in the IS of how or if the engineering/construction and ongoing maintenance requirements to counteract potential future permafrost thaw may be at odds with the mitigations for caribou (gentle slopes, even surfaces, road shut-down periods at sensitive times, etc).

Information Request

1. *Please provide an analysis of how permafrost is likely to change throughout the lifetime of the project including, importantly, as a direct result of the project, and how that may affect the road structure.*
2. *Please provide an accompanying table showing the engineering or design elements and ongoing maintenance that might be required for long-term response to predicted or possible changes in permafrost and whether those are compatible with suggested mitigations and design elements for caribou.*

Proponent Response

As provided in response to WCS IR-02 (IR-145) and NRCan IR-01 (IR-209), as engineering design for the Project advances, additional studies will be completed to inform site specific thermal regimes that need to be incorporated into the design of infrastructure. As the landscape for the Project is varied (e.g., of bare and massive rocks, forming broad treeless uplands, plateaus, and lowlands), site specific conditions and permafrost building specifications for various infrastructure components are being incorporated into the design of the Project, including consideration of climate change resiliency. The road's typical 3H:1V (3:1) side slope is favoured both geotechnically — it is preferred for embankments exceeding 3 m in height and for sections underlain by Type IV (high thaw sensitivity) terrain — and for caribou, because the same shallow slope enhances caribou crossing potential (Volume 2, Section 2.1.1; Volume 6, Section 16.4.3.3).

As provided in Volume 5, Section 12.5 (see page 12-41), adaptive strategies to be considered in the design include:

- Apply active and/or passive heat mitigation techniques such as thermosyphons, air convection embankments, air ducts and heat drains, reflective surfaces, insulation, and embankment thickening to help maintain thermal integrity and ground stability.
- Install woven geotextile to reinforce embankments and reduce differential settlement.

- Employ methods to reduce thermal disturbance (e.g., incorporating approaches to lowering the water table in the immediate vicinity of the roadbed by using ditches or similar components).
- Install remote monitoring equipment (e.g., thermistors, video cameras) to monitor permafrost conditions and track changes (e.g., settlement) to help make informed decisions. Consider establishing an alert system that can be triggered when sensors indicate exceedance of thresholds defined in an operations and maintenance policy – e.g., exceedance of a specific ground temperature triggers an inspection of the road section.

These measures will be applied as necessary for informing and monitoring effects from the infrastructure constructed and operated for the Project. Analysis of mean annual ground temperature (MAGT) will be conducted as necessary to inform design or monitor for permafrost changes through and after construction, based on site specific ground conditions and type of infrastructure to be built on the landscape.

ADNLC IR 15 (IR-331)

Subject

Cumulative Effects Assessment and Reasonably Foreseeable Induced Development

Issue / Concern

Need for clarity on what data went into the Cumulative Effects Assessment and how the cumulative effects analyses were considered in the determination of significance of effects.

Information Request

1. *Please provide a clear explanation with supporting visuals such as tables, flowcharts, impact pathways, (or other) demonstrating precisely what data went into the cumulative effects analysis.*
2. *Please provide a clear explanation with supporting visuals and citations demonstrating how cumulative effects analyses were used in the final determination of significance of effects.*
3. *It is not clear which reasonably foreseeable induced developments were considered as part of the cumulative effects analysis and what details and assumptions were associated with each of those projects and project components (location and length of future linear developments like spur roads or winter roads, energy centers or transmission lines, infrastructure footprints and zones of influence, locations of expected future developments). Please provide a list of all developments and components of those developments used in the assessment, as well as a map showing possible future spatial configurations of these developments.*

Proponent Response

1. **Data that went into the cumulative effects analysis**

   The assessment of cumulative effects in the Impact Statement (IS) represents a multi-disciplinary assessment incorporating a broad degree of information from many sources and appearing at numerous locations throughout. The primary locations for data are the sections focusing on assessment of potential effects on Valued Components (VCs). The IS overall and the Cumulative Effects Assessment (CEA) specifically follow common current convention in structural organization, use of narrative (text), tabular (numeric), visual (map figures) and analytical method (assessment). The IS represents a complete and comprehensive response to NIRB's Guidelines.

   In recognition of this, and given the importance and interest of potential cumulative effects, Volume 10, Section 32 Cumulative Effects Assessment Overview provides key information in summary to assist navigation through the many IS sections and in interpretation of the CEA, notably Table 32.1 Cumulative Effects Assessment Information in the Impact Statement. As such, Section 32 serves as a useful initial introduction to the CEA before one examines other content. This overview section is neither required in NIRB's Guidelines or typical in CEA precedence.

Regarding the request for multiple other means to communicate origins of CEA related information (data), tabular and pathway based information is provided throughout the IS. Volume 10, Section 31 Holistic Assessment provides diagrammatic visuals of cause-effect pathways relevant to the CEA.

2. **How the cumulative effects analyses were used in the significance determination**

Further to the response to ADNLC IR 15, Part 1, the approach used for the evaluation of significance follows the general approach as described in Volume 4, Section 9 Effects Assessment Methodology, Section 9.4.1.4 Significance Determination. For each VC assessment (Volumes 5-9, Sections 11-30) a description of the general basis of significance evaluation is provided in Section X.1.6 Significance Definition, and, to whatever degree further considerations are relevant, Section X.5 Significance of Effects, including Section X.5.2 Significance of Cumulative Effects. Such considerations include factors similar to and unique to each VC given the nature of the VC, the context of environmental conditions, and whatever established criteria are available.

3. **RFI developments considered, assumptions, and mapping**

A complete and detailed identification and description of physical activities considered in the CEA, including the RFI scenario, are provided, with extensive tables and maps, in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, including Section 9A2.4.2 Operations (Cumulative Effects Case). This information is supplemented in Section 32 Cumulative Effects Assessment Overview.

Further summary and details are provided in Addendum Appendix A. This includes a new High-Use Development Scenario (HUDS). The HUDS describes the Project operating at a high-use design capacity at the port, and includes details on port operation, shipping and truck traffic.

ADNLC IR 16 (IR-332)

Subject

Expand caribou analysis to include possible future range expansion

Issue / Concern

The Bathurst Herd is at a critical all-time low and their range has contracted considerably as a result of this. Efforts to support the herd to expand in numbers and range are underway. For a project that is permanent on this landscape, it is important to have an analysis of future scenarios of Bathurst Caribou possible future range use expansion into their full range again.

Information Request

1. *Please provide an analysis of how current vulnerability, habitat use, and determinations of significance may change if the analysis is carried out using possible future scenarios of an expanded range for the Bathurst Caribou.*

Proponent Response

Please refer to the response to Information Request WCS-IR-15 (IR-136) on why additional analysis of changes in seasonal range use (or expansion) is unwarranted, and how the Project's proposed mitigations will be refined using adaptive management if such shifts do occur. Hypothetical modelling of future conditions beyond what is reasonably known does not increase the certainty of the caribou assessment, nor does it change the necessity of the mitigations being proposed for the Project or those expected for RFI activities.

ADNLC IR 17 (IR-333)

Subject

Future requests for Information or data

Issue / Concern

ADNLC submits these Information Requests under extreme time limitations. We note that we may have future information requests as we have the time to dive deeper into a thorough technical analysis of the Impact Statement. Additionally, we expect to have more questions after receiving the responses to these questions and responses to the IRs of other groups.

In particular, we anticipate we may have questions and data requests regarding the modeling methods and data inputs, model assumptions, and spatial data used for the various caribou analyses.

Information Request

1. *Does WKR foresee any challenges or barriers to sharing that data with ADNLC at a future point during the technical review period?*

Proponent Response

Listed in NIRB Appendix A “Information Requests Not Requiring Response at This Stage”.

Beverly and Qamanirjuaq Caribou Management Board

West Kitikmeot Resources Corp. (WKR), thanks the Beverly and Qamanirjuaq Caribou Management Board (BQCMB) for its Information Requests (IRs) dated July 3, 2026 (NIRB Document 260703-24XN038-BQCMB IRs Re Impact Statement-IR3E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the BQCMB's IRs are provided below.

WKR looks forward to continuing to work with BQCMB, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

BQCMB-IR-001 (IR-334)

Subject

Treatment of future third-party use of Project infrastructure in the effects assessment

Issue / Concern

The Impact Statement indicates that future third-party use of Project infrastructure is not part of the Project, while also describing the Project as infrastructure designed to accommodate or support future third-party use. The BQCMB requires clarification on how these future uses were treated in the effects assessment, including whether they were assessed as part of the Project, as reasonably foreseeable future activities, as induced development, as cumulative effects, or as future activities outside the scope of the current assessment.

This information is necessary because future use of the road, winter road, port, Jericho Station, aerodrome, quarries, borrow sources, camps, and related access or traffic could affect conclusions regarding barren-ground caribou movement, habitat disturbance, mortality risk, access, harvest pressure, cumulative effects, mitigation, monitoring, significance, and caribou harvesting communities.

Information Request

Please provide a consolidated explanation of how future third-party use of Project infrastructure, including the road, winter road, port, Jericho Station, aerodrome, quarries, borrow sources, camps, and related access or traffic, was treated in the Impact Statement, or identify where this information is already provided. In the response, please:

1. *identify the types of future third-party users or uses considered in the assessment, including industrial, commercial, public, recreational, and harvesting-related access, where applicable, and clarify whether each was assessed as part of the Project, as a reasonably foreseeable future activity, as a reasonably foreseeable induced activity, as a cumulative effect, or as a future activity outside the scope of the current assessment;*
2. *for each activity or use, identify the associated Project component, infrastructure, access route, or activity, and identify the assumptions used, including traffic levels, timing, access controls, road management, port use, and duration of use;*
3. *explain how those assumptions were incorporated into the assessment of effects on barren-ground caribou, including movement, habitat disturbance, mortality risk, cumulative effects, and caribou harvesting communities;*
4. *identify which assumptions regarding future third-party use are proposed commitments, which are conceptual or predictive assumptions, and which would depend on future authorizations, agreements, permits, or regulatory review; and*
5. *clarify what additional review, assessment, engagement, or authorization would be required if future third-party use exceeds or differs from the assumptions used in the Impact Statement.*

Proponent Response

The Impact Statement (IS) addresses the Board's framing question directly at Volume 2, Section 1.5 (Project Overview). Two distinct categories of future third-party activity are treated separately, each with a defined assessment pathway:

1. **Initial Third Party Use** — the operation of fuel systems, maintenance systems, aerodrome infrastructure (airstrip and buildings), road maintenance, small craft harbour operations by any user has been assessed *under the access framework operated by WKR*. This operation is **part of the Project as assessed**, because WKR retains operations and maintenance responsibility for the infrastructure and operates the access, traffic, and permitting frameworks.
2. **Future Third Party Use** — including trucking, concentrate storage and handling, concentrate shipping, spur roads, third-party fuel storage or concentrate facilities at the port, and use of the aerodrome. These are treated as **cumulative effects** in accordance with Volume 4, Section 9.4.3, and are represented in all valued component sections through the Reasonably Foreseeable Induced (RFI) projects or activities as described in Volumes 5 through 10 of the IS.

Section 2.3 (Future Development) confirms this framework:

> *"The Project site infrastructure is designed to accommodate **initial third-party use** for activities such as Canadian Coast Guard resupply operations, mineral exploration, and mine development and operations."* (Volume 2, Section 2.3, page 2-10)

> *"The conceptual layout of the port landside infrastructure includes areas intended to support **anticipated future third-party** user needs for mineral concentrate storage, cargo import/export, multiple laydown areas, explosives manufacture and storage, secure storage, bulk fuel storage and equipment maintenance[…] While the construction and operation of facilities within these areas are outside the current scope of the Project, they are relevant to the consideration and assessment of cumulative effects. Any third-party activities or projects subject to the jurisdiction of the NIRB would also be required to undergo screening and/or review under the NuPPAA, including the consideration of cumulative effects."* (Volume 2, Section 2.3, page 2-10)

The following component-level assumptions are documented in the IS:

- **Road (all-season road):** Approximately 230 km all-season, controlled-access road within a transportation and utilities corridor from Grays Bay to Jericho Station (Volume 2, Section 1.5, page 1-13). Controlled through security gates at the Grays Bay Port and Jericho Station, with sign-in procedures, radio check-ins, and vehicle logs (Volume 11, Appendix 37A, Section 5.1.1). Posted speed limits shall not exceed 80 km/h; slower speed limits (i.e., 60 km/h) shall be posted in areas of high potential for caribou or other wildlife occurrences (Volume 11, Appendix 37A, Section 6, page 17).

- **Winter road (Jericho Station to TCWR):** The Project includes *"Annual construction of a winter road to connect the Grays Bay all-season road at Jericho Station to the approved TCWR alignment on Contwoyto Lake (Tahikyoak). The winter road will extend from where the existing Jericho Station road ends, at the southeastern portion of Jericho Station, to the shoreline of Contwoyto Lake."* (Volume 2, Section 1.5, page 1-13). The Project *"does not include the annual construction of the TCWR from the shoreline of Contwoyto Lake to the Nunavut/Northwest Territories (NU/NT) border, as the NIRB has previously screened these works and activities."* (Volume 2, Section 1.5, page 1-13)
- **Grays Bay Port (marine-based and landside infrastructure):** Two deep water wharves suitable for approximately 100,000 DWT ore-bulk-oil carriers; medium vessel wharf; small craft harbour (24 vessels); barge landing with up to two berths; materials storage, staging and handling, *"with additional areas reserved for future third party users"* (Volume 2, Section 1.5, page 1-13; Volume 2, Section 2.6.1.1).
- **Aerodrome:** *"Construction and operation of an aerodrome with an airstrip approximately 1,800 metres (m) in length, expandable to approximately 2,400 m."* (Volume 2, Section 1.5, page 1-13; Volume 2, Section 2.6.1.2). Section 2.3 confirms: *"The Project includes an approximately 1,800 m gravel airstrip with taxiway at the Grays Bay Port. The location of the airstrip has been sited to allow for expansion to an approximately 2,400 m airstrip, if required. This expansion would also require modifications to local topography to meet regulatory requirements for approach and take-off distances/heights."* (Volume 2, Section 2.3, page 2-10)
- **Jericho Station:** Southern access to the Grays Bay Road, with controlled access gates, an airstrip and taxiway, access road and parking, staging and storage areas, permanent accommodations for approximately 12 personnel (with capacity for up to 40), and refueling facilities (Volume 2, Section 1.5, page 1-13; Volume 2, Section 2.6.2, Table 2.11).
- **Fuel storage:** *"Construction and operation of around 10 million litres (L) fuel storage facilities at Grays Bay Port, expandable to around 160 million L"* (Volume 2, Section 1.5, page 1-13). Section 2.3 clarifies the third-party dependency: *"The Bulk Fuel Storage Area at the Grays Bay Port will include a gravel pad and secondary containment area to allow for capacity of 160 million L at full build out; however, fuel needs identified for the Project and for anticipated third-party users are 10 million L of fuel at this time. […] There is also fuel storage planned for Jericho Station, with an initial capacity of approximately 250,000 L, and potential future expansion for storage of up to 20 million L if required for third-party needs."* (Volume 2, Section 2.3, page 2-10)
- **Quarries and borrow sources:** *"Construction and operation of around 40 temporary and permanent quarries"* (Volume 2, Section 1.5, page 1-13). Quarries not required for Operations and Maintenance are subject to reclamation (Volume 2, Section 2.6.2.4).
- **Camps:** *"Operation of around six (6) temporary construction camps, including one (1) stationary camp at the Grays Bay Port, one (1) stationary camp at Jericho Station, and around four (4) mobile camps used for progressive roadway construction"* (Volume 2, Section 1.5, page 1-13). Peak Construction workforce and Operations and Maintenance workforce are set out in Volume 2, Sections 2.5 and 2.6.

Ground-based traffic assumptions used in the caribou assessment are set out in Volume 2, Table 2.16 (Construction) and Table 2.22 (Operations and Maintenance). Vessel and aircraft assumptions are set out in Table 2.14 and Table 2.15 (Construction) and Table 2.20 and Table 2.21 (Operations and Maintenance).

All third-party projects and third-party activities are subject to the jurisdiction of the NIRB are, per the IS, *"required to undergo screening and/or review under the NuPPAA, including the consideration of cumulative effects."* (Volume 2, Section 2.3, page 2-10) Material changes in the identity, scale, or timing of the reasonably foreseeable developments identified in Volume 2, Section 1.6.2 would be addressed through those separate reviews.

Material changes in WKR's Project traffic, port throughput, aerodrome use, quarry activity, camp footprint, or fuel storage beyond what is assessed in the IS would be subject to applicable regulatory review, which may include NIRB review, Nunavut Water Board licensing, Kitikmeot Inuit Association land use licence conditions, and other authorizations as applicable.

BQCMB-IR-002 (IR-335)

Subject

Application of Appendix 9A physical activities and RFI assumptions to the caribou cumulative-effects assessment

Issue / Concern

Appendix 9A provides the Project Inclusion List, including past, present, reasonably foreseeable, and reasonably foreseeable induced physical activities. Volume 10 explains that each Valued Component assessment selects the activities that may interact cumulatively with that Valued Component.

The BQCMB requires clarification on how Appendix 9A physical activities and reasonably foreseeable induced activity assumptions were applied to the assessment of effects on barren-ground caribou and caribou harvesting communities, including which activities were carried forward, which were excluded, how they were assessed, and what assumptions were used.

This information is necessary because future development, traffic, access, harvest pressure, sensory disturbance, zones of influence, and induced activities could affect conclusions regarding caribou habitat disturbance, movement, mortality risk, cumulative effects, and caribou harvesting communities.

Information Request

Please provide a table showing how the physical activities identified in Appendix 9A were treated in the cumulative-effects assessment for barren-ground caribou and caribou harvesting communities, or identify where this information is already provided in the Impact Statement. In the response, please:

1. *identify each past, present, reasonably foreseeable, and reasonably foreseeable induced physical activity considered for the caribou cumulative-effects assessment;*
2. *indicate whether each activity was included or excluded from the caribou cumulative-effects assessment, and provide the rationale for inclusion or exclusion;*
3. *identify which activities were included in quantitative analyses, spatial analyses, qualitative analyses, or supporting discussion only;*
4. *identify the assumptions applied to each included activity, including footprint, timing, duration, traffic or access levels, zones of influence, mitigation, operational status, and level of certainty, where applicable;*
5. *explain how Appendix 9A activities and reasonably foreseeable induced activity assumptions were incorporated into the assessment of effects on barren-ground caribou, including habitat disturbance, movement, mortality risk, cumulative effects, and caribou harvesting communities;*

6. *clarify whether the same Appendix 9A and reasonably foreseeable induced activity assumptions were applied consistently across relevant caribou herds, assessment areas, and effect pathways, and explain any differences; and*
7. *for any activity or assumption that was excluded, identify whether the exclusion was based on uncertainty, lack of information, timing, spatial location, regulatory status, or other screening criteria.*

Proponent Response

1. **Physical activities considered for the caribou cumulative effects assessment**

Table 16.16 (Volume 6, Section 16.5.1) lists all potential past/present, reasonably foreseeable (RF), and reasonably foreseeable induced (RFI) physical activities considered in the caribou cumulative effects assessment. Table 16.16 also identifies which activities interact with mainland caribou (Bathurst Caribou Herd [BCH]) and island caribou (Dolphin and Union Caribou Herd [DUH]), and only activities that interact with the BCH and DUH are carried forward to the assessment. Table 16.8 and 16.9 (Volume 6, Section 16.2.2.6) and Table 16.17 (Volume 6, Section 16.5.1.1) isolate the physical activities that interact with (and occur within) the regional assessment areas for each herd (i.e., BCH-RAA1 for the BCH and DUH-RAA for the DUH) and provide the footprint sizes (surface disturbance) and indirect buffer sizes (sensory disturbance extent) for each of these physical activities. In each table, the “BCRP ZOI (km)” buffers are associated with the *Bathurst Caribou Range Plan* and are used for range-disturbance calculations, whereas the “ERM ZOI (km)” buffers are associated with the ERM (2025) report and are used for indirect habitat effects calculations.

2 and 3. **Physical activity inclusion**

Every physical activity listed in Tables 16.8, 16.9, and 16.17 is included in the caribou cumulative effects assessment.

Every physical activity listed in Tables 16.8, 16.9, and 16.17 is either used to conduct quantitative/ spatial analysis (changes in range disturbance, habitat, and movement) or qualitative analysis (changes in mortality risk and health).

4. **Physical activity assumptions**

The activity type, footprint size and zone of influence of each physical activity is listed in Tables 16.8, 16.9, and 16.17. The operational status, and descriptions (e.g., access routes, assumptions) of each physical activity is described in Table 9A1.1 (Volume 4, Appendix 9A, Attachment 9A1). The timing and anticipated traffic of RFI physical activities is provided in Volume 4, Appendix 9A, Attachment 9A2. The uncertainty associated with future conditions is discussed in Volume 6, Section 16.8.6.

5. **Incorporation of assumptions into caribou effects assessment**

   All information and assumptions referenced in response 4 are incorporated into the assessment of effects on the BCH and DUH. Volume 6, Section 16.5.1 describes how RFI are treated in the cumulative effects assessment. Table 16.16 identifies whether these physical activities interact with residual Project effects (i.e., range disturbance, habitat, movement, and mortality risk) for the BCH (M = mainland) and DUH (I = island); these interactions are the basis for the cumulative effects assessment. Effects on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25, not in the caribou assessment (Volume 6, Section 16).

6. **Consistency of assumptions**

   Please see responses 1 and 5. Different RFI physical activities are assessed for BCH versus DUH, depending on each herd's assessment areas and the potential interactions.

7. **Exclusion of physical activities**

   No RFI physical activities within BCH-RAA1 or DUH-RAA are excluded from the caribou assessment. Volume 4, Appendix 9A provides additional methods for including RFI physical activities in the Project Inclusion List.

BQCMB-IR-003 (IR-336)

Subject

Traceability of cumulative-effects pathways for barren-ground caribou and caribou harvesting communities

Issue / Concern

The Impact Statement identifies cumulative-effects pathways for caribou, including pathways related to range disturbance, habitat, movement, mortality risk, and reasonably foreseeable or induced activities. The BQCMB requires clarification on how cumulative-effects pathways for barren-ground caribou and caribou harvesting communities were identified, screened, assessed, or excluded.

The BQCMB notes that Appendix 16B includes modelling scenarios involving the proposed Slave Geological Province Road in the NWT, reflecting the potential for broader regional cumulative effects associated with connected or interacting road infrastructure. This highlights the importance of clearly explaining how road-enabled development, access, traffic, harvest pressure, movement disruption, and other cumulative pathways were considered in the caribou assessment.

This information is necessary to understand which cumulative-effects pathways were carried forward, which were screened out, what assumptions were used, and how those pathways informed conclusions regarding residual and cumulative effects on barren-ground caribou and caribou harvesting communities.

Information Request

Please provide a table or consolidated explanation showing how cumulative-effects pathways for barren-ground caribou and caribou harvesting communities were identified, screened, assessed, and carried forward in the Impact Statement, or identify where this information is already provided. In the response, please:

1. *identify each cumulative-effects pathway considered for barren-ground caribou and caribou harvesting communities, including direct habitat loss, functional habitat loss, movement disruption, sensory disturbance, mortality risk, road and port traffic, access-related harvest pressure, induced development, dust or vegetation-related forage effects, and effects on caribou harvesting communities, where applicable;*
2. *indicate whether each pathway was assessed quantitatively, assessed qualitatively, addressed through mitigation or monitoring, or screened out, and provide the rationale for that treatment;*
3. *identify the EIS volume, section, table, appendix, or supporting document where each pathway is assessed or discussed;*
4. *identify the key assumptions used for each pathway, including assumptions related to traffic, road access, future users, zones of influence, timing, seasonal sensitivity, mitigation effectiveness, and reasonably foreseeable or induced development, where applicable;*

5. *explain how each pathway informed conclusions regarding residual and cumulative effects on barren-ground caribou and caribou harvesting communities, including any linked mitigation, monitoring, adaptive management, or follow-up measures; and*
6. *explain how transboundary caribou effects and concerns raised by communities and organizations outside Nunavut were considered in the cumulative-effects pathways for barren-ground caribou and caribou harvesting communities.*

Proponent Response

1. The effects pathways considered for the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH) in the caribou assessment (Volume 6, Section 16) are the same for Project and cumulative land disturbances. These effects pathways are summarized in the following locations:

    - Section 16.4.2.2—Direct and functional habitat loss, sensory disturbance, dust-related forage effects.
    - Section 16.4.3.2—Movement disruption and traffic.
    - Section 16.4.4.2—Mortality risk and access-related harvest pressure

    Induced development is not an effects pathway, but reasonably foreseeable induced (RFI) physical activities are incorporated into the cumulative effects assessment (Volume 6, Section 16.5). Effects on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25, not in the caribou assessment (Volume 6, Section 16).

2. The analytical techniques used in the caribou assessment for each pathway (above) are described in the following sections:

    - Section 16.4.2, Change in Habitat—Direct and functional habitat loss are quantified; functional habitat loss is calculated using a zone of influence (ZOI) buffer that accounts for sensory disturbance and dust effects. The Grays Bay Road ZOI is reduced to 1 km given the proposed road mitigations (Section 16.4.2.3).
    - Section 16.4.3, Change in Movement—Movement disruption is qualitatively assessed based on the expected effects of traffic. The qualitative assessment is informed by the quantification of exposure rates and migration-route overlap with the Project and cumulative disturbances. Calculated exposure rates and inferences about potential movement effects consider the proposed road mitigations (Section 16.4.3.3).
    - Section 16.4.4, Change in Mortality Risk—Mortality risk from caribou–vehicle collisions and access-related harvest pressure are qualitatively assessed using available Inuit, Indigenous, and Community Knowledge and scientific literature. Inferences about potential mortality risk effects consider the proposed road and port mitigations (Section 16.4.4.3).

3. Please refer to responses 1. and 2. above.

4. Please refer to the sections referenced in responses 1. and 2.

5. The Impact Statement (IS) employs a reasoned argument approach that links caribou effects pathways to measurable parameters (e.g., % habitat loss) and characterizes the residual effects post-mitigations using standard assessment criteria (e.g., direction, magnitude, timing). This thought process is reflected in the structure of the IS and the steps used to assess each potential effect: (1) identify the analytical assessment techniques based on the measurable parameter; (2) identify how the Project might affect caribou based on well-studied effects pathways; (3) knowing the risks associated with each pathway, recommend the level of mitigations needed to minimize effects; (4) assess the residual effect following mitigations.

   Therefore, the assessment conclusions rely on measurable parameters—not every effect pathway—which are interpreted using the assessment criteria. This link is explicitly summarized in Table 16.4 (Volume 6, Section 16.1.6, document page 16-20 to 16-22) and throughout Section 16.1.6 for all potential effects.

6. The same effects pathways discussed in the IS and in responses (1) and (2) above are expected to be present outside Nunavut. Please refer to the response Information Request NTI-6 (IR-403) for a justification on why the Nunavut-exclusive regional assessment areas for BCH and DUH are sufficient for addressing regional cumulative effects on caribou, and (2) how transboundary effects—the state of caribou when they arrive in Nunavut—are considered and addressed through mitigations.

BQCMB-IR-004 (IR-337)

Subject

Rationale for the temporal boundary used in the caribou cumulative-effects assessment

Issue / Concern

The Impact Statement identifies the Project as long-term infrastructure. For the caribou assessment, the EIS states that Operations and Maintenance activities are anticipated to begin in 2035 and continue indefinitely, and that Project components are considered permanent infrastructure with a design life of 75 years.

The BQCMB requires clarification on the rationale for the temporal boundary used to assess reasonably foreseeable future activities and cumulative effects on barren-ground caribou and caribou harvesting communities. Project-related effects on caribou movement, habitat use, mortality risk, access, harvesting, and induced development may occur over the long-term life of the Project and may extend beyond the selected future assessment window.

Without this clarification, it is difficult to understand whether the cumulative-effects assessment captures longer-term effects associated with permanent road and port infrastructure, future third-party use, potential future access infrastructure (e.g., spur roads), delayed induced development, changes in traffic or access, climate-related range shifts, and effects over more than one caribou population cycle.

Information Request

Please provide the rationale for the temporal boundary used to assess reasonably foreseeable future activities and cumulative effects on barren-ground caribou and caribou harvesting communities or identify where this information is already provided in the Impact Statement. In the response, please:

1. *identify the temporal boundary used for the caribou cumulative-effects assessment, including the future time period applied to reasonably foreseeable and reasonably foreseeable induced activities;*
2. *explain the rationale for selecting that temporal boundary, given that Project operations are anticipated to continue indefinitely and Project components are considered permanent infrastructure with a 75-year design life;*
3. *explain how longer-term effects beyond the selected future assessment window were considered, including effects related to induced development, future traffic or third-party use, access or harvest pressure, climate-related range shifts, and more than one caribou population cycle;*
4. *clarify whether any sensitivity analysis or qualitative assessment was completed using a longer temporal boundary for caribou cumulative effects, and provide the results or rationale if such analysis was not completed; and*
5. *explain how the selected temporal boundary affects conclusions regarding caribou movement, habitat disturbance, mortality risk, access, cumulative effects, significance, and caribou harvesting communities.*

Proponent Response

1. **Temporal boundary for the caribou cumulative effects assessment**

   As mentioned in the Impact Statement (IS) and pertaining to all Valued Components, including caribou:

   > "*The temporal limit of the cumulative effects assessment has been selected at 20 years into the future, which is assumed as an approximate extent to which reasonably foreseeable future and induced development activities can be predicted with a level of certainty that allows for assessment*" (Volume 4, Section 9.4.3.2, document page 9-16).

2. **Rationale for temporal boundary**

   Please see response 1. Although the Project has a 75-year design life, WKR determined that future activities cannot reasonably be predicted beyond a 20-year period to undertake a comprehensive assessment. The caribou assessment discusses the uncertainty in future conditions:

   > "*[T]he future level of human disturbance (i.e., RF and RFI physical activities) near the Project is also uncertain and will depend on applications by future proponents and the outcomes of their effects assessment. In other words, future project approvals are contingent on the state of the environment and caribou at that time*." (Volume 6, Section 16.8.6, document page 16-163)

   However, likely future conditions and disturbance levels are not boundless. WKR expects that the assessment of future physical activities will rely on tools like the cumulative land disturbance framework (CLDF) in the *Bathurst Caribou Range Plan*, which "*provides over-arching landscape-level management benchmarks that identify management tool responses based on the importance of habitat areas and the levels of habitat disturbance*" (page 3, GNWT 2019).

3. **Longer term effects consideration**

   A discussion on climate-related effects beyond the 20-year future assessment window is provided in Volume 6, Section 16.4.7. Other potential effects beyond this window are not explicitly considered in the IS. However, the IS describes a mechanism to account for an uncertain future in the long term and mitigate potential effects:

   > *"These mobile measures provide a mechanism to initiate road closures and other mitigations to facilitate within-season movements for the BCH and DUH, and BCH migration to a consistent calving range. Changes in the timing of migration, the location of the calving range, and the timing of peak calving may require adjustments to the closure window, including its timing and length. Given the uncertainty about the effects of climate change, it is difficult to predict which mitigations may be needed in the future. An adaptive approach will be needed, informed by caribou-related monitoring throughout the Project's life (see Section 16.9).*" (Volume 6, Section 16.4.7.4, document page 16-124)

4. **Consideration of sensitivity analysis or other qualitative assessment**

   A sensitivity analysis or qualitative assessment were not completed using a longer temporal boundary. Please refer to the responses to 1, 2 and 3 for WKR's justification.

5. **Effect of temporal boundary on caribou effects conclusion**

   The selected temporal boundary (20 years into the future) provides the basis for assessing potential Project effects and cumulative effects on mainland and island caribou, and the significance of those effects, in a future period that has some certainty. Beyond this period, uncertainty increases substantially, which precludes a comprehensive assessment or defensible conclusions. Please refer to responses 2 and 3 above for details on dealing with an uncertain future.

   Note: Effects on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25, not in the caribou assessment (Volume 6, Section 16).

BQCMB-IR-005 (IR-338)

Subject

Cautionary cumulative range disturbance, significance rationale, and mitigation response for caribou

Issue / Concern

The Impact Statement predicts that reasonably foreseeable induced conditions would increase total disturbance in Bathurst Caribou Herd Range Assessment Area 1 to 8,818.6 km², or 11.4%, moving the area into a moderate risk or cautionary disturbance tier. The EIS also states that no additional mitigation, management, or enhancement measures are proposed beyond those identified to address Project-related effects.

The Impact Statement nevertheless concludes that residual cumulative effects on the Bathurst Caribou Herd are not significant, based in part on the predicted magnitude and spatial extent of residual effects, expected Project mitigation, potential mitigation for reasonably foreseeable induced physical activities, and baseline context.

BQCMB requires clarification on the decision logic connecting the predicted cautionary cumulative disturbance condition, the significance conclusion, and the decision not to propose additional cumulative-effects mitigation, monitoring, adaptive-management thresholds, or enforceable conditions. This information is needed to understand how cumulative range disturbance, herd vulnerability, mitigation effectiveness, uncertainty, and caribou harvesting communities were considered in the caribou cumulative-effects assessment.

Information Request

Please explain how the conclusion of no significant cumulative effects on caribou was reached in light of the predicted increase in cumulative range disturbance under reasonably foreseeable induced conditions or identify where this explanation is already provided in the Impact Statement. In the response, please:

1. *explain how the predicted shift of Bathurst Caribou Herd Range Assessment Area 1 into a moderate risk or cautionary disturbance tier was considered in the significance determination for cumulative effects on caribou;*
2. *identify the thresholds, criteria, assumptions, professional judgment, or lines of evidence used to determine that the predicted cumulative range disturbance would not result in significant cumulative effects on caribou;*
3. *explain how current herd status, herd vulnerability, population trend, recovery potential, movement disruption, functional habitat loss, harvest pressure, and other cumulative stressors were considered in the significance determination;*
4. *explain how the predicted cautionary cumulative disturbance condition was considered in determining whether additional mitigation, monitoring, adaptive-management thresholds, or enforceable conditions were required;*

5. *explain why no additional mitigation, management, or enhancement measures are proposed beyond those identified for Project-related effects, given the predicted cumulative disturbance under reasonably foreseeable induced conditions;*
6. *identify any additional cumulative-effects mitigation measures that were considered but not proposed, including regional access management, traffic limits, seasonal restrictions, road closures, coordinated monitoring, or collaborative management with governments, HTOs/HTAs, Indigenous governments and organizations, local harvesting organizations, other proponents, or caribou co-management bodies;*
7. *explain how uncertainty in reasonably foreseeable induced activity assumptions, mitigation effectiveness, traffic levels, access control, road use, future development timing, and caribou response was considered in the significance determination; and*
8. *explain how the cumulative-effects conclusion considered potential effects on caribou harvesting communities, including caribou availability, harvest access, food security, cultural continuity, and cumulative landscape change.*

Proponent Response

1, 4 and 5. **Consideration of BCH-RAA1 cautionary CLDF tier**

An increase from “desirable” to “cautionary” disturbance levels within BCH-RAA1 does not, on its own, imply a significant effect on the Bathurst Caribou Herd (BCH). The *Bathurst Caribou Range Plan* identifies these thresholds as triggers for management responses: “*The intention of using tiered thresholds with increasingly stringent management responses is to reduce, and ultimately reverse, the negative trend of land disturbance effects as early as possible*” (page 3, GNWT 2019). The shift from “desirable” to “cautionary” under RFI conditions does trigger additional mitigation and monitoring for RFI physical activities. The IS states that “*a caribou TARP, including MCCMs like adaptive road closures and traffic management like convoying, are likely required for all RFI access roads. Some regional-level coordination among the Project and RFI physical activities is expected during key time periods, such as BCH spring migration, calving, and post-calving*” (Volume 6, Section 16.5.4.2, document page 16-138). However, “*No additional mitigation, management, and enhancement measures are proposed beyond those identified to address Project-related effects*” (Volume 6, Section 16.5.2.2, document page 16-131).

2. **Considerations in significance determination**

The significance determination does not rely on a single assessment endpoint (or potential effect), as described in Volume 6, Section 16.1.7. Please also refer to the response to Information Request IR-106 (KIA-IR-36) for an additional explanation of how significance determinations are made. Please also refer to the rationale provided in response 1 above.

3. **Consideration of cumulative stressors**

Please refer to Volume 6, Section 16.1.7 and the response to IR-106 (KIA-IR-36) for explanations of how significance determinations are made from the collective assessment endpoints (or potential effects) using defined measurable parameters (Volume 6, Section 16.1.3, Table 16.3). Discussion on the following effects pathways, including how they contribute to the measurable parameters used in the assessment, are provided throughout the Impact Statement (IS), Volume 6:

- Sections 16.4.2 and 16.5.3—Functional habitat loss.
- Sections 16.4.3 and 16.5.4—Movement disruption.
- Sections 16.4.4 and 16.5.5—Harvest pressure.

Other factors such as herd status, herd vulnerability, population trend, and recovery potential do not directly affect measurable parameters in the assessment (e.g., habitat loss [ha, %], exposure levels [days] and migration corridor interactions [% overlap]). However, these factors provided context for inferring potential effects in the absence of mitigations, emphasizing the need to recommend strong mitigations. This reasoned argument process is reflected in the structure of the Impact Statement (IS) and the steps used to assess each potential effect: (1) identify the analytical assessment techniques based on the measurable parameter; (2) identify how the Project might affect caribou based on well-studied effects pathways; (3) knowing the risks associated with each pathway, recommending the level of mitigations needed to minimize effects; (4) assess the residual effect following mitigations.

6. **Additional cumulative effects mitigation measures**

Please refer to response 1 above. WKR has committed to developing the details of proposed mitigation measures under the Wildlife Mitigation and Monitoring Plan (WMMP; Volume 11, Appendix 37B) through consultation with co-management parties.

7. **Consideration of uncertainty**

Uncertainty is explicitly incorporated into the process of significance determination (Volume 6, Section 16.1.7, document page 16-27):

> "*...prediction confidence and uncertainty associated with the assessment were considered in relation to:*
>
> - *Scientific certainty relative to the quantification or qualification of the effects, including the quality and quantity of data, type of model used to make inferences, and the understanding of effect mechanisms;*
> - *Scientific certainty relative to the effectiveness of the mitigation, management, and enhancement measures; and*
> - *Professional judgment based on prior experience in predicting effects and the known effectiveness of mitigation measures.*"

Please also refer to the response to Information Request IR-337 (BQCMB-IR-004) for additional information on how uncertainty of future conditions is considered in the assessment and, ultimately, the significance determination.

8. **Consideration of effects on caribou harvesting communities**

Inuit, Indigenous, and Community Knowledge and engagement feedback were integrated into the IS, including in the assessment of effects on caribou. In turn, the conclusions of the caribou assessment were integrated into the assessment of effects on caribou harvesting communities, including consideration of caribou availability, harvest access, cultural continuity, and cumulative landscape changes (Volume 9, Section 25) and food security and sovereignty (Volume 9, Section 25). Effects on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25.

BQCMB-IR-006 (IR-339)

Subject

Treatment of Appendix 16B vulnerability assessment in the caribou effects conclusions

Issue / Concern

Appendix 16B presents a vulnerability assessment for the Bathurst, Beverly/Ahiak, and Dolphin and Union caribou herds. Section 16 of the Impact Statement describes the Caribou Herd Vulnerability Model as a tool for evaluating how climate change and human development may affect caribou exposure, movement, energy-protein balance, body condition, vital rates, and herd dynamics.

The Impact Statement states that transboundary effects are evaluated using the Caribou Herd Vulnerability Model and therefore do not contribute to determinations of significance. However, Appendix 16B appears to provide a herd-level line of evidence relevant to caribou vulnerability, demographic risk, recovery potential, mitigation effectiveness, and population trajectory. The BQCMB notes that Appendix 16B presents modelling scenarios in which the Project, and the Project in combination with the proposed Slave Geological Province Road/Corridor scenario, appear to be associated with increased population-level effects for Bathurst caribou. These model outcomes appear difficult to reconcile with the conclusion that residual and cumulative effects on the Bathurst herd are not significant.

Appendix 16B also links road or infrastructure exposure to assumed behavioural changes, including reduced foraging and increased walking or running, which are then modelled as changes in body condition, pregnancy rates, calf survival, and population trajectory. The BQCMB requires clarification on the evidence supporting these behavioural and energetic assumptions, whether they were validated for the herds modelled in Appendix 16B, and how uncertainty in these assumptions was considered.

The BQCMB requires clarification on how Appendix 16B and the Caribou Herd Vulnerability Model results were used, weighted, limited, or excluded in the assessment of residual and cumulative effects on caribou. This information is needed to understand the basis for the significance conclusions for barren-ground caribou and related conclusions regarding caribou harvesting communities.

Information Request

Please explain how Appendix 16B and the Caribou Herd Vulnerability Model results were used, weighted, limited, or excluded in the caribou effects assessment, or identify where this explanation is already provided in the Impact Statement. In the response, please:

1. *explain why CHVM results were used to inform transboundary effects but did not contribute to determinations of significance for residual or cumulative effects on caribou;*
2. *explain whether predicted population change, demographic risk, recovery potential, or population trajectory were considered as effect measures, indicators, or lines of evidence in the caribou significance determination, and if not, explain why;*

3. *explain how Appendix 16B results related to body condition, pregnancy rates, calf survival, and projected population trend were considered in relation to conclusions that residual and cumulative effects on caribou are not significant;*
4. *identify the weight assigned to Appendix 16B relative to other lines of evidence, including range disturbance, habitat disturbance, movement, mortality risk, health, Inuit, Indigenous, and Community Knowledge, professional judgment, and proposed mitigation;*
5. *explain how uncertainty in Appendix 16B assumptions and outputs was considered, including uncertainty related to exposure assumptions, zones of influence, traffic levels, hunting pressure, mitigation effectiveness, climate scenarios, population projections, and behavioural or energetic assumptions such as reduced foraging, increased walking or running, reduced body condition, pregnancy rates, and calf survival;*
6. *clarify whether the behavioural and energetic assumptions used in Appendix 16B were validated for the Bathurst, Beverly/Ahiak, or Dolphin and Union herds, or were transferred from studies of other herds, development types, or regional contexts;*
7. *clarify whether the mitigation scenarios assessed in Appendix 16B correspond to enforceable Project commitments, including traffic management, road closures, hunting restrictions, access controls, TARP measures, Mobile Caribou Conservation Measures, or other mitigation relied upon in the caribou assessment;*
8. *clarify which herd or herd grouping is represented by "Beverly/Ahiak" in Appendix 16B, including whether the modelling refers to the present-day Beverly herd, the Ahiak herd, the Northeast Mainland herds, or another herd grouping, and explain how this definition affects interpretation of the modelling results;*
9. *identify the most recent Bathurst population estimates, demographic information, calf:cow ratios, survival information, and emigration information used in Appendix 16B and the caribou effects assessment, including whether the 2025 GNWT estimate of approximately 3,609 caribou and recent information on continuing decline were considered, and explain how those data were incorporated into the vulnerability assessment and significance conclusions; and*
10. *explain whether Bluenose-East caribou were considered for vulnerability modelling, and if excluded, provide the rationale for exclusion.*

Proponent Response

1. Please refer to the responses to Information Requests WCS-IR-16 (IR-137) and NTI-11 (IR-408) for a discussion of the Caribou Herd Vulnerability Model (CHVM) and why it is not used to determine significance.

2. Please refer to the response to Information Request BQCM-IR-005I (R-338), response [3]) for a discussion on this topic.

3. Please refer to response 1. above.

4. Please refer to response 1. above. Volume 6, Sections 16.4 and 16.5 are linked to an assessment endpoint or measurable parameter. The information provided within Appendix 16B is not.

5. The uncertainties associated with Appendix 16B assumptions and outputs are summarized in Volume 6, Section 16.6.3.3. As with response (1) above, please also refer to the responses to Information Requests WCS-IR-16 (IR-137) and NTI-11 (IR-408).

   Given the uncertainties associated with the CHVM, the IS provides a careful framing of how the outputs should be interpreted:

   > "*The CHVM links three assumption-based submodels (movement, energy-protein, and population) to make hypothetical predictions of herd dynamics under different scenarios, including the effects of development and climate change, and the potential effectiveness of mitigations. The CHVM helps "explore and project such complex and interacting threats as climate change and industrial development … [and] gaming with such simulation models then allows the user to analyze responses to a single variable or suites of variables" (White et al. 2014). Thus, the primary utility of CHVMs is evaluating the relative changes in predictions across different scenarios. These models can be used to identify areas of herd vulnerability and can help define key mitigation, management, and enhancement measures to minimize effects on caribou herds.*" (Volume 6, Section 16.1.5, pages 16-19 to 16-20)
   >
   > "*Transboundary effects are evaluated using a hypothetical modelling framework—the CHVM (see Sections 16.1.5 and 16.6.3)—and, therefore, do not contribute to determinations of significance*." (Volume 6, Section 16.6.1, page 16-151)
   >
   > "*The CHVM used to assess potential transboundary effects (see Section 16.6) required several assumptions that added to uncertainty and the likely overestimation of effects on mainland caribou."* (Volume 6, Section 16.8.3.3, page 16-162)

6. As stated in the IS: "[W]hile the physiological component (energy-protein submodel; see Figure 16.18) has been well-validated (White et al. 2014), the projection of herd dynamics has not. This additional component (population submodel; see Figure 16.18) lacks precision, and is mostly hypothetical, but can be a useful decision support tool to calculate risk (Russell et al. 2021)" (Volume 6, Section 16.6.3.3, page 16-156). To WKR's knowledge, the CHVM has not been validated against real-world observations. The submodel for movement (behaviour) and its associated assumptions and penalties draw from published literature covering different herds, development types, and regional contexts. Volume 6, Appendix 16B provides relevant citations to support the assumptions used in the model.

7. Yes, WKR has committed to all of these measures, as described throughout Volume 6, Section 16. Please refer to the response to Information Request GN-IR-11 (IR-291) for discussion on key caribou mitigations, including the caribou Trigger Action Response Plan and Mobile Caribou Conservation Measures (e.g., adaptive road closures, traffic management protocols [e.g., convoying]), and the validity of proposed mitigations. Access-control and related hunting restrictions are further described in the response to Information Request GN-IR-20 (IR-300).

8. The IS clarifies the Beverly/Ahiak caribou grouping in the Wildlife Baseline Report:

   "*The GN and GNWT consider Beverly caribou and Ahiak caribou to form separate herds. However, caribou biologists have argued that the Beverly herd's dramatic decline from 1994 to 2011 led to the abandonment of traditional calving grounds and a switch to use of the Ahiak herd's calving grounds, effectively combining the herds into the Beverly/Ahiak herd (Adamczewski et al. 2015). For management purposes, the Beverly and Qamanirjuaq Caribou Management Board consolidate Beverly/Ahiak caribou given their degree of overlap and shared range use. For the purposes of this Baseline Report, Beverly/Ahiak caribou are considered one herd from 2011-onwards due to their ecological overlap."* (Volume 6, Appendix 16A, Section 4.5.1.1, page 127).

   This same grouping is used in Volume 6, Appendix 16B. As stated in Appendix 16B:

   "*Figure 11 presents our seasonal distribution analysis for the BVA herd from 2010–2024. Seasonally, the BVA herd has little interaction with the Grays Bay Road; therefore, we did not consider this herd further*." (Volume 6, Appendix 16B, page 23).

9. The most recent population estimate, demographic information, calf:cow ratios, survival information, and emigration information for the Bathurst Caribou Herd are provided in Volume 6, Appendix 16A, Section 4.2.2 and summarized in Volume 6, Section 16.2.2.2. This information was not directly used in the CHVM because it is a hypothetical model. Refer to response (1) above with regards to the purpose of the CHVM (which is not to make precise predictions) and why the CHVM is not included in the significance determination.

10. The Bluenose East caribou herd was excluded from the CHVM given the herd's limited interaction with the Grays Bay Road and Port.

BQCMB-IR-007 (IR-340)

Subject

Authority, responsibility, and uncertainty for mitigation assumed for future users and RFI activities

Issue / Concern

The Impact Statement relies on mitigation, management, and enhancement measures to reduce Project and cumulative effects on caribou, including measures related to Project design, TARP, Mobile Caribou Conservation Measures, adaptive road closures, traffic management, convoying, speed limits, wildlife right-of-way, access control, hunting restrictions, monitoring, and follow-up.

The Impact Statement also indicates that some mitigation measures are expected to extend to reasonably foreseeable induced physical activities, and that similar or more stringent mitigation may be required for RFI projects or future users. However, it is not clear which of these measures are within WKR's authority or control, which are assumptions about future regulatory requirements or future proponents, and which depend on future agreements, permits, authorizations, management plans, land-tenure arrangements, or third-party compliance.

The BQCMB requires clarification on the authority, responsibilities, limitations, and uncertainty associated with caribou mitigation measures relied upon in the caribou assessment, particularly where implementation may depend on future third-party users or proponents of reasonably foreseeable induced activities. This information is necessary to understand which mitigation assumptions are enforceable Project commitments, which are outside WKR's direct control, and how that uncertainty was considered in conclusions regarding residual and cumulative effects on barren-ground caribou and caribou harvesting communities.

Information Request

Please clarify the authority, responsibility, and assumptions associated with caribou mitigation measures relied upon for future third-party users and reasonably foreseeable induced activities or identify where this information is already provided in the Impact Statement. In the response, please:

1. *identify each caribou mitigation, management, enhancement, monitoring, or adaptive-management measure assumed to apply to future third-party users or RFI proponents, including TARP measures, Mobile Caribou Conservation Measures, adaptive road closures, traffic management, convoying, speed limits, wildlife right-of-way procedures, access controls, hunting restrictions, reporting requirements, and caribou monitoring;*
2. *identify which measures are binding Project commitments, which are within WKR's direct authority or control, which are assumptions about future regulatory requirements or third-party practices, which depend on future permits, authorizations, agreements, land-tenure arrangements, or management plans, and which are conceptual measures to be developed later;*

3. *identify the legal, regulatory, contractual, land-tenure, access-agreement, or operational mechanisms, if any, through which WKR could require or encourage future third-party users of Project infrastructure to comply with caribou mitigation measures;*
4. *identify whether any of the mitigation measures assumed to apply to future third-party users or RFI proponents would require new or amended legislation, regulations, permit conditions, access agreements, land-tenure arrangements, management plans, or other instruments to be implemented or enforced, and identify who would be responsible for establishing and enforcing those requirements;*
5. *clarify the limits of WKR's authority over RFI proponents or future users that use, connect to, or rely on Project infrastructure, including authority related to road access, port access, traffic management, road closures, monitoring, reporting, and compliance;*
6. *explain what regional coordination mechanisms are assumed or proposed among WKR, future users, RFI proponents, governments, HTOs/HTAs, Indigenous governments and organizations, local harvesting organizations, and caribou co-management bodies;*
7. *describe how compliance with caribou mitigation measures within WKR's control would be monitored, documented, reported, and enforced;*
8. *identify which assumptions about future-user or RFI-proponent mitigation were relied upon in the significance determinations for residual and cumulative effects on caribou; and*
9. *explain how uncertainty or lack of WKR authority over future users, RFI proponents, future mines, spur roads, or other connected infrastructure was considered in the caribou effects assessment and significance conclusions.*

Proponent Response

1. WKR cannot speak to specific commitments by the proponents of reasonably foreseeable induced (RFI) physical activities. However, "*All existing and proposed projects in NU are required by law and regulation to implement appropriate environmental safeguards and project-specific mitigation plans*" (Volume 6, Section 16.5.2.2, document page 16-131). It is WKR's expectation that any future projects undergoing review by the Nunavut Impact Review Board (NIRB) will be subject to equal or more stringent measures as those proposed for the Grays Bay Road and Port. This is a reasonable assumption given that RFI physical activities are primarily expected to be mines. As stated in the Impact Statement (IS):

   > "*It is assumed that mitigations required for active RFI mines would exceed the mitigations proposed for the Project. For example, a caribou TARP, including MCCMs like adaptive road closures and traffic management like convoying, are likely required for all RFI access roads. Some regional-level coordination among the Project and RFI physical activities is expected during key time periods, such as BCH spring migration, calving, and post-calving*." (Volume 6, Section 16.5.4.2, page 16-138)

2. All mitigation measures discussed in the caribou assessment (Volume 6, Section 16) and the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) are at an early stage of development. WKR commits to develop additional details for the protocols and thresholds/triggers mentioned in the IS through consultation with co-management parties. Please refer to the response to Information Request KIA-IR39 (IR-109) for additional discussion on the WMMP.

   WKR does not have the authority to dictate which measures will be binding or left to WKR's discretion; this will be dependent on the outcomes of the regulatory processes that follow the NIRB review.

   Measures discussed for RFI physical activities outside the Grays Bay Road and Port (e.g., RFI roads) are assumptions dependent on future regulatory review and requirements.

3. WKR will require third-party users of the Grays Bay Road and Port to follow road operation requirements in the Road Management Plan (Draft) (Volume 6, Appendix 37A) and all wildlife-related mitigations in the Wildlife Mitigation and Monitoring Plan (WMMP) (Volume 6, Appendix 37B). Compliance will be required under an infrastructure access and use agreement: "*Mining users will have access to the road on a tolled basis, with port and road use fees to be established through agreements between WKR and mining/exploration companies*" (Volume 11, Appendix 37A, Section 5.1.1, page 10).

4. The IS makes assumptions about mitigations applied by RFI proponents outside the Grays Bay Road and Port (e.g., RFI roads); response (1) above identifies those assumptions. These assumptions will depend on each RFI proponent's regulatory review and requirements. However, when RFI proponents use the Grays Bay Road and Port, they will be subject to the relevant management plans (see response [3] above).

5. As described in the Road Management Plan (Draft):

   > "*Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station on the IOL. These access points will manage and monitor road use through sign-in procedures and radio check-ins, helping to track users and ensure the safety of users. WKR will maintain logs recording the entry and exit of all vehicles using the road. Logs will also record any incidents or accidents for regulatory and safety audit purpose. Unauthorized use may lead to security alerts and reports to local authorities.*" (Volume 11, Appendix 37A, Section 5.1.1, page 10)

   Third-party user compliance with management plans (including mitigations) while operating on the Grays Bay Road and Port will be established through an infrastructure access and use agreement. Mitigation implementation and compliance outside of the Grays Bay Road and Port is beyond the responsibility of WKR and rests with RFI proponents.

6. The protocols for regional coordination should be established through consultation with RFI proponents and the relevant co-management parties. WKR is committed to undertaking these consultations at the appropriate time.

7. Compliance of mitigations along the road and at the port will be documented by WKR; details on compliance procedures, including monitoring, documentation, and reporting, will be provided in the WMMP update (see response [2] above). As described previously, mitigation implementation and compliance outside of the Grays Bay Road and Port is beyond the responsibility of WKR and rests with RFI proponents.

8. The significance determination of residual cumulative effects relied on the assumption that RFI physical activities implement mitigations equal to or more stringent than the measures proposed for the Grays Bay Road and Port. Please see response (1) above.

9. Please refer to the response to Information Request BQCM-IR-004 (IR-337) for a discussion of how future uncertainty is incorporated into the caribou assessment. Please also refer to the responses above regarding what third-party use WKR can control (i.e., use of the Grays Bay Road and Port and compliance with management plans) and what is beyond WKR's authority to control. As stated in response (1) above, it is WKR's expectation that any future projects undergoing review by the Nunavut Impact Review Board (NIRB) will be subject to equal or more stringent measures as those proposed for the Grays Bay Road and Port. This is a reasonable assumption given that RFI physical activities are primarily expected to be mines.

BQCMB-IR-008 (IR-341)

Subject

Access control, harvest pressure, and caribou harvesting communities

Issue / Concern

The Impact Statement identifies access control as a key mitigation measure to limit illegal harvesting and poaching and concludes that increased harvest pressure on caribou is expected to be low. The EIS states that users seeking access to the Project Road for harvesting purposes would require prior approval from the Kitikmeot Inuit Association and an Inuit Wildlife Organization/HTA, and that these permits are expected to align with current tagging systems and total allowable harvest requirements.

The BQCMB requires clarification on how access control would be implemented, monitored, enforced, and adapted over the life of the Project. This information is necessary because new all-season road and port infrastructure could change access to caribou, harvest pressure, caribou availability, unauthorized access risk, and harvesting patterns, including for communities and Indigenous groups that rely on barren-ground caribou across jurisdictions.

The BQCMB also requires clarification on the capacity, resourcing, and administrative requirements associated with the access-control system, particularly where the Impact Statement assumes roles for KIA, HTOs/HTAs, Inuit Wildlife Organizations, Indigenous governments and organizations, local harvesting organizations, or co-management bodies in reviewing, approving, monitoring, reporting on, or enforcing access and harvest-related permits. Without this information, it is difficult to understand whether the access-control measures relied upon in the assessment are practicable, adequately supported, and enforceable over the life of the Project. The IS cannot rely on access-control systems involving HTAs/Inuit organizations without explaining whether those systems will be supported with the capacity to do so.

The BQCMB also requires clarification on the harvest estimates, assumptions, data sources, and uncertainty used to support the conclusion that increased harvest pressure would be low. This is particularly important because harvest regimes, reporting requirements, and access controls differ across jurisdictions and herds, and experience from other northern roads and winter roads indicates that improved access can increase harvest pressure where caribou are available near roads. Access-control assumptions may also become less reliable if the Project Road becomes part of a broader regional transportation network, connects to other road infrastructure, or is used by a wider range of future users over time. Without this information, it is difficult to understand how access-related mortality risk and effects on caribou harvesting communities were assessed and how those effects would be detected and managed if they are greater than predicted.

Information Request

Please provide additional detail on how access control, harvest pressure, and effects on caribou harvesting communities were assessed and would be managed, or identify where this information is already provided in the Impact Statement. In the response, please:

1. *describe the proposed access-control system for the Project Road, winter road, port, Jericho Station, aerodrome, quarries, borrow sources, camps, and other Project infrastructure, including gates, checkpoints, permits, patrols, signage, communication protocols, electronic monitoring, or other access-control measures, where applicable;*
2. *identify the parties responsible for granting, denying, tracking, monitoring, and enforcing access for employees, contractors, future third-party users, harvesters, community members, commercial users, recreational users, and emergency users;*
3. *explain how harvesting-related access permits would be coordinated with KIA, HTOs/HTAs, territorial harvest-management systems, total allowable harvest requirements, Indigenous governments and organizations, local harvesting organizations, and caribou co-management bodies;*
4. *explain what capacity, resourcing, administrative systems, and coordination support would be required for KIA, HTOs/HTAs, Inuit Wildlife Organizations, Indigenous governments and organizations, local harvesting organizations, or co-management bodies to carry out any access-approval, monitoring, reporting, or compliance roles assumed in the Impact Statement, and how any gaps would be addressed;*
5. *explain how unauthorized access, illegal harvest, poaching, wastage, non-compliance with access restrictions, or non-compliance with harvest-related permit conditions would be detected, reported, and addressed;*
6. *identify the harvest estimates, assumptions, data sources, and uncertainty used to assess potential road-related harvest of Bathurst, Beverly/Ahiak, Bluenose-East, Dolphin and Union, or other barren-ground caribou that may use the area;*
7. *explain whether the assessment considered higher-harvest scenarios based on experience with other northern roads, winter roads, industrial roads, or improved access routes, and if not, explain why;*
8. *explain how the assessment considered caribou herds, communities, or jurisdictions where harvest limits, tags, reporting requirements, or access controls may differ from those assumed in the EIS;*
9. *identify what indicators would be used to monitor changes in harvest pressure, access patterns, caribou availability, harvest success, unauthorized access, hunter travel routes, and effects on caribou harvesting communities;*

10. *identify monitoring frequency, reporting responsibilities, and adaptive-management responses if access, harvest pressure, or effects on caribou harvesting communities are greater than predicted; and*
11. *explain how access-control and harvest-pressure assumptions, including uncertainty about future traffic levels, public or third-party use, road connectivity, and WKR's ability to control access over time, were incorporated into conclusions regarding caribou mortality risk, movement, cumulative effects, significance, and caribou harvesting communities.*

Proponent Response

1. Please refer to the responses to Information Requests KIA-IR-39 (IR-109) and GN-IR-20 (IR-300) for discussion on WKR's proposed access control system. WKR has committed to developing the details of access control (including harvest-related access permits) through consultation with co-management parties. These details will be provided in an updated WMMP.

2. Please refer to response (1) above and the responses to Information Request BQCMB-IR-007 (IR-340).

3. Please refer to response (1) above.

4. Please refer to response (1) above

5. The Impact Statement (IS) provides the following explanation of how unauthorized access—which includes illegal harvest and poaching—will be limited:

   "*Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA). Permits will be issued jointly by the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA) […] WKR will be responsible for ensuring that permits and licences are in place before granting access to the road. The processes for access application and permit issuance for harvesting will be established through discussions with the Kitikmeot Inuit Association and the HTA […] Harvest licences and species authorization tag(s) will be managed through the existing Nunavut Hunting Regulations.*" (Volume 11, Section 5.1.1, document page 10)

   "*WKR will maintain logs recording the entry and exit of all vehicles using the road. Logs will also record any incidents or accidents for regulatory and safety audit purpose. Unauthorized use may lead to security alerts and reports to local authorities.*" (Volume 11, Appendix 37A, Section 5.1.1, page 10)

   Details of the detection, compliance, and reporting processes will be developed through consultation with co-management parties.

6. The caribou assessment is clear on how indirect mortality risk from harvesting is assessed:

   "*Indirect mortality from harvesting is expected to occur in a controlled manner consistent with territorial legislation and co-management objectives. Harvesting will not contribute to excess mortality because it will occur within TAH limits. Access control is a key Project mitigation, management, and enhancement measure that could act to limit illegal harvesting and poaching. Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and an Inuit Wildlife Organization (HTA), and these permits are expected to align with the current tagging system and TAH*." (Volume 6, Section 16.4.4.4, document page 16-113)

   "*Given the TAH limits in place for the BCH and DUH and the relatively low increase in harvest pressure, the Project will not result in excess mortality from harvesting*." (Volume 6, Section 16.4.4.4, document page 16-113)

   The assessment of indirect mortality risk implicitly relies on current harvest estimates, which align with the Total Allowable Harvest (TAH) rates for the Bathurst Caribou Herd and the Dolphin and Union Caribou Herd. Even though caribou from other herds may occur in the area, some of which do not have TAHs, access to the Grays Bay Road will still require a permit (as discussed above).

7. Higher harvest scenarios are not considered because access to the Grays Bay Road is controlled and any harvesting is expected to be in line with TAHs. Please see the responses above.

8. The harvest limits/tags, reporting requirements, and access controls discussed in the IS are specific to the Grays Bay Road and the Kitikmeot Region. There is no rationale for considering the harvesting regime and processes from other jurisdictions that do not apply to this region.

9. Specific indicators to track changes in indirect mortality risk from harvesting will be provided in the updated WMMP (see response [1] above). Effects on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25.

10. WKR has established a mechanism for adaptive management responses in the current version of the WMMP:

    "*If a wildlife mortality event occurs that is directly (e.g., vehicle collision) or indirectly (e.g., facilitated predation) attributed to the Project, an investigation will be completed to understand the circumstances that caused the mortality event. If the investigation identifies an unforeseen circumstance that may result in an increased mortality risk to wildlife (e.g., illegal harvesting or poaching), adaptive management will be triggered. WKR will consult with the Kitikmeot Inuit Association, the GN, and the GNWT on proposed adaptive mitigation measures to prevent or reduce the increased mortality risk to wildlife*." (Volume 11, Appendix 37B, Section 8.2.2.3, document page 25)

    Details of monitoring frequency, reporting, and specific adaptive mitigations will be provided in the updated WMMP (see response [1] above).

11. Access control and harvest pressure assumptions are outlined in the responses above. Uncertainty regarding traffic, third-party use, and road connectivity does not change the fact that WKR will continue to control access at checkpoints that could be accessed by communities: "*Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station*" (Volume 11, Appendix 37A, Section 5.1.1, page 10). Any uncertainties associated with future conditions are incorporated into the assessment of mortality risk, movement, and cumulative effects, and inform significance determination. Please refer to the response to Information Request IBQCM-IR-004 (R-337) for a discussion of how future uncertainty is incorporated into the caribou assessment.

    Effects on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25.

BQCMB-IR-009 (IR-342)

Subject

Caribou TARP, conditional mitigation, and adaptive-management triggers

Issue / Concern

The Impact Statement identifies the caribou Trigger Action Response Plan, Mobile Caribou Conservation Measures, adaptive road closures, traffic management, speed limits, wildlife right-of-way, convoying, monitoring, and access controls as important measures to reduce effects on caribou movement, habitat, mortality risk, and cumulative effects.

The EIS states that Mobile Caribou Conservation Measures will be implemented as part of the TARP framework to initiate adaptive road closures during migration, calving, and post-calving, and that lead caribou or collar movements on a trajectory to cross the road would result in suspension of vehicle traffic. The EIS also states that follow-up monitoring will be used to test the effectiveness of mitigation, management, and enhancement measures and update management strategies, including components of the TARP, as needed.

The BQCMB requires clarification on the operational details of the caribou TARP and related conditional mitigation measures. This information is needed because the caribou effects assessment relies on these measures to reduce predicted effects, but the available information does not clearly identify the triggers, thresholds, response levels, decision-makers, implementation timelines, enforcement mechanisms, monitoring indicators, or adaptive-management responses that would apply if caribou effects are greater than predicted.

Information Request

Please provide the draft caribou Trigger Action Response Plan, Mobile Caribou Conservation Measures, Road Management Plan provisions, Wildlife Mitigation and Monitoring Plan provisions, and road-use protocols relied upon in the caribou effects assessment, or identify where this information is already provided in the Impact Statement. In the response, please:

1. *identify the caribou monitoring indicators, criteria, thresholds, or triggers that would initiate mitigation, including indicators related to caribou distance from infrastructure, group size, cow-calf groups, direction of movement, crossing behaviour, season, herd, life stage, traffic levels, and repeated or prolonged interaction with Project infrastructure;*
2. *identify the response levels or action categories under the TARP and Mobile Caribou Conservation Measures, including the criteria for escalating or de-escalating between response levels;*
3. *describe the mitigation actions associated with each response level, including traffic delays, convoying, speed reductions, temporary road closures, seasonal restrictions, access restrictions, work stoppages, communication protocols, wildlife right-of-way procedures, or other measures;*

4. *identify the operational criteria for implementing and ending mitigation actions, including closure distances, closure duration, speed limits, stopping distances, stopping duration, line-of-sight criteria, convoying requirements, criteria for reopening the road, and criteria for resuming vehicle movement when caribou or other wildlife are near or crossing the road;*
5. *identify the responsible decision-makers for each mitigation action, including who has authority to initiate, modify, extend, or end road closures, traffic restrictions, work stoppages, or other caribou-related mitigation;*
6. *clarify which TARP actions and related mitigation measures would be mandatory, which would be discretionary, how quickly actions would be implemented after triggers are met, and how compliance would be enforced, documented, and reported;*
7. *explain how road users, contractors, harvesters, future users, communities, regulators, HTOs/HTAs, Indigenous governments and organizations, local harvesting organizations, and caribou co-management bodies would be notified when TARP actions or road restrictions are implemented;*
8. *explain how the effectiveness of TARP measures would be monitored, including indicators such as crossing success, avoidance, delays, deflection, stress behaviour, collision risk, harvest pressure, and repeated caribou-road interactions, and identify what adaptive-management responses would be implemented if effects are greater than predicted;*
9. *clarify whether the TARP and related conditional mitigation measures would apply to contractors, future third-party users, and proponents of reasonably foreseeable or induced activities that use or connect to Project infrastructure; and*
10. *identify which measures are proposed commitments, which are conceptual measures to be developed later, and which would depend on future approvals, agreements, permits, management plans, or third-party compliance. Where triggers, thresholds, or response actions have not yet been finalized, provide the draft trigger levels, the proposed process and timeline for finalizing them, the parties to be involved, and how those triggers were assumed in the caribou effects assessment.*

Proponent Response

1. WKR has not yet drafted a detailed caribou Trigger Action Response Plan (TARP) and associated Mobile Caribou Conservation Measures (MCCM). Please refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on the current early design stage of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) and WKR's commitments to developing detailed protocols and thresholds/triggers for the caribou TARP and MCCM through consultation with co-management parties.

2. Please refer to response (1) above.

3. The general framework for managing activity with increasing levels of interaction with wildlife (including caribou) is provided in the WMMP (Volume 11, Appendix 37B, Section 6). The level of mitigation increases from normal activities (Level 1) to site notification (Level 2) to site alert (Level 3) to temporary shutdown (Level 4). This progression will form the basis of the caribou TARP and application of MCCMs. Example criteria to escalate from one level to another are provided in Section 6 of the WMMP. The final criteria for escalating and de-escalating between response levels in the caribou TARP will be provided in the updated WMMP (see response [1] above).

   Examples of mitigation measures for each response level are provided in Section 6 of the WMMP. Additional mitigations are summarized in Section 7 of the WMMP. These mitigations will be finalized in the updated WMMP (see response [1] above).

4. Examples of operational criteria are provided in Section 6 of the WMMP. Additional operational criteria are summarized in the mitigations provided in Section 7 of the WMMP. These criteria will be updated in the updated WMMP (see response [1] above).

5. The personnel responsible for monitoring the application and effectiveness of mitigations are identified in Table 7.1 of the WMMP. Additional information will be provided in the updated WMMP (see response [1] above).

6. Please refer to response (1) above.

7. Please refer to response (1) above.

8. Please refer to response (1) above. Monitoring results will be compared to the predictions in the IS. Where mitigation measures do not achieve the desired result, adaptive management is triggered and may include additional work pauses or temporary shutdowns at locations/times coinciding with frequent crossings or migration pinch-points (Volume 11, Appendix 37B, Sections 8.3.1, 8.2.2.4, Section 9).

9. WKR will require all contractors and third-party users of the Grays Bay Road and Port, including proponents of reasonably foreseeable induced (RFI) physical activities, to follow road operation requirements in the Road Management Plan (Draft) (Volume 6, Appendix 37A) and all wildlife-related mitigations in WMMP (Volume 6, Appendix 37B). Compliance will be required under an infrastructure access and use agreement (see Volume 11, Appendix 37A, Section 5.1.1). However, mitigation implementation and compliance outside of the Grays Bay Road and Port is beyond the responsibility of WKR and rests with RFI proponents.

10. All measures identified in the caribou assessment (Volume 6, Section 16) and in the WMMP (Volume 11, Appendix 37B) are proposed commitments at an early, conceptual design stage, and will be further developed as the review process continues with input from NIRB and other interested parties. None of WKR's commitments to mitigate impacts on Grays Bay Road and Port depend on future approvals (i.e., RFI proponents). However, some measures will rely on agreements with co-management parties (e.g., Access for harvesting permits), refined through the review process, approval/permit conditions, and further adjusted through adaptive management. Third-party compliance will be achieved through agreements and monitoring and usage plans. As noted above,

the updated WMMP will finalize details on how measures are implemented, including specific triggers and thresholds. Please see response (1) above.

In the caribou assessment, implementation of measures like the caribou TARP and MCCM are expected to reach the desired outcomes of minimizing residual Project effects. Please refer to the response to Information Request GN-IR-11 (IR-291) for discussion on key caribou mitigations, including the caribou TARP and MCCM (e.g., adaptive road closures, traffic management protocols [e.g., convoying]), and the validity of proposed mitigations.

BQCMB-IR-010 (IR-343)

Subject

Road permeability, caribou movement, and crossing effectiveness

Issue / Concern

The Impact Statement recognizes that roads and related Project activities may create physical or perceptual filters to caribou movement and may affect local movement, road-crossing locations and timing, migration timing, and movement routes. The EIS predicts that combined Project effects on Bathurst caribou movement would be moderate in magnitude and primarily associated with the Project road.

The EIS also indicates that road design, traffic management, speed limits, convoying, wildlife right-of-way procedures, TARP-related measures, Mobile Caribou Conservation Measures, and adaptive road closures would reduce effects on caribou movement and help maintain road permeability. However, the BQCMB requires clarification on the evidence, criteria, assumptions, monitoring indicators, and adaptive-management responses used to support the conclusion that Project roads would remain sufficiently permeable for barren-ground caribou movement.

This information is needed because road-crossing delays, deflection, avoidance, repeated crossing attempts, failed crossings, altered migration timing, or changes in movement routes could affect caribou movement, energetic costs, access to seasonal ranges, mortality risk, cumulative effects, and caribou harvesting communities.

Information Request

Please provide additional detail on how road permeability and caribou crossing effectiveness were assessed and how they would be monitored and adaptively managed, or identify where this information is already provided in the Impact Statement. In the response, please:

1. *explain the criteria, benchmarks, or lines of evidence used to determine that Project roads would remain sufficiently permeable for barren-ground caribou movement;*
2. *identify the assumptions used regarding road design, embankment height and slope, snowbank management, traffic volumes, traffic timing, convoying, speed limits, road closures, wildlife right-of-way procedures, and other traffic-management measures;*
3. *identify any road segments, terrain conditions, bridge approaches, water crossings, quarries, pullouts, intersections, snowbank conditions, or other locations where caribou crossing may be more difficult, delayed, or less likely;*
4. *explain how crossing delay, deflection, avoidance, repeated crossing attempts, failed crossings, stress behaviour, and changes in migration timing or route selection were considered in the movement assessment;*

5. *explain whether road permeability was assessed differently by season, herd, life stage, or sensitivity period, including calving, post-calving, migration, late summer, rut, and winter;*
6. *identify the road-barrier, road-crossing, and road-avoidance studies or monitoring results considered in the assessment, including studies from other northern roads where migratory caribou have experienced crossing delays, deflection, avoidance, or reduced crossing success, and explain how those studies or results were used to assess potential effects on Bathurst, Beverly/Ahiak, Bluenose-East, and Dolphin and Union caribou movement;*
7. *identify how caribou crossing effectiveness would be monitored during construction, operations, and maintenance, including indicators, methods, reporting frequency, responsible parties, and thresholds or monitoring results that would trigger additional mitigation or adaptive management;*
8. *explain how future third-party use, increased traffic, road connectivity, or reasonably foreseeable induced activities were considered in evaluating long-term road permeability; and*
9. *explain how road-permeability assumptions were incorporated into conclusions regarding caribou movement, habitat use, mortality risk, cumulative effects, significance, and caribou harvesting communities.*

Proponent Response

1. Please refer to the response to Information Request GN-IR-11 (IR-291) for discussion on key caribou mitigations, including the caribou TARP and MCCM (e.g., adaptive road closures, traffic management protocols [e.g., convoying]), and the validity of those proposed mitigations to promote road permeability.

2. The Impact Statement (IS) assumes that the proposed caribou mitigations (see response 1) would reduce the Project's indirect effects (including Zone of Influence) from the unmitigated 4-km buffer to the mitigated 1-km buffer, and facilitate caribou movements/crossings as demonstrated in literature. Specific assumptions related to Project design are provided in Volume 2, Section 2 (Project Components and Activities) as well as Volume 1, Appendix B (Mitigations and Commitments). For example: "*The all-season road side slopes will be designed, where possible, to 3:1 (≤18.5 degrees) to facilitate caribou crossings using finer material where applicable in "high potential areas" identified by 1) local knowledge, 2) collar data, 3) experience during road operations, 4) camera monitoring"* (Volume 6, Section 16.4.3.3, document page 16-103).

3. As stated in the IS, "*the road design and routing considers topography, terrain, and watercourse crossing locations*" (Volume 2, Section 2.1.6.3, document page 2-33). Aspects of road design, such as embankment slopes, also consider "'*high potential areas' identified by 1) local knowledge, 2) collar data, 3) experience during road operations, 4) camera monitoring*" (Volume 6, Section 16.4.3.3, document page 16-103). These "high potential areas" have informed the road engineering and design. However, it is not possible to identify specific road segments, quarries, bridges, or pullouts that could affect caribou crossing timing and success until road engineering and design is complete.

Any road segments or locations that may affect caribou movements will be addressed through proposed mitigations and the adaptive management process. WKR has committed to a mitigation approach that limits effects on caribou movements and crossings:

> "*The Project will apply adaptive management strategies; specifically, a caribou Trigger Action Response Plan (TARP) that includes Mobile Caribou Conservation Measures (MCCMs; Poole and Gunn 2015) to initiate targeted and adaptive road closures (e.g., a closure between specified kilometre markers where and when caribou are observed migrating) and several traffic management protocols (e.g., speed limits, wildlife right-of-way).*" (Volume 6, Section 16.1.1.6)

Please refer to response 7 below for further discussion on mitigations and their effectiveness.

4. The assessment of change in movement uses two measurable parameters that addresses these concerns (Volume 6, Section 16.4.3.1). Calculated annual exposure rates (after accounting for proposed mitigations) are used to consider the potential for behavioural changes near the road (e.g., crossing attempts, delays, deflections, avoidance). Brownian bridge movement model utilization distributions (UDs) are used to identify the location of migration movements (e.g., 95% UD = broad space use, 50% UD = central migration corridor, and 25% UD = key pinch points). The degree of overlap between the migration UDs and the Grays Bay Road and Port, as well as the historical timings of migration (Volume 6, Section 16.2.2.4), are used to contextualize potential changes in migration location and timing.

5. Road permeability is assessed broadly in all relevant seasons for the Bathurst Caribou Herd (BCH) and the Dolphin and Union Caribou Herd (DUH), but emphasis is placed on periods of migration. The annual exposure rates provide year-round context for road interactions and permeability, while migration UDs focus on the spring/fall migration periods (see response 4 above).

6. References to such published literature are provided and thoroughly discussed in Volume 6, Section 16.4.3.2. These effects pathways are considered in the movement-related assessment of representative mainland (BCH) and island (DUH) caribou following the application of valid mitigations (see response 1 above), which substantially reduce the potential for residual Project effects. As mentioned in the IS, herd-specific assessments are not conducted for the Beverly/Ahiak and Bluenose East herds; please refer to the response to Information Request GC-IR-02 (IR-149) for additional discussion.

7. The effectiveness of adaptive mitigation measures at facilitating caribou movements (crossings) will be evaluated as follows:

> "*The methods used to verify Project effects on movement and migration will depend on the focal species. For caribou, local movements (e.g., road crossings) and broader migration will be informed through the analysis of GPS collar locations. The relatively high frequency of GPS locations (~3 per day) is sufficient to identify crossing locations, verify migration pinch points, and analyze delays in migration*" (Volume 11, Appendix 37B, document page 26)

Monitoring results post-construction will be compared to the predictions in the IS. Where mitigation measures do not achieve the desired result, adaptive management is triggered and may include additional work pauses or temporary shutdowns at locations/times coinciding with frequent crossings or migration pinch-points (Volume 11, Appendix 37B, Sections 8.3.1, 8.2.2.4, Section 9).

Please refer to the response to Information Request IR-429 (YKDFN-IR-18) for a discussion on the current early design stage of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) and WKR's commitment to developing detailed monitoring protocols and thresholds/triggers for adaptive management through consultation with co-management parties.

8. Please refer to the response to Information Request BQCM-IR-007 (IR-340) for a discussion on this topic.

9. Please refer to the response to Information Requests KIA-IR-39 (R-109), GN-IR-09 (IR-289), GN-IR-10 (IR-290), and BQCMB-IR-007 (IR-340) for discussions on these topics.

   Effects on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25.

BQCMB-IR-011 (IR-344)

Subject

Dolphin-Union caribou sea-ice migration and shipping-season assumptions

Issue / Concern

The Impact Statement recognizes that Dolphin and Union caribou seasonally migrate between Victoria Island and the mainland across sea ice and may interact with the Project during mainland winter use and seasonal migration. The EIS also recognizes that climate warming or increased shipping that extends the ice-free season may delay migratory movement, make sea-ice crossings more dangerous, or shorten the period that Dolphin and Union caribou spend on the mainland. Inuit Knowledge reported by hunters from Cambridge Bay indicates that Dolphin and Union caribou may be particularly vulnerable during southward sea-ice migration in late October and November, when sea ice may still be thin.

The Impact Statement states that icebreaking facilitated by the Project will not affect Dolphin and Union caribou migration because the Project Port will be operational only during the open-water shipping season, typically late June through October. The BQCMB requires clarification on whether open-water-only shipping is a binding limitation on the Project as assessed, how the shipping season is defined, and whether any future extension of the shipping season, icebreaking, ice management, or shoulder-season shipping would fall outside the current assessment and require further review.

This information is necessary to understand how shipping-season assumptions were incorporated into conclusions regarding Dolphin and Union caribou movement, mortality risk, transboundary effects, Traditional Land, Marine and Resource Use, food security, and caribou harvesting communities.

Information Request

Please clarify how the Project's shipping season and port-operation assumptions were considered in relation to Dolphin and Union caribou sea-ice migration, or identify where this information is already provided in the Impact Statement. In the response, please:

1. *identify the expected annual shipping season for deep-water vessels, including anticipated start and end dates, variability, and whether those dates may change over the life of the Project;*
2. *clarify whether Project-related shipping is limited to open-water conditions and whether that limitation is a binding Project assumption, design commitment, regulatory requirement, or current operational assumption;*
3. *explain whether icebreaking, ice management, shoulder-season shipping, or shipping during periods relevant to Dolphin and Union caribou sea-ice migration is included in or excluded from the Project as assessed;*
4. *explain how Dolphin and Union caribou fall, winter, and spring sea-ice migration timing, staging areas, mortality risk, and sea-ice vulnerability were considered in the caribou assessment;*

5. *explain how shipping-season assumptions were incorporated into conclusions regarding Dolphin and Union caribou movement, mortality risk, transboundary effects, Traditional Land, Marine and Resource Use, food security, and caribou harvesting communities;*
6. *identify what additional assessment, regulatory review, engagement, or approvals would be required if future Project operations proposed icebreaking, ice management, shoulder-season shipping, or an extended shipping season that could affect Dolphin and Union caribou sea-ice migration; and*
7. *identify any monitoring, reporting, or adaptive-management measures that would be used to detect and respond to Project-related effects on Dolphin and Union caribou migration or related harvesting concerns.*

Proponent Response

1. through 6. Discussion related to these questions are provided in Information Requests KAA-20 (IR-20), KAA-21 (IR-21), WCS-IR-18 (IR-139) and (WCS-IR-18), and YKDFN-IR-3 (IR-414). Shipping-season discussion is not incorporated into the assessment of transboundary effects for the reasons provided in the Information Requests above. Effects on caribou harvesting communities, traditional land, marine and resource use, and food security are addressed in Volume 9.

7. Please refer to Information Request BQCMB-IR-010 (IR-343) for a discussion on how monitoring and adaptive management is applied to migration related effects. Effects on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25.

BQCMB-IR-012 (IR-345)

Subject

Future barren-ground caribou range shifts, herd recovery scenarios, and sensitivity of assessment conclusions

Issue / Concern

The Impact Statement includes substantial information on barren-ground caribou distribution, seasonal ranges, movements, habitat selection, and cumulative disturbance. For Bathurst caribou, the Impact Statement uses long-term collar datasets and seasonal range information, including collar data from 1996 to 2024 and seasonal ranges developed from 1996 to 2023 collar data. The Impact Statement also recognizes uncertainty related to future conditions, including climate change, natural disturbance, caribou herd dynamics, and future development.

The BQCMB requires clarification on whether the caribou assessment conclusions were tested under plausible future changes in herd abundance, distribution, seasonal range use, or recovery scenarios over the life of the Project. This is important because the Bathurst herd's overall range and seasonal ranges have contracted as the herd has declined, but areas used less frequently in recent years may become important again if the herd recovers or resumes use of former seasonal ranges.

The BQCMB also requires clarification on how the Impact Statement considered potential limitations of collar-derived seasonal ranges and movement models when assessing future overlap with the Project. Collar datasets may have limitations related to spatial and temporal coverage, sample size, sex and age class, collar deployment locations, herd assignment, herd mixing, and areas or seasons with limited collar coverage. This is particularly important where Inuit Knowledge, Indigenous Knowledge, community knowledge, or historical range information identifies areas of current, past, or potential future caribou use that may not be fully captured in collar-derived seasonal ranges, migration models, or habitat-selection models.

This information is necessary because future range expansion, recovery, contraction, or shifts in seasonal range use could change the degree of overlap between barren-ground caribou, Project infrastructure, future third-party use, and reasonably foreseeable or induced development. Without this clarification, it is difficult to understand whether conclusions regarding caribou movement, habitat disturbance, mortality risk, cumulative effects, significance, and caribou harvesting communities remain robust under plausible future caribou-range scenarios.

Information Request

Please clarify whether the caribou assessment conclusions were tested under plausible future barren-ground caribou range-shift, herd-recovery, resumption of former seasonal ranges, or seasonal-use scenarios, or identify where this information is already provided in the Impact Statement. In the response, please:

1. *identify any future range-shift, range-expansion, range-contraction, herd-recovery, resumption of former seasonal ranges, or seasonal-use scenarios considered for barren-ground caribou over the life of the Project;*
2. *explain whether future range expansion, recovery, or seasonal range shifts were considered for Bathurst caribou, including potential changes in calving, post-calving, migration, late-summer, rut, or winter range overlap with the Project and reasonably foreseeable or induced development;*
3. *explain whether and how earlier periods of Bathurst range use, including periods when the herd was more abundant, were considered when assessing potential future overlap with Project infrastructure and induced development;*
4. *explain whether potential future interactions with Bluenose-East and Beverly/Ahiak caribou were considered, including future distribution, overlap, cumulative-effects scenarios, and the rationale for the level of assessment applied to each herd;*
5. *identify whether any spatial sensitivity analysis or qualitative sensitivity assessment was completed to test how caribou conclusions would change under larger, shifted, contracted, alternative, or knowledge-informed seasonal ranges, including areas of current, historical, or potential future use identified through Inuit Knowledge, Indigenous Knowledge, community knowledge, or other information sources not fully captured by collar-derived datasets, and provide the results or rationale if such analysis was not completed;*
6. *explain whether the collar datasets used to define seasonal ranges, movement corridors, habitat selection, and potential Project overlap were considered representative of the current, historical, and potential future range of each herd assessed, including any limitations related to sample size, spatial or temporal coverage, sex or age class, collar deployment patterns, herd assignment, herd mixing, or areas/seasons with limited collar coverage;*
7. *explain how Inuit Knowledge, Indigenous Knowledge, community knowledge, and historical range information were used to identify, verify, or supplement areas of current, historical, or potential future caribou use that may not be fully captured by collar-derived seasonal ranges, movement models, or habitat-selection models;*
8. *explain how future changes in caribou distribution, abundance, seasonal range use, or overlap with Project infrastructure and reasonably foreseeable or induced development could affect conclusions regarding habitat disturbance, movement, mortality risk, access, cumulative effects, significance, and caribou harvesting communities; and*
9. *identify what follow-up monitoring would be used to detect changes in herd distribution, seasonal range overlap, movement, or crossing behaviour over the life of the Project.*

Proponent Response

1, 2, 3, 5, and 8. Future scenarios of range use (i.e., shifts, expansion, contraction) associated with changes in herd dynamics are not considered in the Impact Statement (IS). Please refer to the response to Information Request IR-136 (WCS-IR-15) on why the current analysis provides sufficient temporal breadth to account for changes in seasonal space use, why additional analysis of changes in seasonal range use is unwarranted, and how the Project's proposed mitigations will be refined using adaptive management if such shifts do occur. Hypothetical modelling of future conditions beyond what is reasonably known does not increase the certainty of the caribou assessment, nor does it change the necessity of the mitigations being proposed for the Project or those expected for RFI activities.

4. As mentioned in the IS, herd-specific assessments are not conducted for the Beverly/Ahiak and Bluenose East herds; please refer to the response to Information Request IR-149 (GC-IR-02) for additional discussion.

6. Yes, the collar datasets are considered representative of historic, current, and reasonably foreseeable range use by the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH). Please see response 1 above. Collar data always have limitations, but they represent the best available information on BCH and DUH range use, movement, and habitat selection. Discussions on the collar data used in the caribou assessment and the outputs produced using those data are provided in Volume 6, Sections 16.2.1, 16.8.2, and 16.8.3, and Volume 6, Appendix 37A, Appendix A.

7. Inuit Knowledge is explicitly used to describe and inform the baseline conditions for the BCH and DUH in Volume 6, Sections 16.2.2.4 and 16.2.2.5. Maps from the Naonaiyaotit Traditional Knowledge Project are provided for the mainland caribou calving area (Figure 16.4), mainland caribou spring and fall migration corridors (Figure 16.6), and island caribou migration corridors and winter distribution (Figure 16.8) and ocean crossing locations (Figure 16.10).

9. Follow-up monitoring is proposed specifically to address caribou interactions with the Project, including verifying the accuracy of the caribou assessment predictions (e.g., crossing efficacy), testing the effectiveness of mitigations, and updating management strategies and protocols when measurable parameters might exceed predictions; see Volume 6, Section 16.9 and Volume 11, Appendix 37B for further details. However, monitoring herd-level changes in distribution and seasonal range use is primarily the responsibility of co-management bodies and regulators. WKR will support as appropriate (e.g., provision of monitoring results).

BQCMB-IR-013 (IR-346)

Subject

Consolidated spatial overlays for the caribou effects assessment

Issue / Concern

The Impact Statement includes multiple caribou maps and spatial analyses, including figures showing caribou assessment boundaries, Bathurst seasonal ranges, peak calving areas, migration routes, Kitikmiut Knowledge of caribou calving and migration, Dolphin and Union range and migration information, zones of influence, and seasonal habitat ratings under Project and reasonably foreseeable induced conditions.

However, the BQCMB requires consolidated spatial overlays showing how key spatial layers used in the caribou assessment relate to one another. This information is needed to evaluate whether the selected herd focus, assessment boundaries, cumulative-effects assumptions, mitigation conclusions, and conclusions regarding barren-ground caribou and caribou harvesting communities are spatially supported.

Without consolidated overlays, it is difficult to review how Project components, assessment boundaries, seasonal ranges, movement routes, calving and post-calving areas, zones of influence, reasonably foreseeable or induced activities, and harvesting-related spatial information overlap.

Information Request

Please provide consolidated maps or spatial overlays showing the relationship among Project components, assessment boundaries, caribou herd information, reasonably foreseeable or induced activities, zones of influence, and harvesting-related spatial information, or identify where equivalent consolidated maps are already provided in the Impact Statement. In the response, please provide maps showing, where available and appropriate:

1. *the Project Development Area, Local Assessment Area, Regional Assessment Areas, road, winter road, port, Jericho Station, aerodrome, quarries, borrow sources, camps, and other relevant Project components;*
2. *reasonably foreseeable and reasonably foreseeable induced activities included in the caribou cumulative-effects assessment, including associated footprints, roads, infrastructure, and zones of influence;*
3. *seasonal ranges, calving and post-calving areas, migration corridors, movement routes, water crossings, movement-model outputs, and other spatial information used for Bathurst, Bluenose-East, Beverly/Ahiak, Dolphin and Union, or other caribou herds considered in the assessment;*
4. *zones of influence used for Project components and reasonably foreseeable or induced activities;*

5. *known caribou harvesting areas, travel routes, camps, or other harvesting-related spatial information considered in the assessment, with sensitive information generalized, aggregated, or provided through an appropriate confidential process where necessary;*
6. *areas where Project components, future users, or reasonably foreseeable or induced activities overlap with higher-use, sensitive, or selected seasonal caribou habitat; and*
7. *the data sources, years, methods, scale, and limitations for each mapped layer.*

Proponent Response

1. Figure 16.1 identifies the Grays Bay Road and Port Project Development Area, Caribou Local Assessment Area, Regional Assessment Areas for the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herds (DUH), and Tibbitt to Contwoyto Winter Road (Volume 6, Section 16.1.4.1, document page 16-17). All other Project components fall within the Project Development Area (e.g., Jericho Station, aerodrome, quarries, borrow sources, camps).

2 and 4. Reasonably foreseeable (RF) and reasonably foreseeable induced (RFI) activities are shown in Figures 9A3.1 to 9A3.3C in Volume 4, Appendix 9A, Attachment 9A3. Points indicate polygonal disturbances and lines indicate linear disturbances. Tables 16.8 and 16.9 (Volume 6, Section 16.2.2.6) and Table 16.17 (Volume 6, Section 16.5.1.1) identify each past/present, RF, and RFI physical activity considered in the caribou cumulative effects assessment. These tables identify which physical activities fall within the regional assessment areas for each herd (i.e., BCH-RAA1 for the BCH and DUH-RAA for the DUH) and provide the footprint sizes (surface disturbance) and indirect buffer sizes (sensory disturbance extent) for every physical activity. In each table, the “BCRP ZOI (km)” buffers are associated with the Bathurst Caribou Range Plan and are used for range-disturbance calculations, whereas the “ERM ZOI (km)” buffers are associated with the ERM (2025) report and are used for indirect habitat effects calculations. This combined information from maps and tables is sufficient to infer potential interactions with each herd.

3. Figures related to range use (i.e., BCH seasonal range use and DUH mainland Nunavut winter range use), BCH peak calving areas, BCH (mainland caribou) and DUH (island caribou) migration corridors and movement routes, BCH and DUH Brownian bridge movement model outputs, and spatial information produced using Inuit Knowledge are provided in Section 16.2.2.4 (Figures 16.2 to 16.10) and Section 16.2.2.5 (Figures 16.11 and 16.12). Caribou water crossings are shown in Figure 4.13 of Appendix 16A (Section 4.2.4.2).

5. Spatial information related to caribou harvesting areas, travel routes, camps and other harvesting-related information is available in the Kitikmiut Knowledge report for the Grays Bay Port and Road Project, written by Banci and Spicker (2024) and cited throughout the Impact Statement (IS). This report is not permitted for public release in its entirety under the NTKP Non-Exclusive Licensing Agreement between WKR and the Kitikmeot Inuit Association (Volume 3, Section 4.2). Portions of the content are integrated into the IS through Volume 6 (see response 3 above), but sensitive harvesting-related spatial information cannot be shared based on the agreement for use.

6. Overlap between the Project and past/present, RF, and RFI physical activities, and selected seasonal caribou habitat, is reflected in the outputs of Figures 16.16 and 16.17 in Volume 6, Section 16.5.3.3. These figures, paired with the associated summary tables (Tables 16.19 and 16.20) demonstrate the reduction in selected caribou habitat due to past/present physical activities (i.e., baseline conditions), the Project, and RFI conditions (i.e., future conditions).

7. Information about the data sources used in the caribou assessment are described throughout the Impact Statement:

    - collar data, seasonal ranges, and quantitative analyses in Volume 6, Section 16.2.1;
    - interpretation and limitations of quantitative models based on the input data in Volume 6, Section 16.1.5;
    - confidence and uncertainty in data sources and models in Volume 6, Section 16.8.2 and 16.8.3;
    - past/present landscape disturbances in Volume 4, Section 9, Appendix 9A;
    - references to Inuit Knowledge data sources and spatial information from Banci and Spicker (2024);
    - additional methods details and descriptions for all spatial data and layers in Volume 6, Appendix 16A, Section 4.1.2 and Appendix A.

BQCMB-IR-014 (IR-347)

Subject

Traceability of Inuit, Indigenous, and Community Knowledge in the caribou assessment

Issue / Concern

The Impact Statement states that Inuit, Indigenous, and Community Knowledge informed the caribou effects assessment, including assessment boundaries, baseline conditions, effects pathways, cumulative effects, significance, mitigation, management, enhancement measures, and follow-up monitoring. Volume 6 also provides a summary of caribou-related knowledge and engagement feedback, WKR responses, and locations where issues are addressed.

The BQCMB recognizes that the Impact Statement includes substantial discussion of Inuit, Indigenous, and Community Knowledge. However, the BQCMB requires clearer traceability showing how specific knowledge inputs related to barren-ground caribou were carried through the technical assessment and how they influenced assessment boundaries, herd selection, temporal boundaries, effects pathways, cumulative-effects assumptions, mitigation, monitoring, adaptive management, and significance conclusions.

This information is needed because caribou-related knowledge and concerns are not only technical observations about habitat, movement, mortality risk, or mitigation. They also relate to caribou harvesting, food security, cultural continuity, intergenerational knowledge transmission, and the cumulative transformation of the landscape. Without a clearer crosswalk, it is difficult to understand how these knowledge inputs shaped the assessment of effects on barren-ground caribou and caribou harvesting communities.

Information Request

Please provide a table or crosswalk showing how Inuit, Indigenous, and Community Knowledge related to barren-ground caribou was considered and carried through the caribou assessment, or identify where this information is already provided in the Impact Statement. In the response, please:

1. *identify the key Inuit, Indigenous, and Community Knowledge inputs related to barren-ground caribou, including information on movement corridors, migration routes, calving and post-calving areas, water crossings, road disturbance, cumulative effects, caribou health, predation, harvest access, harvest pressure, and caribou harvesting communities;*
2. *identify the source or type of source for each knowledge input, while respecting confidentiality, consent, intellectual property, and data-governance requirements;*
3. *explain how each knowledge input informed assessment boundaries, herd selection, temporal boundaries, future scenarios, effects pathways, cumulative-effects assumptions, mitigation, monitoring, adaptive management, or significance conclusions;*

4. *identify any knowledge inputs that were summarized in the EIS but did not affect the technical assessment, mitigation design, monitoring, adaptive management, or conclusions, and explain why;*
5. *explain how knowledge from transboundary Indigenous groups and other potentially affected caribou harvesting communities was considered in relation to barren-ground caribou effects and harvesting impacts;*
6. *clarify how Inuit, Indigenous, and Community Knowledge would be incorporated into caribou monitoring, adaptive management, TARP implementation, road-closure decisions, Mobile Caribou Conservation Measures, Inuit monitor, Guardian, or related roles, and follow-up over the life of the Project; and*
7. *explain how future knowledge shared through monitoring, engagement, or co-management processes would be used to update mitigation, adaptive management, and effects predictions if caribou effects are greater than predicted.*

Proponent Response

1. Inuit, Indigenous, and Community Knowledge is used throughout the Impact Statement (IS) to inform movement corridors, migration routes, calving and post-calving areas (Volume 6, Section 16.2.2.4). Greater detail on these topics is provided in Appendix 16A (Wildlife Baseline Report), which also includes discussion of water crossings (Figure 4.13, Section 4.2.4.2, Appendix 16A), and harvest, predation, and health (Appendix 16A, Sections 4.2.3 and 4.3.3). Potential effects from disturbances like roads and mines, and potential effects pathways, are primarily gathered from the Inuit Advisory Group (see Volume 6, Section 16.1.1). The IS also relies on the framework used in the *Bathurst Caribou Range Plan*, which has been shaped by Indigenous and Community Knowledge.

2. Please refer to response 1 above and the sources/references therein.

3. The integration of Inuit, Indigenous, and Community Knowledge in the caribou assessment is summarized in Volume 6, Section 16.1.1, including an overview of the engagement and contributions to assessment boundaries (Section 16.1.1.1), baseline conditions (Section 16.1.1.2), Project effects (Section 16.1.1.3), cumulative effects (Section 16.1.1.4), significance determination (Section 16.1.1.5), and mitigations (Section 16.1.1.6).

4. Please see response 1 and 3 above. All Inuit, Indigenous, and Community Knowledge relevant to the caribou assessment informed the technical assessment, mitigations, monitoring, adaptive management, and conclusions.

5. The engagement feedback from transboundary Indigenous groups is provided and responded to in Table 16.7 of Volume 6, Section 16.2.2.1. The relevant knowledge and concerns are explicitly addressed throughout the caribou assessment (see last column in Table 16.7).

6. Inuit, Indigenous, and Community Knowledge has an important role in the proposed mitigations, monitoring, and adaptive management approach. This is reflected in several ways throughout the IS:

    - WKR explains that "*All management plans will be developed with input from Inuit and other Indigenous governments and organizations, users, and information obtained through consultation with regulators*" (Volume 11, Section 31.1.3.1, document page 37-2). "*WKR is [also] committed to involving Inuit in implementation of effective monitoring and management measures*" (Volume 11, Section 37.1.5, document page 37-5).
    - WKR will direct the General Manager of the Project to "Facilitate Inuit and Indigenous participation in inspection activities and information sharing" (Volume 11, Appendix 37A, Section 7.1, document page 19).
    - The current Wildlife Mitigation and Monitoring Plan (WMMP) "*[…] was developed at a conceptual level […] [f]urther developed and refinement of the WMMP will occur through ongoing Project planning initiatives, continued engagement with affected Inuit and Indigenous governments and organizations and potentially affected communities, and consultation with relevant government agencies*" (Volume 11, Appendix 37B, Section 3, document page 7).

7. Follow-up monitoring will be used to verify the accuracy of the caribou assessment predictions (e.g., crossing efficacy), testing the effectiveness of mitigations, and updating management strategies and protocols when measurable parameters might exceed predictions; see Volume 6, Section 16.9 and Volume 11, Appendix 37B for further details. WKR has committed to developing the process for follow-up monitoring knowledge sharing through consultation with co-management parties. These details will be provided in an updated WMMP.

BQCMB-IR-015 (IR-348)

Subject

Tracking of caribou-related engagement concerns and recommendations

Issue / Concern

The Impact Statement includes summaries of engagement and caribou-related concerns, including Volume 6, Table 16.7, which summarizes Inuit, Indigenous, and Community Knowledge and engagement feedback regarding the caribou effects assessment. The EIS also includes broader engagement, Traditional Land, Marine and Resource Use, food security, and transboundary-effects sections relevant to caribou and caribou harvesting communities.

The BQCMB requires clarification on how caribou-related concerns and recommendations raised through engagement were tracked, responded to, incorporated, or identified as unresolved. This includes concerns related to caribou movement, migration, calving and post-calving areas, road crossings, road disturbance, cumulative effects, future development, access, harvest pressure, caribou health, monitoring, mitigation, adaptive management, and caribou harvesting communities.

This information is needed to understand whether caribou-related concerns and recommendations resulted in changes to Project design, routing, assessment boundaries, effects pathways, mitigation, monitoring, adaptive management, access management, TARP measures, or significance conclusions, and whether any concerns remain unresolved or require further engagement.

Information Request

Please provide a table summarizing how caribou-related concerns and recommendations raised through engagement were addressed in the Impact Statement, or identify where this information is already provided. In the response, please:

1. *identify key caribou-related concerns and recommendations raised by Kitikmiut, other Indigenous groups, transboundary communities, HTOs/HTAs, Indigenous governments and organizations, local harvesting organizations, caribou co-management bodies, and other potentially affected communities;*
2. *include concerns and recommendations related to caribou movement, migration, calving and post-calving areas, road crossings, road disturbance, cumulative effects, future development, access, harvest pressure, caribou health, predation, monitoring, mitigation, adaptive management, and caribou harvesting communities;*
3. *identify where each concern or recommendation is addressed in the EIS, including the relevant volume, section, table, appendix, management plan, or supporting document;*

4. *explain whether each concern or recommendation resulted in changes to Project design, routing, assessment boundaries, effects pathways, future scenarios, mitigation, monitoring, adaptive management, access management, TARP measures, or significance conclusions; and*
5. *identify any caribou-related concerns or recommendations that were not incorporated, remain unresolved, or require further engagement, monitoring, or adaptive-management planning, and explain how they would be tracked, reported, and addressed over the life of the Project.*

Proponent Response

1 and 2. All such concerns and recommendations are provided in Table 16.7 (Volume 6, Section 16.2.2.1). Please also refer to the response to Information Request IR-347 (BQCMB-IR-04) regarding the integration of Inuit, Indigenous, and Community Knowledge throughout the caribou assessment.

3. Please see response 1 above. Each caribou-related concern identified in Table 16.7 is addressed in the Impact Statement as identified in the last column (“Where Addressed”).

4. Table 16.7 also identifies how caribou-related concerns influenced the caribou assessment (see column “WKR Response”). The content from these responses are directly incorporated into the caribou assessment (see response 3 above).

5. WKR incorporated all caribou-related concerns brought forward during the engagement process have been addressed, as discussed in responses 1 through 4.

BQCMB-IR-016 (IR-349)

Subject

Caribou considerations in alternatives, routing, and design trade-offs

Issue / Concern

The Impact Statement includes Volume 2 on Project description and alternatives, and the caribou assessment in Volume 6 assesses effects of the selected Project alignment and Project components on barren-ground caribou. The caribou assessment identifies spatial relationships among the Project, Bathurst caribou seasonal ranges, migration routes, calving and post-calving areas, movement pathways, and habitat.

The BQCMB requires clarification on how caribou-related information was considered during alternatives evaluation, route selection, and design refinement for the Project. This includes clarification on whether alternatives, routing refinements, or mitigation-by-design options were compared based on potential effects to caribou seasonal ranges, migration routes, road-crossing locations, habitat disturbance, cumulative effects, access, harvest pressure, and caribou harvesting communities.

The proposed road corridor appears to overlap with areas identified in the caribou assessment as important to Bathurst caribou, including seasonal range areas. The BQCMB requires clarification on whether alternative corridors, routing refinements, or mitigation-by-design options that would reduce interaction with caribou ranges, particularly Bathurst seasonal ranges, were considered.

This information is needed to understand whether and how caribou-related considerations influenced the selected Project design and how those alternatives or routing assumptions were carried forward into the caribou effects assessment, mitigation, monitoring, and significance conclusions.

Information Request

Please explain how barren-ground caribou considerations were incorporated into the evaluation of alternatives, route selection, and design refinements for the Project, or identify where this information is already provided in the Impact Statement. In the response, please:

1. *identify the alternatives, route options, design refinements, or mitigation-by-design measures considered to avoid or reduce effects on barren-ground caribou;*
2. *explain what caribou-related criteria were used to compare alternatives or design options, including criteria related to seasonal ranges, calving and post-calving areas, migration routes, road-crossing locations, habitat disturbance, cumulative effects, access, harvest pressure, and caribou harvesting communities;*
3. *explain whether and how information on Bathurst, Beverly/Ahiak, Bluenose-East, Dolphin and Union, or other relevant barren-ground caribou was used in alternatives, routing, or design decisions;*

4. *explain whether longer-term, historical, or broader seasonal range information was considered in alternatives or routing decisions, including periods when the Bathurst herd was more abundant or used areas differently than in recent years;*
5. *identify whether alternatives or design options were compared using spatial analyses, modelling, Inuit, Indigenous, or Community Knowledge, engagement feedback, or professional judgment related to caribou effects;*
6. *explain whether Appendix 16B, caribou movement data, seasonal range mapping, zones of influence, or cumulative-disturbance analyses were used to compare route or design options, and if not, explain why;*
7. *identify any caribou-related avoidance or mitigation-by-design options that were considered but not carried forward, and provide the rationale; and*
8. *explain how caribou-related trade-offs considered during alternatives analysis were carried forward into the caribou effects assessment, mitigation, monitoring, and adaptive management.*

Proponent Response

1. Alternative design options are explicitly discussed in the Impact Statement:

   "*Concepts for the Project have been evolving for over 30 years; as such, a considerable number of studies regarding alternative means of carrying out various components of the Project have been conducted. These include the siting and alignment of major Project components such as the general location of the port and the road corridor, alignment of the road within the corridor, permanency of the road, and the location and configuration of the Aerodrome*." (Volume 2, Section 2.4, document page 2-11)

   Volume 2, Section 2.4 (document page 2-12) provides information on three options considered for the Project before ultimately choosing the current location and orientation (option 3). Option 1 involved a port east of Kugluktuk with a road from Coppermine River valley to Izok Lake, and option 2 involved a port south of Kingaok (Bathurst Inlet) with a road from the inlet to Contwoyto Lake. For the Grays Bay Road and Port, an alternative road alignment was also considered. Figure 2.2 shows all three options and the alternative road alignment (Volume 2, Section 2.4, document page 2-13).`

   Please refer to the response to Information Request IR-287 (GN-IR-07) for additional information regarding the alternative road alignment and how the current road alignment avoids peak calving areas and reduces overall direct and indirect disturbances.

2. Please see response 1 above. The criteria and rationale for choosing the current Project design over others is provided in Table 2.2 of Volume 2, Section 2.4 (document pages 2-14 to 2-16).

3. See responses 1 and 2 above. The current Grays Bay Road and Port design and routing overlaps fewer herd annual ranges versus other options considered. The other two options increased overlap with the Bluenose East herd (option 1) and Beverly/Ahiak herd (option 2). See Volume 2, Section 2.4 Alternatives as well as IR-287 (GN-IR-07).

4. Herd annual ranges—developed from decades of collar data—helped guide the Grays Bay Road and Port design and routing. These ranges span sufficient time to account for any future potential changes in range use; please refer to the response to Information Request IR-136 (WCS-IR-15) for additional discussion on this topic.

5. Please see the responses to 1, 2, 3 and 4.

6. Appendix 16B is an independent study and was not used to compare routes or options. Annual and seasonal range mapping was sufficient to compare different route and design options without the need for detailed analysis of movement data, zones of influence, and cumulative disturbance.

7. Please see responses 1 through 3 above.

8. The caribou effects assessment, mitigations, monitoring, and adaptive management approach are informed by the proposed Grays Bay Road and Port design and routing, not alternative options and design routes.

BQCMB-IR-017 (IR-350)

Subject

Dust, vegetation, forage quality, and caribou habitat effects

Issue / Concern

The Impact Statement recognizes that dust deposition and vegetation alteration may affect caribou habitat effectiveness and forage quality, including lichens and other forage used by barren-ground caribou. The EIS also recognizes potential exposure pathways related to dust inhalation and ingestion of plants such as lichens, while concluding that Project-related chemical contamination pathways did not need to be carried forward beyond the ecological risk assessment problem formulation.

The Impact Statement concludes that effects on actual forage, including vascular plants and lichens, are expected to be minimal within 1 km of the Project Development Area and negligible at the broader Regional Assessment Area scale, and that dust control will reduce indirect effects on forage quality and palatability.

The BQCMB requires clarification on how dust deposition, vegetation change, forage quality, forage palatability, and lichen-related effects were carried through the caribou assessment. This information is needed to understand the basis for the minimal/negligible forage-effect conclusion, how forage-related effects were linked to caribou habitat, health, movement, cumulative effects, and caribou harvesting communities, and how these predictions would be monitored and adaptively managed.

Information Request

Please explain how dust deposition, vegetation change, forage quality, forage palatability, and lichen-related effects were considered in the assessment of effects on barren-ground caribou, or identify where this information is already provided in the Impact Statement. In the response, please:

1. *explain how predicted dust deposition from roads, quarries, borrow sources, camps, the port, the aerodrome, and other Project components was assessed in relation to caribou forage quality, palatability, and habitat use;*
2. *identify which caribou forage types, landcover classes, or habitat variables were considered in the assessment, including lichens, shrub-lichen-moss, grass-lichen-moss, sedges, shrubs, and other vegetation types selected or used by caribou;*
3. *explain how dust, vegetation alteration, or forage-quality effects were incorporated into the assessment of caribou habitat, health, movement, mortality risk, cumulative effects, and caribou harvesting communities;*
4. *explain the basis for the conclusion that effects on actual forage would be minimal within 1 km of the Project Development Area and negligible at the broader Regional Assessment Area scale;*
5. *explain whether dust and forage-quality effects were assessed differently by season, herd, habitat type, or sensitivity period, including calving, post-calving, migration, late summer, rut, and winter;*

6. *identify whether cumulative dust or vegetation effects from reasonably foreseeable or induced activities were included in the caribou assessment, and if so, how;*
7. *identify the dust, vegetation, forage-quality, lichen, or caribou habitat monitoring that would be implemented, including methods, indicators, locations, frequency, responsible parties, and thresholds or monitoring results that would trigger additional mitigation or adaptive management; and*
8. *explain how monitoring results would be reported to affected communities, Indigenous governments and organizations, HTOs/HTAs, local harvesting organizations, and caribou co-management bodies.*

Proponent Response

1. Dust deposition is considered in the caribou assessment through the potential effect pathway described in Volume 6:

   > "*Beyond auditory and visual cues, Project-related activities can also indirectly affect the quality of caribou habitat. Dust dispersion from road traffic can decrease the palatability and coverage of vegetation, including lichens, within 1 km of a road (Chen et al. 2017). Near Arctic roads, plant composition may change due to dust, increasing the abundance of grasses and sedges and decreasing that of moss and lichens (see Volume 6, Section 15.3.2.2). Dust deposition within 40 m of the PDA is expected to change vascular plant composition by <1.7% and lichen composition by <0.1% (see Volume 6, Section 15.3.2.4). Dust deposition is not expected to have a measurable effect on surface water quality that would alter the consumption by caribou (see Volume 7, Section 19.3.3.3). The limited extent and magnitude of dust effects are due to the Project's relatively low contribution to annual (average) total suspended particulate concentrations (17 microgram per cubic metre) or 30-day average dustfall (0.13 milligram per square decimetre per day) (see Volume 5, Section 11.3.2.4)*." (Volume 6, Section 16.4.2.2, document page 16-93)

   The effect of dust deposition on habitat is incorporated into the Zone of Influence (ZOI) buffers applied to the Project and other past/present, reasonably foreseeable (RF), and reasonably foreseeable induced (RFI) physical activities. The ZOI buffers applied for the Project included a 1-km ZOI around the road and 4-km ZOI around the port. Table 16.8 (Volume 6, Section 16.2.2.6) and Table 16.17 (Volume 6, Section 16.5.1.1) provide the ZOI buffers for past/present and RF/RFI physical activities, respectively. All ZOI buffers contribute to the calculated change in selected seasonal habitat (i.e., indirect habitat loss beyond the footprint):

   > "*Indirect effects are calculated by reclassifying habitat ratings after accounting for the ZOI buffers surrounding existing and Project-related disturbances. Within these ZOIs, the probability of selecting habitat increases along a gradient, from the disturbance footprint to the ZOI distance (i.e., the buffer perimeter). The degree of avoidance wanes up until the ZOI distance, and beyond that distance, caribou resource selection (probability) is not affected (see Figure 16.13).*" (Volume 6, Section 16.4.2.1, document page 16-90)

   The concepts of forage quality and palatability are considered in these calculations of indirect habitat loss.

2. Several types of landcover classes are considered when defining selected caribou habitat, including shrub-lichen-moss, grass-lichen-moss, and barren-lichen-moss. The magnitude at which each landcover class is selected by caribou varies by season. Please refer to Volume 6, Section 16.2.2.5 and Appendix 16A for additional information.

3. The effects of dust, which alter vegetation quality and composition at local scales, are incorporated into the following assessment endpoints:

   - Indirect habitat loss, Section 16.4.2; also see response 1 above.
   - Health, Section 16.4.5,

   Overall, both assessment endpoints indicated either localized (indirect habitat loss) or negligible (health) effects on caribou. Therefore, dust-related effects are not considered to be a mortality risk. Additionally, space-use related changes from dust are already captured in the assessment of habitat effects, so they are not included in the assessment of movement effects. Indirect habitat loss from cumulative landscape disturbances (e.g., reasonably foreseeable induced physical activities) are considered in the cumulative effects assessment (Section 16.5.3).

   Concerns about dust expressed by Kitikmiut and other Indigenous groups and the effects of dust on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25, not in the caribou assessment (Volume 6, Section 16). As noted in Section 24.3.3.3, during the Construction and Operations and Maintenance phases, sensory disturbance (e.g., dust) may result in indirect loss or alteration of habitat and during the Operations and Maintenance phase, there will be an increase in dust as a result of vehicle traffic. However, a dust control program will be implemented to limit these effects. Measures to reduce sensory disturbance to wildlife, vegetation, and caribou harvesting communities, including dust management are presented in air quality (Volume 5, Section 11) and noise and vibration (Volume 5, Section 13).

4. Please see response 1 above.

5. Dust-related effects on forage are not assessed differently by season, herd, habitat type, or sensitive period. The largest potential effect from dust (see response 1 above) is assumed to apply across all these contexts.

6. Indirect habitat loss from cumulative landscape disturbances (e.g., reasonably foreseeable induced physical activities), which includes the potential effects from dust, are considered in the cumulative effects assessment (Section 16.5.3).

7. Information on dust-related monitoring, mitigation, and adaptive management is provided in the Air Quality Monitoring and Management Plan (Draft) (Volume 11, Appendix 37C). This process is not specific to caribou. Any potential effects on caribou will be reflected by the monitoring, mitigation, and adaptive management related to indirect habitat loss (see Volume 11, Appendix 37B).

8. Details on the sharing and reporting of monitoring results will be provided in an updated WMMP based on consultation with co-management parties.

BQCMB-IR-018 (IR-351)

Subject

GIS data, spatial methods, and mapping uncertainty for the caribou assessment

Issue / Concern

The Impact Statement relies on multiple spatial datasets and spatial analyses to support the caribou effects assessment, including Project footprints, assessment boundaries, seasonal caribou ranges, movement information, peak calving areas, resource selection functions, habitat ratings, zones of influence, reasonably foreseeable and induced activity footprints, and cumulative range-disturbance calculations.

The EIS and Appendix 16A describe the use of collar data, KDE seasonal range mapping, BBMM movement analyses, RSF habitat modelling, landcover datasets, Project and RFI disturbance layers, and zones of influence. The EIS also identifies uncertainty related to landcover resolution, habitat modelling, movement analyses, exposure calculations, and future conditions.

The BQCMB requires access to the GIS layers, spatial summaries, metadata, spatial methods, and uncertainty information necessary to understand and review the spatial basis of the caribou assessment. This information is needed to evaluate the basis for conclusions regarding barren-ground caribou habitat, movement, mortality risk, cumulative effects, significance, and caribou harvesting communities. Where underlying data cannot be provided because of confidentiality, sensitivity, data ownership, or licensing constraints, the BQCMB requires clarification on those constraints and the provision of suitable generalized, aggregated, or summary information.

Information Request

Please provide the GIS layers, spatial summaries, metadata, methods, and uncertainty information necessary to understand and review the spatial basis of the caribou effects assessment, or identify where this information is already provided. Where underlying data cannot be provided because of confidentiality, sensitivity, data ownership, or licensing constraints, please identify those constraints and provide suitable generalized, aggregated, or summary information. In the response, please provide, where available and appropriate:

1. *GIS layers or spatial summaries for the Project Development Area, Local Assessment Area, Regional Assessment Areas, road, winter road, port, Jericho Station, aerodrome, quarries, borrow sources, camps, and other relevant Project components;*
2. *GIS layers or spatial summaries for reasonably foreseeable and reasonably foreseeable induced activities included in the caribou cumulative-effects assessment, including disturbance footprints, roads, infrastructure, and zones of influence;*

3. *GIS layers or spatial summaries for caribou seasonal ranges, movement corridors, migration routes, water crossings, crossing areas, calving and post-calving areas, peak calving areas, habitat ratings, RSF outputs, BBMM outputs, and other caribou habitat or movement information used in the assessment;*
4. *GIS layers or spatial summaries showing zones of influence used for Project components, baseline disturbances, reasonably foreseeable activities, and reasonably foreseeable induced activities;*
5. *metadata for each spatial layer or spatial summary, including data source, year or date range, projection, scale or resolution, processing steps, classification method, validation method, assumptions, and limitations;*
6. *methods used to create key spatial products, including seasonal ranges, KDE outputs, peak calving areas, BBMM movement corridors, RSF habitat ratings, ZOI buffers, Project/RFI disturbance layers, and cumulative range-disturbance calculations;*
7. *an explanation of how spatial uncertainty, collar-data limitations, landcover-classification uncertainty, modelling uncertainty, ZOI uncertainty, and data gaps were considered in the caribou assessment;*
8. *an explanation of how sensitive information, including harvesting areas, camps, travel routes, water crossings, or culturally sensitive spatial data, can be provided in generalized, aggregated, or confidential form where necessary; and*
9. *an explanation of how spatial-data limitations or uncertainty could affect conclusions regarding caribou habitat, movement, mortality risk, cumulative effects, significance, and caribou harvesting communities.*

Proponent Response

1 and 2. WKR will provide spatial data to interested parties during the Technical Review comments stage, although some spatial layers, such as quarry and borrow source locations, are not yet available. These locations will be determined as engineering design progresses.

3. Some of these requested caribou spatial layers and datasets, specifically derived products (e.g., migration modelling, resource selection functions) can be provided during the Technical comments stage. However, layers of Bathurst caribou seasonal ranges cannot be provided as they were acquired from GNWT-ECC through a data sharing agreement. Spatial layers from the Kitikmiut Knowledge report for the Grays Bay Port and Road Project (Banci and Spicker 2024) are not permitted for public release under the NTKP Non-Exclusive Licensing Agreement between WKR and the Kitikmeot Inuit Association (Volume 3, Section 4.2).

4. Please see the response to Information Request IR-335 (BQCMB-IR-002) for past/present, reasonably foreseeable (RF), and reasonably foreseeable induced (RFI) physical activities considered in the caribou cumulative effects assessment. The Zones of Influence for the Project included a 1-km buffer around the Grays Bay Road and a 4-km buffer around the Grays Bay Port. Zones of Influence used for past/present, RF, and RFI physical activities are presented in Table 16.8 and 16.9 (Volume 6, Section 16.2.2.6) and Table 16.17 (Volume 6, Section 16.5.1.1). These tables isolate the physical activities that interact with (and occur within) the regional assessment areas for each herd (i.e., BCH-RAA1 for the BCH and DUH-RAA for the DUH) and provide the footprint sizes (surface disturbance) and indirect buffer sizes (sensory disturbance extent) for each of these physical activities. In each table, the “BCRP ZOI (km)” buffers are associated with the Bathurst Caribou Range Plan and are used for range-disturbance calculations, whereas the “ERM ZOI (km)” buffers are associated with the ERM (2025) report and are used for indirect habitat effects calculations.

5. Information about the data sources used in the caribou assessment are described throughout the Impact Statement:

    - collar data, seasonal ranges, and quantitative analyses in Volume 6, Section 16.2.1;
    - interpretation and limitations of quantitative models based on the input data in Volume 6, Section 16.1.5;
    - confidence and uncertainty in data sources and models in Volume 6, Section 16.8.2 and 16.8.3;
    - past/present landscape disturbances in Volume 4, Section 9, Appendix 9A;
    - references to Inuit Knowledge data sources and spatial information from Banci and Spicker (2024); and
    - additional methods details and descriptions for all spatial data and layers in Volume 6, Appendix 16A, Section 4.1.2 and Appendix A.

6. The methods used to create peak calving areas, Brownian bridge movement models, and resource selection functions and associated habitat ratings are described in Volume 6, Section 16.2.1 and Appendix 16A (Section 4.1.2). The methods used to select and apply zone of influence buffers are described in Volume 6, Sections 16.2.1.4, 16.4.1.1, and 16.4.2.1. The methods used to calculate cumulative range disturbance are described in Section 16.4.1.1. Methods used to spatially define the Project (i.e., the Project Development Area) are in Volume 4, Section 9.2.4.1 (document page 9-7). Methods used to spatially define reasonably foreseeable induced physical activities are in Volume 4, Appendix 9A.

    Bathurst Caribou Herd seasonal ranges, delineated using kernel density estimation, were provided by GNWT-ECC. The method used to develop seasonal ranges is described in Volume 6, Appendix 16A, Section 4.1.2.1 (document page 27) based on the information provided by GNWT-ECC.

7. Limitations of and uncertainty in the data sources and models used in the caribou assessment are discussed in Volume 6, Sections 16.1.5, 16.8.2, and 16.8.3. The sources and degree of uncertainty contribute to the overall assessment conclusions, including significance (see Volume 6, Section 16.1.7).

8. Please see response 3 above.

9. Please see response 7 above. Effects on caribou harvesting communities are addressed in Volume 9, Sections 24 and 25; limitations and uncertainty associated with conclusions are provided in Sections 24.6 and 25.6.

BQCMB-IR-019 (IR-352)

Subject

Zones of influence and sensitivity of caribou disturbance conclusions

Issue / Concern

Appendix 16B presents a vulnerability assessment for the Bathurst, Beverly/Ahiak, and Dolphin and Union caribou herds. Section 16 of the Impact Statement describes the Caribou Herd Vulnerability Model as a tool for evaluating how climate change and human development may affect caribou exposure, movement, energy-protein balance, body condition, vital rates, and herd dynamics. The Impact Statement states that transboundary effects are evaluated using the Caribou Herd Vulnerability Model and therefore do not contribute to determinations of significance. However, Appendix 16B appears to provide a herd-level line of evidence relevant to caribou vulnerability, demographic risk, recovery potential, mitigation effectiveness, and population trajectory. The BQCMB notes that Appendix 16B presents modelling scenarios in which the Project, and the Project in combination with the proposed Slave Geological Province Road/Corridor scenario, appear to be associated with increased population-level effects for Bathurst caribou. These model outcomes appear difficult to reconcile with the conclusion that residual and cumulative effects on the Bathurst herd are not significant.

Appendix 16B also links road or infrastructure exposure to assumed behavioural changes, including reduced foraging and increased walking or running, which are then modelled as changes in body condition, pregnancy rates, calf survival, and population trajectory. The BQCMB requires clarification on the evidence supporting these behavioural and energetic assumptions, whether they were validated for the herds modelled in Appendix 16B, and how uncertainty in these assumptions was considered.

The BQCMB requires clarification on how Appendix 16B and the Caribou Herd Vulnerability Model results were used, weighted, limited, or excluded in the assessment of residual and cumulative effects on caribou. This information is needed to understand the basis for the significance conclusions for barren-ground caribou and related conclusions regarding caribou harvesting communities.

Information Request

Please explain how Appendix 16B and the Caribou Herd Vulnerability Model results were used, weighted, limited, or excluded in the caribou effects assessment, or identify where this explanation is already provided in the Impact Statement. In the response, please:

1. *explain why CHVM results were used to inform transboundary effects but did not contribute to determinations of significance for residual or cumulative effects on caribou;*
2. *explain whether predicted population change, demographic risk, recovery potential, or population trajectory were considered as effect measures, indicators, or lines of evidence in the caribou significance determination, and if not, explain why;*

3. *explain how Appendix 16B results related to body condition, pregnancy rates, calf survival, and projected population trend were considered in relation to conclusions that residual and cumulative effects on caribou are not significant;*
4. *identify the weight assigned to Appendix 16B relative to other lines of evidence, including range disturbance, habitat disturbance, movement, mortality risk, health, Inuit, Indigenous, and Community Knowledge, professional judgment, and proposed mitigation;*
5. *explain how uncertainty in Appendix 16B assumptions and outputs was considered, including uncertainty related to exposure assumptions, zones of influence, traffic levels, hunting pressure, mitigation effectiveness, climate scenarios, population projections, and behavioural or energetic assumptions such as reduced foraging, increased walking or running, reduced body condition, pregnancy rates, and calf survival;*
6. *clarify whether the behavioural and energetic assumptions used in Appendix 16B were validated for the Bathurst, Beverly/Ahiak, or Dolphin and Union herds, or were transferred from studies of other herds, development types, or regional contexts;*
7. *clarify whether the mitigation scenarios assessed in Appendix 16B correspond to enforceable Project commitments, including traffic management, road closures, hunting restrictions, access controls, TARP measures, Mobile Caribou Conservation Measures, or other mitigation relied upon in the caribou assessment;*
8. *clarify which herd or herd grouping is represented by "Beverly/Ahiak" in Appendix 16B, including whether the modelling refers to the present-day Beverly herd, the Ahiak herd, the Northeast Mainland herds, or another herd grouping, and explain how this definition affects interpretation of the modelling results;*
9. *identify the most recent Bathurst population estimates, demographic information, calf:cow ratios, survival information, and emigration information used in Appendix 16B and the caribou effects assessment, including whether the 2025 GNWT estimate of approximately 3,609 caribou and recent information on continuing decline were considered, and explain how those data were incorporated into the vulnerability assessment and significance conclusions; and*
10. *explain whether Bluenose-East caribou were considered for vulnerability modelling, and if excluded, provide the rationale for exclusion.*

Proponent Response

This Information Request, BQCMB-IR-019 (IR-352), is a duplicate of BQCMB-IR-006 (IR-339). Please refer to the response to BQCMB-IR-006 (IR-339).

Caribou Guardians Coalition

West Kitikmeot Resources Corp. (WKR), thanks the Caribou Guardians Coalition (CGC) for its Information Requests (IRs) dated July 3, 2026 (NIRB Document 260703-24XN038-CGC IRs Re Impact Statement-IR3E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the CGC's IRs are provided below.

WKR looks forward to continuing to work with CGC, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

CGC IR #1 (IR-353)

Subject

Project- specific Inuit Knowledge Report Kitikmiut Knowledge of the Proposed Kogloktoakyok (Grays Bay) Port and Road Project (Banci and Spicker 2024)

Issue / Concern

WKR states that the IS was guided by a single, project specific Inuit Knowledge report sourced from the KIA's NTKP database. As this document was not appended to the IS due to licensing restrictions, it is unclear how much Inuit Knowledge from the NTKP was responsible for shaping the identification, assessment and evaluation of VCs. Additionally, there is not the opportunity to evaluate whether the knowledge referenced from this report in IS Volumes is Project specific, or regionally relevant. Nor is there an opportunity to identify potential Knowledge gaps in relation to existing Inuit and Indigenous Knowledge studies that were conducted for previous projects relevant to RAA.

Information Request

We ask the NIRB to request review of this report under confidential cover to evaluate whether the Inuit Knowledge referenced throughout the IS represents knowledge present in the report. Currently there is no ability to evaluate how Inuit Knowledge was selected from NTKP, how the knowledge was applied to the assessment, and whether it has adequately been incorporated into the evaluation of Project design, potential impacts, significance determinations, mitigation measures and conclusions.

Proponent Response

No response from WKR.

CGC IR #2 (IR-354)

Subject

Guardians, Caribou and Caribou People, Cultural Identity

Issue / Concern

The IS does not explain how direct and indirect impacts to the relationship between caribou and Caribou People will be monitored and addressed over the long-term.

Information Request

Please respond to the following:

1. *Please provide details around how Inuit and Indigenous harvesting areas, travel routes, cabins, camps and culturally important caribou areas were identified and incorporated into the assessment;*
2. *Please explain the methods used to assess impacts to caribou in terms of the relationship between caribou and Caribou People;*
3. *Please explain the methods used to assess impacts to intergenerational transfer of Indigenous knowledge around caribou;*
4. *Please detail which guardians programs will be in place to care for the relationship between caribou and Caribou People;*
5. *Please explain what role that CGC and Indigenous peoples will have in guardians program and collaborative adaptive management.*

Proponent Response

1. **Identification and incorporation of Inuit and Indigenous harvesting areas, travel routes, cabins, camps, and culturally important caribou areas**

   Traditional harvesting areas, habitation areas (including cabins and camps), travel routes, and other cultural sites relevant to caribou were identified and incorporated into the Traditional Land, Marine, and Resource Use (TLMRU) assessment (Volume 9, Section 24) using the following sources:

   - The Project-specific Kitikmiut Inuit Knowledge report *Kitikmiut Knowledge of the Proposed Kogloktoakyok (Grays Bay) Port and Road Project* (Banci and Spicker 2024), compiled from the Kitikmeot Inuit Association's Naonaiyaotit Traditional Knowledge Project (NTKP) database, and made available to WKR through a licensing agreement with the Kitikmeot Inuit Association (Volume 3, Section 4.1.1). Some 515 unique individuals have participated in NTKP studies since 1995 and shared information for inclusion in the database;

- Inuit Advisory Group (IAG) workshops, including caribou-focused sessions on migration, calving grounds, monitoring, access, and mitigation (Volume 3, Section 6, and Appendix 6A); Please refer Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Proponent Response Package for the summary report from IAG workshop #3 held in May 2026. This workshop focused on discussing the significance determination conclusions presented in the impact statement and giving IAG members opportunities to validate and/or question or challenge them.
- Community-based primary research with local residents and organizations (Volume 3, Section 4.1.3, and Appendix 6D);
- Project-specific engagement with Inuit and Indigenous governments and organizations, and other potentially affected communities (Volume 3, Section 6); and
- A literature review of publicly available Inuit and Indigenous Knowledge sources for potentially affected Indigenous groups exercising Section 35 rights within the Regional Assessment Area (Volume 3, Section 4.1.2; Volume 9, Section 24.2.1).

Identified locations — including harvesting areas, habitation areas, travel routes, and cultural sites reported by Kitikmiut and other potentially affected Indigenous groups — are compiled in Volume 9, Section 24.3.4, Table 24.13 (Resource Harvesting Locations, Habitat, and Cultural Sites Identified by Kitikmiut and other Potentially Affected Indigenous Groups Relative to the TLMRU Spatial Boundaries). Table 24.13 associates each named location with the Indigenous group or groups that identified the location and with the TLMRU Local and Regional Assessment Areas (LAA and RAA).

These identified areas were taken into account in the assessment of Change to Specific Areas of Cultural Importance Where TLMRU Occurs (Volume 9, Section 24.3.4), which assesses potential Project-related changes to specific areas of cultural importance where traditional activities or knowledge transfer occur and in consideration of habitat and harvesting areas, habitation areas, travel routes, and cultural sites identified in Table 24.13 relative to Project components. The findings of the VC assessments relevant to TLMRU — notably Volume 6, Section 16 (Caribou) — were considered and integrated alongside this information (Volume 9, Section 24.3.1).

Consistent with the approach used in Volume 9, Section 24.3.4, the IS also acknowledges that "a lack of TLMRU information for a specific area or activity does not necessarily represent an absence of use, occupancy or interest in that location or activity."

In addition to consideration of locations within the TLMRU assessment, the Caribou VC boundaries and baseline were also informed by Kitikmiut Inuit Knowledge documented in Volume 6, Section 16.1.1 (Influence of Inuit, Indigenous, and Community Knowledge on Assessment Boundaries), including travel routes and places used by Inuit and by caribou, historical and current calving areas (irniurviit) and wintering grounds (ukiuviit), seasonal hunting camps, and water crossings at lake and river narrows (nadlok) identified as "critical, high-use hunting areas."

2. **Methods used to assess impacts to caribou in terms of the relationship between caribou and Caribou People**

The relationship between caribou and Kitikmiut, Inuit, and other Indigenous Peoples was assessed through a set of complementary methods that linked relevant portions of the biophysical caribou assessment to the human environment assessments, and that were considered in the Holistic Valued Component Assessment (Volume 10, Section 31). Volume 6, Section 16 identifies TLMRU (Volume 9, Section 24), Food Security and Food Sovereignty (Volume 9, Section 25), and

Community Health and Well-being (Volume 9, Section 26) as supporting VCs in this regard, and states (Volume 6, Section 16; page 16-3):

- Traditional Land, Marine, and Resource Use (see Volume 9, Section 24): Caribou are an important resource relied upon by Inuit and other Indigenous groups for their traditional land, marine, and resource use activities.
- Food Security and Food Sovereignty (see Volume 9, Section 25): Caribou are an important traditional food source for Inuit and other Indigenous Peoples.
- Community Health and Well-being (see Volume 9, Section 26): Caribou have an intrinsic value to Inuit and other Indigenous Peoples.

The specific methods used to assess potential effects on caribou and people are described below:

- **Biophysical pathway (Volume 6, Section 16).** Volume 6, Section 16.1.1 (*Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment*) documents how Inuit, Indigenous, and Community Knowledge shaped the caribou VC assessment scoping, boundaries, baseline conditions, effects pathways, cumulative effects analysis, significance criteria, mitigation, and monitoring, through a series of dedicated sub-sections. Volume 6, Section 16.2.2.1, Table 16.7 (*Summary of Inuit, Indigenous, and Community Knowledge and Engagement Feedback Regarding the Caribou Effects Assessment*) compiles the pertinent knowledge relied upon. The biophysical pathways, in turn, provide results on potential Project-related changes to caribou habitat, movement, abundance, distribution, behaviour, mortality risk, and cumulative effects, which contributes to the understanding of Project impacts that may affect the availability, accessibility, and integrity of caribou as a valued resource for people.
- **TLMRU pathway (Volume 9, Section 24).** Section 24 assesses potential Project-related changes and cumulative effects to the quality, quantity, or distribution of TLMRU resources (Section 24.3.3; Section 24.4.2), to specific areas of cultural importance where TLMRU occurs (Section 24.3.4; Section 24.4.3), to access to resources or sites (Section 24.3.5; Section 24.4.4), and to cultural practices, laws, and governance systems that inform how TLMRU occurs (Section 24.3.6; Section 24.4.5). Changes in caribou populations and habitat identified in Volume 6, Section 16 were carried into Section 24 through the analytical assessment techniques described in Section 24.3.1. Specific to caribou, the IS considered how the Project may result in changes to caribou movement, range,

habitat, and mortality risk, which in turn can result in changes to the quality, quantity, or distribution of caribou for Kitikmiut and other potentially affected Indigenous groups (Section 24.3.3)

- **Food security and food sovereignty pathway (Volume 9, Section 25).** Volume 9, Section 25 assesses effects on the traditional food system, which includes caribou as a key country food (Section 25.2.2.3). Baseline conditions for country foods are set out in Section 25.2.2.3; Project effects on the traditional food system are assessed in Section 25.3.3 (*Change in Traditional Food System*); and cumulative effects on the traditional food system are assessed in Section 25.4.3. The assessment is supported by the People and Communities Baseline Report (Volume 9, Appendix 25A).
- **Community health and well-being pathway (Volume 9, Section 26).** Volume 9, Section 26 records that "For Inuit, the land, water, and ice are integral to community health and well-being because they are essential for hunting, travel, connection to the land, and Inuit culture more broadly (Pauktuutit 2006)" (page 26-1). Potential Project effects relevant to caribou harvesting and community wellness are addressed in Section 26.3.5 (Change in Mental Health, Emotional Health, and Coping Mechanisms), with pollutant-and-hazard pathways relevant to country food confidence addressed in Section 26.3.8 and supported by the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A).
- **Holistic integration (Volume 10, Section 31).** The Holistic Assessment integrates the Caribou, TLMRU, Food Security, and Community Health VC findings. Volume 10, Section 31.4 records that "*Inuit, Indigenous, and Community Knowledge suggested that a significant adverse effect extends beyond simple Western scientific population models to encompass threats to sustenance, culture, and the ability to continue traditional harvesting practices. IAG members advised that negative effects on the ability of Inuit to harvest caribou and other wildlife and put country food on their tables is considered unacceptable (IAG 2025). Inuit, Indigenous, and Community Knowledge also strongly suggests that the loss of traditional way of life (i.e., cultural transference) would also be considered an unacceptable effect*" (Volume 10, Section 31.4, page 31-26).

The overall methodology for the IS follows Volume 4, Section 9, which records that WKR's approach "reflects this Inuit perspective foremost, supplemented by the western approach to assessing Valued Components (VC) separately". In addition, a holistic assessment was conducted that "addresses the interconnections between biophysical and human environments, including the meaningful consideration of Inuit Knowledge" (Volume 4, Section 9.1).

3. **Methods used to assess impacts to intergenerational transfer of Indigenous knowledge around caribou**

Intergenerational transfer of knowledge is addressed principally within Volume 9, Section 24 (TLMRU) and Volume 9, Section 26 (Community Health and Well-being), with the Holistic Assessment (Volume 10, Section 31) synthesizing these findings. Within Volume 9, Section 24.3.6 (Change to Cultural Practices, Laws, and Governance Systems that Inform How TLMRU Occurs), Table 24.2 identifies the relevant effect pathway as "alteration to cultural transference opportunities,

including use of preferred language(s) and transmitting histories, stories, and cultural practices to future generations," with the measurable parameter identified as "qualitative consideration of factors contributing to loss or altered use, and opportunities to transmit knowledge at TLMRU features, locations, or areas" (Volume 9, Section 24.1.3, Table 24.2, page 24-10).

Section 24 further notes the IS "framing[es] TLMRU in the context of past, current, and future use acknowledges the importance of cultural transmission, which speaks to the ability to continue historical practices, traditions, or customs as time and circumstances evolve" (page 24-9). Volume 9, Section 24.3.4 also assesses Project-related changes to specific areas of cultural importance where traditional activities or knowledge transfer occur, and identifies potential changes in access, sensory conditions (noise, dust, visual disturbance), and harvesting practices as pathways that may affect the on-the-land contexts in which caribou knowledge is shared between generations.

Volume 9, Section 26.3.5 (Change in Mental Health, Emotional Health, and Coping Mechanisms) provides further discussion regarding impacts on intergenerational transfer of knowledge, as described in response to Question 2, above.

The Holistic Assessment expressly identifies "the loss of traditional way of life (i.e., cultural transference)" as an effect that Inuit, Indigenous, and Community Knowledge indicates would be unacceptable (Volume 10, Section 31.4).

The assessments also relied on Inuit, Indigenous, and Community Knowledge to inform the selection of pathways. For example, the IS considered the Project-specific Inuit Knowledge report, including Kitikmiut Elders' knowledge of caribou population cycles, past declines, and the ongoing importance of caribou to Kitikmiut. Additionally, community-based primary research (Volume 3, Appendix 6D) recorded concerns raised by community members of varying ages and backgrounds — including high school students in Kugluktuk who "raised concerns about the Project intersecting with caribou harvesting areas" and IAG members who "expressed concern that future generations would not see caribou in the area due to the Project" (Volume 9, Section 24).

4. **Guardians programs in place to care for the relationship between caribou and Caribou People**

The wildlife monitoring, mitigation, and adaptive management framework applicable to caribou is described in the Wildlife Mitigation and Monitoring Plan (WMMP) (Volume 11, Appendix 37B).,which discusses opportunities and commitments around Inuit involvement in monitoring programs" (Volume 11, Appendix 37B, Section 37.1.4, page 3).

As further described in Volume 3, Section 4.1.3, "*the IAG will continue as the Project advances and is expected to evolve into an Inuit Environmental Advisory Committee following regulatory approval. The function, goals, and membership of the advisory group will be reviewed as necessary to maintain focus on the changing phases and needs of the Project."*.

The specific structure of a caribou-focused monitoring or guardianship program, including any potential participants outside of Nunavut, terms of reference, funding, reporting relationships, and interaction with the WMMP, is not defined at this stage. As stated in Volume 11, Appendix 37B, Section 3, the WMMP is a draft management plan developed at a conceptual level, and its further

development and refinement will occur through ongoing Project planning initiatives, continued engagement with affected Inuit and Indigenous governments and organizations and potentially affected communities, and in engagement with relevant government agencies.

5. **Role of the Caribou Guardians Coalition (CGC) and Indigenous peoples in guardians program and collaborative adaptive management**

   The IS does not identify a defined role for the Caribou Guardians Coalition. Please see response to IR-354 (CGC-IR #2), part 4.

CGC IR #3 (IR-355)

Subject

Incorporation of Inuit, Indigenous and Community Knowledge in Road Design

Issue / Concern

Citations used for road design focus on western science, without clearly drawing from Indigenous, Inuit and Community Knowledge.

Information Request

Please provide evidence that Inuit and Indigenous and Community Knowledge support a 3H:1V slope design for road construction in relation to caribou and wildlife crossing.

Proponent Response

WKR confirms that Inuit Knowledge influenced the 3H:1V roadside slope design, and that the Inuit Knowledge basis for that design is documented in the Impact Statement (IS). As provided in Volume 6, Section 16.1.1, page 16-8:

> "*Road Design for Wildlife Passage: Inuit Knowledge influenced the design by recommending gradual, shallow embankment slopes (e.g., 3:1 slope) with finer, small-grained material to facilitate easy and frequent caribou crossings. The warning about caribou injuring their legs on sharp mine rock highlighted the need for appropriate material to be used (Thorpe Consulting Services Ltd. 2014; IAG 2025b).*"

Additionally, IAG workshop #2 discussed Road Design in the context of a 3:1 slope, describing it as a gradual or gentler slope within that same context. A key theme from that meeting was Road Design and Traffic Management, which included suggestions from members such as using convoys, remote cameras, and gradual road slopes to reduce sensory disturbance and facilitate safe caribou crossings (Volume 3, Appendix 6A)

CGC IR #4 (IR-356)

Subject

Project design considerations specific to caribou

Issue / Concern

WRK state that baseline studies and caribou monitoring along the road will determine areas that have the highest crossing potential. It is not clear whether Inuit, Indigenous and Community Knowledge has been incorporated into the methodology for identifying areas suitable for caribou and wildlife crossings.

Information Request

Please detail how Inuit, Indigenous and Community Knowledge will be incorporated into the identification and design for caribou and wildlife crossing locations.

Proponent Response

The Kitikmiut Knowledge report for the Grays Bay Port and Road Project (Banci and Spicker 2024) provided maps that are integrated into the caribou assessment (Volume 6, Section 16), including water crossings (*nadlok*) (Figure 4.13, Section 4.2.4.2, Appendix 16A) and spring and fall migration corridors (Figure 16.6 and 16.8, Section 16.2.2.4). These maps, in addition to other data sources (e.g., collar data), have identified segments along the Grays Bay Road that are likely to be crossed by the Bathurst Caribou Herd and Dolphin and Union Caribou Herd.

The Impact Statement also states that "*Inuit Knowledge influenced the design by recommending gradual, shallow embankment slopes (e.g., 3:1 slope) with finer, small-grained material to facilitate easy and frequent caribou and other terrestrial wildlife crossings. The warning about caribou injuring their legs on sharp mine rock highlighted the need for appropriate material to be used (Thorpe Consulting Services Ltd. 2014a; IAG 2025b)*" (Volume 6, Section 18.1.1.6, document page 18-7). This design will be applied to facilitate caribou crossings in *"[…] "high potential areas" identified by 1) local knowledge, 2) collar data, 3) experience during road operations, 4) camera monitoring*" (Volume 6, Section 16.4.3.3, document page 16-103).

CGC IR #5 (IR-357)

Subject

Primary Indigenous Knowledge Contribution Opportunities for non-Kitikmiut Rights Holders

Issue / Concern

Only Kitikmiut knowledge was gathered as primary, verified, owned knowledge through a dedicated process. The IS states no similar agreements were set up with other Indigenous groups who exercise section 35 rights within the RAA. Indigenous Knowledge from these communities is referenced from publicly available literature and public engagement records. Those are among the people whose harvest of the Bathurst herd is most affected.

Information Request

Please confirm whether Tłı̨chǫ Government, Yellowknives Dene First Nation, North Slave Métis, NWT Métis, Athabasca Denesųłiné Né Land Corporation were offered the same dedicated, consent-based, owned knowledge process that Kitikmiut Inuit were. If not, explain why, and explain how their knowledge was gathered and weighted to the same standard.

Proponent Response

Indigenous Knowledge of the five listed groups was gathered and integrated for the IS through Project-specific engagement feedback and publicly available literature (secondary research), as documented in Volume 3, Section 4.1.2 and applied across Volume 6, Section 16; Volume 9, Section 24; Volume 9, Section 30; and Volume 10, Section 33.

Details on WKR's engagement methodology are provided in the response to CGC IR #6 (IR-358).

Findings from the publicly available literature are documented across Volume 6, Section 16 (Assessment of Potential Effects on Caribou), Volume 9, Section 24 (Traditional Land, Marine, and Resource Use), Volume 9, Section 30 (Heritage Resources), and Volume 10, Section 33 (Transboundary Effects Assessment). Publicly available secondary sources for the five listed groups include (illustrative examples, not exhaustive; the full source list is addressed in the response to CGC IR #7 [IR-359]): TG (Dedats'eetsaa 2024); YKDFN (2003a, 2003b, 2012, 2016, 2017a); NSMA (2001, 2012, 2016, 2017a, 2017b, 2017c); NWTMN (2012); ADNLC (2023, 2024, 2025) and Ya'thi Nene Land & Resources Office (n.d., 2020) — referenced across Volume 6, Table 16.7; Volume 9, Section 24 (per-group sub-sections); Volume 9, Section 30; and Volume 10, Section 33.

Consistent with NuPPAA and the NIRB Proponent's Guide (NIRB 2020), WKR's engagement prioritized Kitikmeot Inuit because: the Project is located wholly within Nunavut and largely on Inuit-owned land and is Inuit-owned; Kitikmeot Inuit are the individuals most directly affected; and they hold the most detailed, location-specific knowledge of the areas the Project intersects.

This prioritization did not exclude other groups. In addition to the literature review noted above, WKR conducted broader outreach beyond the Kitikmeot Region, including Project discussions, presentations, and opportunities for the groups listed above to share knowledge and raise concerns (Volume 3, Section 6.1.1.2; Appendix 6C). Their input was integrated throughout the IS, most directly in the assessment of Traditional Land, Marine and Resource Use (Volume 9, Section 24) and the Transboundary Effects Assessment (Volume 10, Section 33), and was reviewed for potential new insights or differences from Kitikmeot Inuit Knowledge and perspectives. The knowledge of all engaged groups was assessed against the same effects assessment methodology, thresholds, and significance criteria (Volume 4, Section 9).

WKR will continue to respond to questions and concerns from Indigenous groups through its ongoing engagement efforts. WKR has endeavored to review and integrate all information received, where applicable. Information provided following submission of the IS as well as any potential omissions will be reviewed in the context of the IS and for incorporation into project planning, including adaptive management and monitoring, as appropriate.

CGC IR #6 (IR-358)

Subject

Methods of Engagement

Issue / Concern

WKR identifies that engagement methods with Inuit, Indigenous and Community groups were selected based on the intended audience and purpose of each session, but it is not clear whether these activities were eliciting Indigenous Knowledge or public feedback.

Information Request

Please detail which recorded engagement activities and methods were specific to Indigenous and Community Knowledge collection, versus general public engagement for the Project.

Proponent Response

The following lists clarify which recorded engagement activities and methods were specific to Indigenous and Community Knowledge collection, versus general public engagement for the Project:

Primary methods for Indigenous and Community Knowledge collection:

- Meetings with Indigenous governments;
- Inuit Advisory Group (IAG) sessions;
- Meetings with local organizations such as HTOs;
- Community-based Primary Research interviews;
- Technical workshops with indigenous and community knowledge holders;
- One-on-one and small-group meetings; and
- Publicly available literature (secondary research).

Primary methods used for broad public communication and information sharing:

- Community meetings and open houses;
- Youth and school engagements;
- Participation in community events (trade shows, career fairs, cultural gatherings);
- Local radio programming (call-in or interview segments);
- News releases and interviews with broadcast media;
- Digital communication (e.g. Project website); and
- Posters and printed notices.

Often, meetings with stakeholders serve multiple purposes – most meetings concerning Indigenous and Community Knowledge also include a general Project update for context-setting purposes.

CGC IR #7 (IR-359)

Subject

Sources Consulted for Inuit, Indigenous and Community Knowledge of Caribou

Issue / Concern

The Inuit and Indigenous Knowledge consulted for Volumes 3, 6 and 9 does not completely represent the best publicly available Inuit, Indigenous and Community Knowledge specific to caribou for the Project nor sufficiently encompasses historic Bathurst Caribou herd range.

Information Request

Please detail the methodology used for the identification and evaluation of publicly available Inuit, Indigenous and Community Knowledge about caribou. Consult the appended sources which provide publicly available literature reviews regarding Inuit and Indigenous caribou knowledge.

Proponent Response

The methodology used for the identification and evaluation of publicly available Inuit, Indigenous, and Community Knowledge about caribou for the Impact Statement (IS) is documented in Volume 3 (Section 4), Volume 4 (Section 9.2.3), and Volume 6 (Section 16.1.1 and Appendix 16A [Section 2.1]). The collection of this knowledge included:

- a Project-specific Inuit Knowledge report compiled from the Naonaiyaotit Traditional Knowledge Project database under a KIA Non-Exclusive Licensing Agreement (Banci and Spicker 2024);
- several Inuit Advisory Group workshops (GBEEC 2018a, 2018b; IAG 2025a, 2025b); Please refer to Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Proponent Response Package for the summary report from IAG workshop #3 held in May 2026.
- a literature review of publicly available Inuit Knowledge sources, compiled in Volume 6, Appendix 16A;
- a literature review of publicly available Indigenous Knowledge sources of Section 35 rights holders per Volume 3, Section 4.1.2, referenced throughout Volume 6 (Section 16), Volume 9 (Sections 24 and 30), and Volume 10 (Section 33); and
- Project-specific engagement feedback documented in Volume 3 (Section 6 and its appendices) and summarized for caribou in Volume 6 (Table 16.7 in Section 16.2.2.1).

WKR acknowledges CGC has appended publicly available literature review sources to its IR submission. Where such sources have not already been reviewed, WKR commits to reviewing and integrating those sources, where applicable. WKR appreciates CGC sharing these sources and looks forward to continued discussions on the matter.

CGC IR #8 (IR-360)

Subject

Inclusion of Inuit, Indigenous and Community Knowledge for Caribou Mitigation Measures

Issue / Concern

WKR state that publicly available monitoring studies and other community-based research were reviewed to inform caribou mitigation measures, yet it is unclear from the literature cited and discussion in Volume 6 which sources were used.

Information Request

Please identify which Inuit, Indigenous and Community monitoring studies and community-based research sources specific to caribou were reviewed to inform caribou mitigation measures.

Proponent Response

The Impact Statement (IS) discusses the influence of Inuit, Indigenous, and Community Knowledge on the development of mitigation, management, and enhancement measures in Volume 6, Section 16.1.1.6. This section of the IS describes the Inuit Advisory Group workshops, discussions with the Kitikmeot Inuit Association, engagement with Indigenous groups and other potentially affected communities. Specific sources are cited when discussing mitigation, management, and protection measures. Additionally, "*In accordance with the IAG's guidance to WKR, best management practices to avoid or reduce Project-related effects on land, water, and the animals that use them are adapted from previously approved major development projects in the Arctic. The projects considered by WKR to be relevant sources of best management practices are used from relevant Arctic projects that have incorporated Inuit, Indigenous, and Community Knowledge*" (Volume 6, Section 16.1.1.6, document page 16-9).

Please also refer to the response to Information Request CGC IR #7 (IR-359), which also provides studies and sources of Inuit, Indigenous, and Community Knowledge used throughout the IS.

CGC IR #9 (IR-361)

Subject

Inuit, Indigenous and Community Knowledge and Engagement Feedback regarding caribou

Issue / Concern

The summary of Inuit, Indigenous and Community Knowledge and Engagement Feedback presented in Table 16.7 is confusing. It is unclear as to why concerns related to caribou from historic development projects outside of the RAA have been included as comments to the GBRP Caribou Effects Assessment. By compiling these historic concerns with Project-specific feedback by Inuit, Indigenous and Communities it gives the impression that comments were given on the Proposed Caribou Effects Assessment for previous iterations of the Project.

Information Request

Please clarify the context from which listed Indigenous and Community comments are from, and why these projects were selected as representative of Indigenous concerns about caribou and development projects.

Proponent Response

Volume 6, Table 16.7 (Summary of Inuit, Indigenous, and Community Knowledge and Engagement Feedback Regarding the Caribou Effects Assessment, Page 16-31) consolidates Inuit, Indigenous, and Community Knowledge (IK/IQ/CK) inputs relevant to the caribou effects assessment. Each entry in Table 16.7 uses one of five coding conventions in the "Comment" column that identify the origin of the input:

- "During project engagement, [group]..." — Grays Bay Road and Port Project (GBRP) engagement (2016–2025).
- "During a public scoping meeting for the NIRB, [group]..." or "During a public scoping meeting with the NIRB, [group]..." — inputs received during the current-Project NIRB Scoping and Impact Statement Guidelines meetings.
- "During a public comment period for the NIRB, [group]..." — inputs received during the current-Project NIRB public comment period.
- "During engagement for a previous project, [group]..." or "Through publicly available literature, [group]..." — Inuit or Inuit Knowledge from publicly available literature, or shared by the identified group during their engagement on a different (previous) Arctic development project. These refer to other Arctic development projects whose information informs the understanding of caribou within the RAA.

WKR did not select comparable Arctic development projects as representative; rather, WKR reviewed the publicly available Indigenous Knowledge on caribou that section 35 rights holders had contributed to prior public regulatory records. As noted in Volume 3, Section 4.1.2, the literature review was conducted to identify "Indigenous Knowledge [to be] reviewed and considered in the context of the Project to identify any information that could provide additional context and perspectives. Similarly, where information was made available by Indigenous groups through engagement, information gathering, and voluntary information sharing, Indigenous Knowledge has been reviewed and incorporated in the IS, as applicable." (Volume 3, Section 4.1.2). Further, a review of public information supported the consideration and integration of Inuit, Indigenous, and Community Knowledge related to caribou, such as the Bathurst Caribou whose range extends across Nunavut and the Northwest Territories. Additionally, the NIRB Guidelines for the Grays Bay Road and Port Project (Section 2.1.3) direct the proponent to review relevant literature, noting that "NIRB expects the Proponent will utilize available and pertinent results of surveys and studies completed in the proposed project region by other developers, government agencies, organizations, institutions, regional authorities, and individual researchers".

CGC IR #10 (IR-362)

Subject

No subject.

Issue / Concern

Throughout the Assessment of Project Effects on Caribou sections in Volume 6, it is unclear how Inuit, Indigenous and Community knowledge has independently informed contextual understandings of baseline conditions, evaluative indicators, significance assessments and the identification and development of mitigation measures and guardian monitoring programs.

Information Request

Further detail is needed regarding the methodology used for the inclusion of Inuit, Indigenous and Community Knowledge into the Caribou Effects Assessment for the Project.

Proponent Response

The methodology used for the inclusion of Inuit, Indigenous, and Community Knowledge into the Caribou Effects Assessment is documented in the Impact Statement (IS) as an integrated framework in which Inuit, Indigenous, and Community Knowledge complements western science across all stages of the assessment (assessment boundaries; baseline conditions; Project effects assessment; cumulative effects assessment; mitigation, management, and enhancement measures; significance determinations; and follow-up and monitoring). Additionally, the method for including Inuit, Indigenous, and Community Knowledge was developed with consideration of the Nunavut Planning and Project Assessment Act (NuPPAA) and the NIRB Proponents Guide (NIRB 2020). The overarching methodology is set out in:

- Volume 3, Section 4 (Inuit Knowledge, Indigenous Knowledge, and Community Knowledge) and Volume 3, Sections 5.4.1 through 5.4.7 — the Project-level integration framework.
- Volume 4, Section 9 (Effects Assessment Methodology, including Section 9.2.3 and Section 9.6 Holistic Assessment).
- Volume 6, Section 16.1.1 (Sections 16.1.1.1 through 16.1.1.7) — the caribou-VC-specific framework.
- Volume 6, Section 16.2.2.1 and Table 16.7 (Page 16-31) — the row-by-row attribution mechanism.
- Volume 6, Sections 16.3 through 16.9 — the assessment sections themselves.
- Volume 11, Appendix 37B (Wildlife Mitigation and Monitoring Plan) — the follow-up and adaptive management framework.

Volume 6, Section 16.1.1.2 discussed the methodology associated with baseline conditions (page 16-5).

The evaluative indicators used in the Caribou Effects Assessment are the five effects pathways set out in Section 16.1.3 (Table 16.3 — Potential Effects, Effects Pathways and Measurable Parameters for Mainland and Island Caribou): Change in Range Disturbance; Change in Habitat; Change in Movement; Change in Mortality Risk; and Change in Health. Each effects pathway is assessed in a corresponding sub-section of Section 16.4 (16.4.1 through 16.4.5). Additionally, Volume 6, Section 16.1.1.3 confirms that Inuit, Indigenous, and Community Knowledge helped to identify potential effects pathways on caribou range disturbance, habitat, movement, mortality, and health.

The significance determination methodology for the caribou VC is documented in Volume 6, Section 16.7, using the assessment criteria set out in Table 16.4 (Criteria Used to Characterize the Residual Effects on Caribou) and Table 16.6 (Application of Assessment Criteria for the Determination of the Significance of Effects on Caribou). Residual and cumulative significance summary tables include Table 16.14 (Summary of Project Residual Effects on the Bathurst Caribou Herd, Page 16-116) and Table 16.15 (Summary of Project Residual Effects on the Dolphin and Union Caribou Herd, Page 16-119).

Volume 6, Section 16.1.1.4 speaks to mitigation measures and guardian monitoring programs and further describes the extended discussion of specific Inuit, Indigenous, and Community Knowledge influences on mitigation development (Road Design; Traffic Management; Predator Management; Habitat Protection; Marine Protection), together with the adaptive management framework.

The follow-up and monitoring framework is documented in Volume 6, Section 16.9, and the operational framework is set out in Volume 11, Appendix 37B (WMMP). Refer to CGC-IR-2 (IR-354), CGC-IR-4 (IR-356), CGC-IR-13 (IR-365), CGC-IR-16 (IR-368), and CGC-IR-17 (IR-369) for additional details regarding mitigation measures and monitoring programs.

CGC IR #11 (IR-363)

Subject

Significance of Project Effects on the Bathurst Caribou Herd

Issue / Concern

The significance of Project residual effects are determined to be not significant on the Bathurst Caribou herd yet there is no inclusion of Inuit, Indigenous or Community Knowledge that corroborates that determination.

Information Request

Please explain how and where Inuit, Indigenous and Community Knowledge was used to evaluate Project residual effects to support the determination of Project residual effects as not significant.

Proponent Response

WKR respectfully clarifies that Inuit, Indigenous, and Community Knowledge (IK) was integral to the caribou assessment and to the residual-effects determination; it was woven through the assessment rather than presented as a separate line of evidence.

Volume 6, Section 16.1.1. Describes the Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment of Project effects (16.1.1.3), including on significance (Section 16.1.1.5).

Volume 6, Section 16.1.1.3 also states that "*Inuit, Indigenous, and Community Knowledge helped to identify potential effects pathways on caribou range disturbance, habitat, movement, mortality, and health (see Section 16.4). The Bathurst Caribou Range Plan (GNWT 2019) considered Indigenous and Community Knowledge when developing land disturbance thresholds for the BCH range. The location and extent of (mainland and island) caribou movement corridors and calving areas that may interact with the Project are informed by Inuit Knowledge (Banci and Spicker 2024). Inuit and Community Knowledge on caribou predation by wolves and grizzly bears (Banci and Spicker 2024), including the increased mortality risk near roads (IAG 2025a), are also considered in the assessment*." (16-6)

Because the Section 16.7.1.1 significance determination is derived from the Section 16.4 residual-effects characterizations for each of the five effects pathways, the Inuit, Indigenous, and Community Knowledge inputs that shaped those pathways are integral to the "not significant" determination.

With respect to the significance criteria, the IS notes that "Significance criteria were informed with consideration of the priorities and values identified through Inuit, Indigenous, and Community Knowledge (see Volume 3). This supported WKR's consideration of whether Project-related effects on a caribou herd exceed conservation-based thresholds or threaten the long-term persistence and viability of the herd. The concept of significance in the assessment was guided by Inuit, Indigenous, and Community values and detailed ecological observations about resource health, along with understanding of socio-economic

conditions and traditional land, marine, and resource use. In addition, members of the IAG provided criteria to consider when identifying whether a project is likely to have significant or unacceptable effects (see Sections 16.1 and 16.7). During discussions of impact significance, the IAG emphasized healthy caribou populations and Inuit harvesting as important considerations for the Project (IAG 2025b). To be considered 'non-significant' or acceptable, IAG members advised WKR to implement comprehensive measures and commitments that align with Inuit, Indigenous, and Community priorities and values." (Volume 6, Section 16.1.1.5, page 16-6 – 16-7).

Section 16.1.1.5 further documents four IAG-articulated categories for "non-significant" or acceptable Project effects (bulleted list on Pages 16-7 to 16-8):

- Proactive Protection Measures (avoiding roads through calving grounds and migration routes; mobile protection zones; traffic restrictions/closures during sensitive seasons — IAG 2025a, 2025b)
- Incorporation of Inuit, Indigenous, and Community Knowledge into Management (including real-time Inuit monitors — IAG 2025a, 2025b)
- Adaptive Management (adaptive plans revised on ongoing IK/IQ/CK — IAG 2025a, 2025b)
- Holistic Approach to Benefits (broader social and economic benefits — IAG 2025b)

Additionally, Inuit, Indigenous, and Community Knowledge informed the mitigation measures whose effectiveness supports the "not significant" determination. Volume 6, Section 16.1.1.6 (Influence of Inuit, Indigenous, and Community Knowledge on the Development of Mitigation, Management, and Enhancement Measures, Page 16-8) documents that Inuit, Indigenous, and Community Knowledge directly informed five categories of caribou mitigation (Road Design for Wildlife Passage; Traffic Management including temporary road closures, convoy system, and speed reduction; Predator Management; Habitat Protection; and Marine Protection).

In addition, mitigation and management measures have been developed based on engagement with Kitikmiut and other potentially affected Indigenous groups, and that access management measures will be implemented to help maintain access to land and marine areas throughout Project phases (Section 24.5.3). Ongoing engagement activities with WKR will continue through Project-related engagement processes and implementation of mitigation, management, and monitoring commitments.

CGC IR #12 (IR-364)

Subject

Significance of Cumulative Effects on the Bathurst Caribou Herd

Issue / Concern

WKR state that residual cumulative effects of the Project and RFI physical activities are determined not to be significant based on the implementation of mitigation, management and enhancement measures, but there is no inclusion of Inuit, Indigenous or Community Knowledge to support this determination.

Information Request

Please explain how Inuit, Indigenous and Community Knowledge was used to evaluate Project and RFI activities to support the determination of residual cumulative effects on the Bathurst Caribou Herd as not significant.

Proponent Response

WKR respectfully clarifies that Inuit, Indigenous, and Community Knowledge (IK) was integral to the caribou assessment and to the cumulative effects determination; it was woven through the assessment rather than presented as a separate line of evidence.

Volume 6, Section 16.1.1. Describes the Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment of Cumulative effects (16.1.1.4), including on significance (Section 16.1.1.5).

Volume 6, Section 16.1.1.4 also states that "*Kitikmiut Knowledge Holders, other Indigenous groups, and potentially affected communities assisted WKR in identifying culturally important areas, species, and practices that may be affected by combined effects from the Project and other projects and activities in the region. Inuit, Indigenous, and Community Knowledge are used to inform the CEA in the same way they are used to inform the Project effects assessment (see Section 16.1.1.3)*." (16-6)

Because the Section 16.7.2.1 significance determination is derived from the Section 16.5 cumulative effects characterizations for each of the four Project residual effects pathways carried over, the Inuit, Indigenous, and Community Knowledge inputs that shaped those pathways are integral to the "not significant" determination.

As noted in IR-363 (CGC IR-11), please refer to Volume 6, Sections 16.1.1.5 and 16.1.7 for further discussions on significance.

CGC IR #13 (IR-365)

Subject

Mitigation, Management and Enhancement Measures for Caribou

Issue / Concern

The IS summarizes approaches to caribou mitigation and management measures based on past projects, IAG recommendations, local perspectives and scientific literature, yet does not reference or incorporate documented knowledge and expertise held by caribou land guardians in Nunavut and the Northwest Territories.

Information Request

Please explain why Inuit and Indigenous guardian program expertise was not considered for review and inclusion for mitigation, management and enhancement measures related to caribou and the Project.

Proponent Response

WKR acknowledges that CGC has appended public literature related to caribou guardian program expertise to their IR submission. Some of the appended sources overlap with sources already reviewed (as listed in Volume 6, Appendix 16A, Volume 6, Section 16.10, and Table 16.7) and have already been incorporated into the mitigation, management, and enhancement measures related to caribou and the Project. Please also refer to the response to Information Request CGC IR #7 (IR-359), which locates studies and sources of Inuit, Indigenous, and Community Knowledge used throughout the IS.

Where sources have not already been reviewed, WKR commits to reviewing and integrating those sources where applicable. WKR appreciates CGC sharing those sources and looks forward to continued discussions on the matter.

CGC IR #14 (IR-366)

Subject

Holistic Valued Component Assessment

Issue / Concern

Within the Holistic Valued Component Assessment, Table 31.1 identifies project effect pathways, primary VCs, residual effects and linked valued components. There is no discussion as to how effect pathways were identified or determined in relation to Inuit, Indigenous and Community knowledge.

Information Request

Please identify how Inuit, Indigenous and Community values specifically framed the effect pathways determinations for the ecosystemic VCs in relation to caribou, TLMRU, community health and well-being, food security and food sovereignty and heritage resources.

Proponent Response

Inuit, Indigenous, and Community values framed the effect pathway determinations summarized in Volume 10, Table 31.1 by informing both the selection of valued components (VCs) and the identification of linkages among ecological, cultural, health, food, and heritage outcomes. The Holistic Assessment explains that "Inuit, Indigenous, and Community values and perspectives have been considered alongside western science to form the foundation of project design and the IS" and that the interconnectedness of all beings is "a key consideration for the IS and the foundation on which the holistic assessment is based" (Volume 10, Section 31.1, pg. 31-1).

The effect pathways noted in Table 31.1 are not new standalone determinations; they synthesize pathways identified in the individual VC assessments in Volumes 5 to 9. As stated in Volume 10, Section 31.1, "The Holistic Assessment draws from the VC assessments (Volumes 5 to 9), to understand potential interactions with the Project (i.e., effects pathways), proposed mitigation, and residual effects on individual VCs" (pg. 31-1). Accordingly, Inuit, Indigenous, and Community values framed Table 31.1 through the VC-specific assessment sections where engagement input and Inuit, Indigenous, and Community Knowledge were used to identify receptors, pathways, mitigation considerations, and residual effects.

CGC IR #15 (IR-367)

Subject

Incomplete References for IK, IQ and CK

Issue / Concern

The List of References does not include any publicly available Indigenous, Inuit or Community Knowledge sources. In particular, there is no reference to the rich learnings documented by current and recent guardians programs of Bathurst caribou.

Information Request

Please demonstrate where Indigenous, Inuit or Community Knowledge sources have informed the WMMP as they are not listed in the References. In addition, explain why literature reviews of these sources have not been referenced or included.

Proponent Response

Please refer to the responses to Information Request IR-359 (CGC-IR-7) and IR-360 (CGC-IR-8).

CGC IR #16 (IR-368)

Subject

Trigger for Adaptive Management

Issue / Concern

Triggers for adaptive management will be determined in consultation with KIA, IAG, GN and GNWT. There is no identification of other Indigenous groups that will be involved in selection and determination of triggers for adaptive management options for caribou.

Information Request

Provide reasoning for non-inclusion of other Inuit and Indigenous Governments, communities and knowledge holders who have experience with the design and implementation of adaptive management plans.

Proponent Response

Triggers for adaptive management will be determined not only through engagement with KIA, IAG, GN and GNWT, but also through ongoing Project planning initiatives, continued engagement with affected Inuit and Indigenous governments and organizations and potentially affected communities, and engagement with relevant government agencies.

CGC IR #17 (IR-369)

Subject

Use of Adaptive Management for the Wildlife Mitigation and Monitoring Plan

Issue / Concern

An adaptive management framework has been included in the Wildlife Mitigation and Monitoring Plan, but there is no discussion of other approaches to environmental management such as Collaborative Adaptive management, that better facilitate the interweaving of Inuit and Indigenous Knowledge with western science.

Information Request

Please identify why adaptive management process was adopted versus a collaborative adaptive management approach for the Wildlife Mitigation and Monitoring Plan.

Proponent Response

The Wildlife Mitigation and Monitoring Plan (Appendix 37B) has been developed to a level of detail consistent with the current stage of the regulatory process and will be advanced as the Project proceeds. It is intended to function as a collaborative adaptive management plan, enabled by a Project Certificate term and condition requiring WKR to establish an Inuit Environmental Advisory Committee, to which the IAG is a precursor. This Committee will incorporate community input — including Inuit and Traditional Knowledge — into the Project's monitoring plans, programs, and mitigation measures across all phases, from pre-construction through construction to operations and maintenance. In this way, the framework directly supports the interweaving of Inuit and Indigenous Knowledge with western science, as the reviewer identified.

Dél̨nę Got'̨nę Government

West Kitikmeot Resources Corp. (WKR), thanks the Délınę Got'̨nę Government (DGG) for its Information Requests (IRs) dated June 29, 2026 (NIRB Document 260703-24XN038-DGG IRs Re Impact Statement-IR3E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the DGG's IRs are provided below.

WKR looks forward to continuing to work with DGG, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

DGG IR-01 (IR-370)

Subject

Project Financing and Reclamation

Issue / Concern

Reference:

"Given that the Project is primarily composed of permanent infrastructure, WKR does not expect to post a bond or other form of financial security to meet requirements for reclamation and security. However, areas used temporarily during construction will be reclaimed in accordance with permit conditions. Permit conditions for these areas may include reclamation security requirements to be established with regulators as the detailed design of these areas is finalized. The financial security required for the reclamation of these areas, will be addressed concurrently with overall Project construction financing"

Comment:

The above statement from WKR raises significant issues of concern for DGG. Approval of the proponent's position could create the precedent that any infrastructure deemed to be "permanent" by a private proponent would eliminates the requirement for posting remediation securities and the need for any post closure remediation work to occur. The proponent has previously stated that the expected operational life of the road is approximately 75 years, a duration which the DGG does not consider permanent. Suggesting that 75 years should be considered permanent will put people 4 or more generations from now, in the same problems many areas of the NWT currently face with innumerable scars and contaminated sites across the north from abandoned industrial infrastructure.

Furthermore, WKR appears to assume that required securities are only related to the cost of reclamation physical disturbances. DGG believes that this vastly oversimplifies the scope of environmental risks and liabilities associated with industrial activities, securities are intended to protect the people of north against, regardless of the permanency of any infrastructure. WKR has stated that their responsibility is limited to construction, operation and maintenance of the road and port, yet they have not demonstrated sunders or funds or funding exist for the construction let alone operation and maintenance of the port and road. Without funding or funding agreements in place, it is unclear to DGG who the owner of the project is and would be ultimately responsible for ensuring completion of construction, operation, maintenance and finally remediation of the infrastructure.

This project has the possibility of being the next Nanisivik Naval Facility, a federal project announced in 2007 and promised to be a pillar of Arctic Sovereignty. Despite nearly 20 years and more than 110 million dollars of federal funding, construction was never fully completed. In May 2026, the federal government announced the closure of this facility due to cost and limited utility of the facility.

Information Request

1. *If the Proponent is only responsible for construction of the Project, who is the owner of the project?*
    a. *What assurances are there that funding is available to complete construction of both the Port and Road infrastructure, ensuring it does not meet the same fate as the Nanisivik facility?*
    b. *What assurances are there that permanent funding will be available for operations and maintenance of the Port and Road infrastructure?*
2. *The DGG agrees with the Proponent that Securities should be posted for temporary disturbances. However, we would like to remind the proponent that reclamation securities cover significantly more than just remediation of physical disturbance. Proponent to provide a table of all infrastructure, facilities and equipment required for both construction and operational phases. The table should at minimum include the following information:*
    a. *Description of the purpose of infrastructure/equipment*
    b. *The operational life of infrastructure/equipment*
    c. *Description of environmental risks associated with the infrastructure/equipment*
    d. *Rational for exclusion from reclamation securities*

Proponent Response

1. **Project ownership and funding**

WKR acknowledges the Délı̨nę Got'ı̨nę Government's concern regarding long-term ownership, funding, liability, and the scope of financial security for the Project. This response consolidates the Impact Statement (IS) content on proponent/ownership, funding, and the reclamation framework, and identifies where the requested assurances and the infrastructure/securities table are dependent on future financing arrangements, detailed design, and regulatory processes.

WKR manages the operations and maintenance of the facilities (Volume 2, Section 2.6.3). With respect to long-term ownership and liability for the permanent infrastructure, the IS Concordance Table (Volume 1, Appendix A) indicates that "permanent infrastructure will be addressed through agreements with the relevant government entity, with WKR expecting that a government entity will assume long-term responsibility — and ultimate liability — prior to construction". The specific ownership/liability-transfer arrangements will be considered as they arise.

The IS documents the funding secured and in development to date. Volume 2, Section 1.1.2 records the National Trade Corridors Fund Contribution Agreement (originally $21.6 million, transferred to WKR in 2023), the Canada Infrastructure Bank Memorandum of Understanding (up to $3 million in project accelerator funding), and Government of Nunavut grants, and states that "concurrent with the environmental assessment process, WKR is developing detailed cost estimates for the Project and working to identify and evaluate construction funding opportunities" (Volume 2, Section 1.1.2).

The IS describes the intended operations and maintenance funding model. The facilities are multi-user, multi-use, operated and maintained by WKR, with "tolls … charged for commercial use of the Project components" and no tolls for community use (Volume 2, Section 2.6.3). Estimated annual operating expenditure during operations and maintenance is approximately $38.2 million (Volume 9, Section 27).

2. **Securities for temporary disturbance**

WKR acknowledges DGG's agreement that securities should be posted for temporary disturbances, and DGG's point that reclamation securities may extend beyond the cost of reclaiming physical disturbance. The IS position on securities is set out in Volume 2, Section 1.1.2:

> "*Given that the Project is primarily composed of permanent infrastructure, WKR does not expect to post a bond or other form of financial security to meet requirements for reclamation and security. However, areas used temporarily during construction will be reclaimed in accordance with permit conditions. Permit conditions for these areas may include reclamation security requirements to be established with regulators as the detailed design of these areas is finalized.*" (Volume 2, Section 1.1.2)

The reclamation framework is set out in the Progressive Reclamation Plan (Volume 11, Appendix 37F), which — because the Project is intended as permanent infrastructure with no planned closure — focuses on progressive reclamation of areas temporarily disturbed during construction and on temporary care and maintenance (Volume 11, Appendix 37F; Volume 11, Section 37.1.8). The Plan states that estimated progressive reclamation costs "will be included as part of the tender package and calculated by contractors based on areas that will be required for temporary construction … dependent on the detailed engineering design and construction schedule" (Volume 11, Appendix 37F).

Regarding a table of all infrastructure, facilities and equipment required for both construction and operational phase, and the required list of information, WKR respectfully provides the following:

A complete listing of Project infrastructure, facilities, and equipment for both the construction and operations and maintenance phases, together with a description of the purpose of each component, is provided in Table MD.2.1 (Project Components), Volume 1, Main Document, Section MD.2.6.1 (Detailed Scope of the Project), with the corresponding detailed description in Volume 2 (Introduction, Project Description and Alternatives), Section 2.6.1 (Project Components).

Operational life is addressed in the same Detailed Scope of the Project subsection (Volume 1, Section MD.2.6; Volume 2, Section 2.6), which states that the Project components are permanent, multi-user facilities anticipated to operate in perpetuity, with a design life of 75 years for major components. This is provided as a Project-wide design basis rather than on a per-component basis in Table MD.2.1.

The environmental risks (effects pathways) associated with Project components are assessed by Valued Component in the biophysical and human-environment effects assessments in Volumes 5 through 9, where each pathway links Project activities and infrastructure to potential effects, mitigation, and residual significance. These assessments identify the risks attributable to the infrastructure and activities listed in Table MD.2.1.

The rationale for exclusion from reclamation securities is provided in Volume 2, Section 1 (Introduction) (and consistent with Volume 1, Section MD.2.6).

DGG IR-02 (IR-371)

Subject

Wildlife and Caribou

Issue / Concern

The Project's road design overlaps critical habitat used during both calving and post-calving seasons by the Bathurst herd and bisects a significant portion of their summer range. The project predicts both direct and indirect effects on preferred seasonal habitat, including calving/post-calving habitat, but suggests that these impacts will be relatively small and can be further mitigated the implementation of the Caribou Trigger Action Response Plan (TARP) and other mitigation measures.

Leaving the most prominent question facing proponents in all recent environmental assessments, will temporary road closures and traffic management be sufficient to protect a declining herd during calving and post-calving periods. Particularly given that in addition to concerns from western science and Dene Knowledge, Inuit Knowledge cited in this report also identifies existing roads and industrial disturbance as concerns for caribou.

Information Request

3. *Proponent to discussion how effectiveness of mitigation will be measured, to ensure they are protective of caribou?*
4. *Given that this road will be used by the public and other industrial developers, the Proponent must discuss how this management plan will be implemented and enforced for all users of the road not employed by WKRC?*

Proponent Response

3. **Mitigation effectiveness for caribou protection**

   WKR proposes follow-up monitoring to verify the accuracy of the caribou assessment predictions (e.g., crossing efficacy), test the effectiveness of mitigations, and update management strategies and protocols when measurable parameters might exceed predictions; see Volume 6, Section 16.9 and Volume 11, Appendix 37B for further details. Metrics for measuring the effectiveness of each type of mitigation are broadly identified in Table 7.1 (column "Metric for Measuring Effectiveness") of the Wildlife Mitigation and Monitoring Plan (WMMP; Volume 11, Appendix 37B, Section 7.1). Specific numerical targets or thresholds for effectiveness are not yet developed. WKR has committed to developing detailed protocols and thresholds/triggers for mitigation effectiveness through consultation with co-management parties.

4. **Wildlife Mitigation and Monitoring Plan implementation**

Please refer to the response to Information Request BQCMB-IR-007 (IR-340) for a discussion on the mechanisms for WKR to require and enforce third-party users to comply with relevant Project-related management plans (e.g., infrastructure access and use agreements), and responsibilities that are beyond WKR's authority (e.g., mitigations and protocols on reasonably foreseeable induced roads).

Government of Northwest Territories

West Kitikmeot Resources Corp. (WKR), thanks the Government of the Northwest Territories' (GNWT) for its Information Requests (IRs) dated July 3, 2026 (NIRB Document 260506-24XN038-GNWT IRs Re Impact Statment-IR2E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038). WKR's responses to each of the GNWT's IRs are provided below.

GNWT 1 (IR-372)

Subject

Assessment of NWT Economic Effects and Labour Market Impacts

Issue / Concern

The IS identifies that the Project will rely on labour, contractors, and services from across Canada, including the NWT, and notes the role of Yellowknife and the NWT as key transit hubs and sources of labour and supply. However, economic effects are modelled and presented primarily for Nunavut, with NWT effects aggregated within "Other Canada." Similarly, while baseline data for the NWT are included, changes from baseline and labour market effects are not disaggregated for the NWT, and there is limited information on the Project's anticipated reliance on NWT labour or the implications for the NWT labour market.

This limits the ability to assess the distribution of economic benefits and potential labour market effects in the NWT, consistent with NIRB Final EIS Guidelines (Section 6.5).

Information Request

Provide additional analysis and disaggregation to support the assessment of NWT economic and labour market effects, including:

a) ***Economic Effects Modelling***
- *Projections of GDP, full-time equivalents (FTEs), and labour income (direct, indirect, and induced) for the NWT*
- *Disaggregated results for NWT in tables presenting economic changes from baseline (e.g., GDP, employment income, taxes), separate from "Other Canada"*
- *Consideration of territorial and national distribution of benefits, including the share retained in the NWT and Canada overall*

b) ***Labour Demand and Supply***
- *Estimated number of NWT residents expected to be employed during construction and operations*
- *Anticipated average annual salaries (or ranges) for these positions*
- *Assessment of whether workers will be drawn from existing employment or unemployed/underemployed labour*

c) ***Labour Market Effects***
- *Assessment of potential effects on the NWT labour market, including labour displacement, competition, and potential shortages*
- *Evaluation of available NWT labour supply relative to Project demand, including key occupations*

- *Consideration of regional and community-level labour availability, where feasible*
- *Inclusion of a labour competition analysis for the NWT comparable to that provided for Nunavut.*

Proponent Response

Assessment scope and rationale

The Employment and Economy VC assessment boundaries were established to address the geographic areas and communities where Project-related employment, contracting, business, and related economic effects were expected to be most directly experienced, consistent with the Impact Statement Guidelines provided by NIRB. The Local Assessment Area (LAA) includes the Project Development Area and the five Kitikmeot communities of Kugluktuk, Cambridge Bay, Kugaaruk, Taloyoak, and Gjoa Haven. Effects are expected to be most direct in the LAA because it encompasses the entire Project footprint and the communities most closely connected to the Project's employment, training, contracting, and community-benefit measures. Residents and businesses in these communities are therefore most likely to experience immediate changes in access to jobs, income, skills development, procurement opportunities, and associated community economic conditions. The concentration of Inuit employment and business-participation measures committed to by WKR in the Kitikmeot Region further strengthens these direct pathways. By comparison, effects elsewhere in the RAA are expected to arise mainly through broader and more dispersed supply-chain, transportation, staging, and labour-mobilization linkages. Yellowknife may provide logistics, labour, and services support, but these effects are expected to be less concentrated at the community level and more dependent on future contractor, procurement, and workforce-sourcing decisions.

The Regional Assessment Area (RAA) includes the broader Kitikmeot Region, the seasonal settlements of Bathurst Inlet and Bay Chimo, and part of the Northwest Territories (NWT), with particular focus on Yellowknife (Volume 9, Section 27.1.4.1). Yellowknife was included because it is expected to serve as a logistics, staging, transportation, labour, and supply centre for the Project. The IS recognizes the Project may draw workers, contractors, goods, and services from Yellowknife and elsewhere in the NWT, including through fly-in/fly-out arrangements with Yellowknife as a designated pick-up point (Volume 2, Section 2.5.3). Accordingly, the focus on the Kitikmeot LAA does not mean that NWT linkages were excluded; rather, the depth of each assessment reflects the anticipated nature and concentration of effects in each area.

Available NWT-specific information

The IS provides NWT and Yellowknife baseline information, including NWT territorial GDP and Yellowknife-specific labourforce, occupation, and industry data (Volume 9, Section 27.2.2; Tables 27.5, 27.6, and 27.7). It also identifies Yellowknife as a source of labour and services and as a logistics and staging location. Operations and maintenance positions at the Project and associated salary information are presented in Table 27.22, although these positions are not allocated by worker residence in the NWT. The IS anticipates approximately 15% of the construction workforce and approximately 50% to 100% of the operations and maintenance workforce will be Nunavut residents over time, with other skilled workers potentially sourced from the NWT and elsewhere in Canada (Volume 9, Section 25, p. 25-32).

Economic effects modelling

Project-related economic effects were estimated using the Statistics Canada Interprovincial Input-Output Model (SCIPIOM), which traces inter-industry activity and trade flows among provinces and territories (Volume 9, Section 27.3.1). In applying the NIRB IS Guidelines, the assessment emphasized Nunavut and the Kitikmeot communities because those are the jurisdictions and communities expected to receive the most direct Project effects and are the focus of Project-specific Inuit employment, training, and procurement measures established by WKR. Modelled GDP, employment, labour income, and government-revenue effects were therefore reported for Nunavut and at broader Canadian scales.

Labour demand, supply, and market effects

The IS does not estimate the number of NWT residents who would be employed during construction or operations at the Project, provide NWT-specific salary ranges, distinguish whether those workers would be drawn from existing employment or unemployed or underemployed labour, or present an NWT labour-competition analysis. Those outcomes depend on detailed occupational requirements, and future contractor selection, recruitment practices, procurement decisions, and the eventual share of labour and services sourced from the NWT. These matters will become clearer as engineering design advances beyond the current conceptual stage and Project procurement and contracting arrangements are developed.

GNWT 2 (IR-373)

Subject

Charter Flights From Yellowknife Airport

Issue / Concern

Yellowknife is identified in the IR as a "designated pick-up point" for employees to be flown by chartered flights to the Project site. Potential changes in service demand at the Yellowknife Airport are not included in the IS.

Increased service demand at Yellowknife Airport is not assessed.

Information Request

Provide information on the number and frequency of anticipated chartered flights. Clarify if Yellowknife will primarily be a transfer point, or if workers will also be from the NWT. This information will help assess whether Project-related charter flights could increase demand on Yellowknife Airport services and operations, with resulting implications for the Yellowknife Airport Revolving Fund.

Proponent Response

The potential increase in demand on Yellowknife Airport is assessed in the Impact Statement. Volume 2, Section 2.5.3 identifies Yellowknife as a designated workforce pick-up point. The assessment of the resulting demand on air transportation infrastructure, including the Yellowknife Airport, is presented in Volume 9, Section 28.3.5 (Change in Transportation Infrastructure) supported by baseline conditions in Volume 9, Section 28.2.2.3,

The Impact Statement documents that personnel hired from outside the Kitikmeot Region will mobilize to Yellowknife using commercial air carriers and will be transported to the Project site using charter flights, and that goods to resupply the Project via air freight will be staged out of Yellowknife and delivered directly to the Project site (Volume 9, Section 28.3.5). This IS states "Personnel hired from outside of the Kitikmeot Region will mobilize to Yellowknife using commercial air carriers and will be transported to the Project site using charter flights. Goods to resupply the Project via air freight will be staged out of Yellowknife and delivered directly to the Project site using the aerodrome at Grays Bay Port or Jericho Station. During Construction, the Project will require approximately 26 small aircraft (e.g., Twin Otter) at peak from Years 0-3 and approximately 48 medium aircraft (e.g., Dash 7) at peak from Years 3-5 to resupply the Project. During Operations and Maintenance, the Project will require approximately six small aircraft and 26 medium aircraft to resupply the Project. Mobilization of out-of-region workers and goods to resupply the Project from Yellowknife to the Project site directly will avoid use of air transportation infrastructure in the Kitikmeot Region. However, this will increase demand on air transportation services in Yellowknife" (Volume 9, Section 28.3.5.3, pg 28-53). The Impact Statement concludes that "the mobilization of personnel and goods and materials to the Project will increase the number of aircraft that use air transportation infrastructure in Yellowknife beyond current

conditions; however, increased demand is expected to be within the current capacity of the Yellowknife Airport," noting that the airport previously operated at a higher volume in 2023 and is developing a new terminal building and considering an infrastructure expansion (Volume 9, Section 28.3.5, pg 28-54). Yellowknife Airport aircraft movements reached 53,519 in 2023 and 51,251 in 2024, and passenger volume reached 604,000 passengers in 2024 (Volume 9, Section 28.3.5.3, pg. 28-54 to 28-55).

Non-resident Project workers "will use commercial airlines to mobilize to Yellowknife and will stay there in the short term (e.g., one night) and transit to and from Project Site using charter aircrafts" (Volume 9, Section 25.3.1.1, pg 25-31). The Impact Statement identifies that Project labour will be drawn from the Kitikmeot Region, Nunavut, and the rest of Canada, and that approximately 15% of the construction workforce is anticipated to comprise Nunavut residents (Volume 9, Section 25, Page 25-32). The Impact Statement does not disaggregate the non-resident workforce by province or territory of residence; accordingly, the specific share of workers who are NWT residents is not separately quantified.

A precise charter flight schedule — including the number and frequency of charter flights departing Yellowknife — is not specified in the Impact Statement. Charter flight frequency will be a function of the final construction and operations rotation schedules, confirmed workforce numbers, and the number of employees mobilizing through each designated pick-up point, which are dependent on the advancement of engineering design beyond the current approximately 10% (conceptual) design stage and on subsequent contracting and workforce planning. The rotation-based mobilization approach and the framework for confirming these details are established in the Impact Statement (Volume 2, Section 2.5.3) and will be refined through detailed design and the Project-specific human resources and logistics planning.

GNWT 3 (IR-374)

Subject

Assessing NWT Mineral Development

Issue / Concern

The NIRB Final Environmental Impact Statement Guidelines require proponents to clearly identify and justify the selection of other projects and activities considered in cumulative effects assessment, and to apply transparent, well-supported assumptions and methods in evaluating those effects.

Potential mineral development facilitated by the Project is assessed for Nunavut only, although several NWT mine sites are listed as "reasonably foreseeable." However, the basis for their inclusion, including their development status, timing, and likelihood of proceeding, is not clearly described.

In addition, the IS does not clearly assess the extent to which the Grays Bay Road and Port Project may facilitate or enable future mineral development activity, including the potential redevelopment of closed and abandoned mine sites, within the NWT.

Information Request

Provide:

- *an assessment of potential NWT mineral development facilitated by the Project to be assessed. Description and criteria used to identify "reasonably foreseeable developments"*
- *a justification of the inclusion of NWT projects including NICO, Yellowknife Gold Project, Courageous Lake, etc.*
- *A summary of additional information on the identified RDFs including current development, anticipated timelines, key assumptions, etc.*

Proponent Response

The CEA assessed a reasonably foreseeable induced (RFI) scenario, which reflects the degree by which GBRP may facilitate or enable future mineral development activity. That scenario is described in: Volume 10, Section 32 Cumulative Effects Assessment Overview with details in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List (PIL), including Section 9A2.4.2 Operations (Cumulative Effects Case). Rationale for the identification of physical activities is included. Notwithstanding the general mineral potential of the Slave Geological Province within NWT and Nunavut, predictions of specific named future mining activity are subject to substantial uncertainty regarding timing, location and physical details. As such, physical activities identified, including those in NWT, reflect best and latest available information and insight from mining history and future potential.

The mines selected for the RFI scenario, all in Nunavut, represent what WKR views as a reasonable representation of at least initial possible induced such development, largely based on their current recognized potential and degrees of advancement in exploration and regulatory application, and, potential benefit of GBRP providing road based access. As such, at this time, induced mines in NWT were not identified in this scenario. WKR notes that the likely greatest contributor to induced mine development in NWT is the Arctic Economic and Security Corridor (AESC), identified as a Reasonably Foreseeable (RF) physical activity in the PIL, a project for which GNWT is collaborating with the Tłı̨chǫ Government and Yellowknives Dene First Nation to advance for purposes including facilitation of mineral development.

GNWT 4 (IR-375)

Subject

Identification of Potentially Affected Indigenous Groups and Transboundary Engagement Structures

Issue / Concern

The IS refers to "other potentially affected Indigenous groups" but does not clearly define this term or describe how such groups were identified, particularly in the NWT context.

While engagement is described as inclusive and relationship-based, no formal or ongoing engagement structures (e.g., advisory groups, joint forums, or coordination mechanisms) are identified for NWT Indigenous groups. Given the potential for transboundary effects and the participation of NWT Indigenous groups in the assessment process, it is unclear how ongoing, project-specific engagement will be structured and sustained.

Information Request

Provide clarification on the identification and engagement of NWT Indigenous groups, including:

a) ***Definition and Identification***
   - *A clear definition of "other potentially affected Indigenous groups" as used in the IS*
   - *Description of how NWT Indigenous groups were identified or, alternatively, how decisions to not include certain groups were made*

b) ***Consideration of Governance Structures***
   - *How established NWT multi-governmental and co-management forums (e.g., wildlife management boards) were considered in identifying and engaging potentially affected groups*

c) ***Engagement Structures***
   - *Description of any formal or structured engagement forums, advisory bodies, or coordination mechanisms established or planned for NWT Indigenous groups*
   - *If none are in place, rationale for not establishing dedicated transboundary engagement or coordination mechanisms*

d) ***Future Approach***
   - *Planned approach to establish or support formalized engagement structures for NWT Indigenous participation in future project phases, including monitoring, follow-up, and adaptive management*

Proponent Response

a) **Definition and identification**

The Impact Statement defines the relevant terms in Volume 3, Section 6.1.1. The IS distinguishes three categories of engaged parties: "Other Indigenous groups," "transboundary Indigenous groups," and "Other Potentially Affected Communities and Residents" (Volume 3, Section 6.1.1).

"Other Indigenous groups" is defined verbatim as: "Indigenous groups located outside Nunavut who assert section 35 rights of the Constitution Act, 1982 and who have traditional land, marine, and resource use, harvesting areas, and cultural connections that overlap with the western Kitikmeot Region. This also refers to Indigenous groups with the potential to experience transboundary effects as a result of the Project" (Volume 3, Section 6.1.1.2). NIRB IS Guidelines "directs the Proponent to identify and consider potential transboundary impacts," and engagement with transboundary Indigenous groups "was undertaken to identify potential interactions between project activities, resource use, or land-use patterns extending beyond the Nunavut boundary" (Volume 3, Section 6.1.1.2). On this basis, the IS identifies the following groups.

Other Indigenous groups exercising section 35 rights within Nunavut:

- Inuvialuit Regional Corporation
- Tłı̨chǫ Government
- Yellowknives Dene First Nation
- North Slave Métis Alliance
- Northwest Territory Métis Nation
- Athabasca Denesųłiné NeNe Land Corporation
- Ghotelnene K'odtineh Dene
- Transboundary Indigenous groups (including governments and organizations):
- Det'on Cho Management LP
- Denedeh Investment Corporation
- Délı̨nę Got'ine Government
- Gwich'in Tribal Council
- Łutsel K'e Dene First Nation
- Sahtu Secretariat Incorporated
- Tłı̨chǫ Community Services Agency
- Tłı̨chǫ Investment Corporation & Group of Companies
- Wek'èezhìı Renewable Resources Board
- Ya'ti Nene Lands and Resources.

b) Engagement was scoped to "parties with geographic, cultural, harvesting, governance, socio-economic, or jurisdictional connections to the Project area," and Indigenous groups exercising section 35 rights within Nunavut have been included in the assessment of effects on traditional land, marine, and resource use (Volume 9, Section 24) on the basis of their potential to experience "a measurable or meaningful impact from the Project including, potential effects on harvesting, culture, land use, and socio-economic conditions… direct physical connection to the Project footprint or migratory pathways, and historical or ongoing land use in the region" (Volume 3, Section 6.1.1.1).Consideration of governance structures

Established multi-governmental and co-management bodies were engaged as part of engagement for the Project. This included Wek'èezhìı Renewable Resources Board (Volume 3, Section 6.1.1.2), and the Bathurst Caribou Range Plan Working Group (which includes Athabasca Denesųłiné NeNe Land Corporation, North Slave Métis Alliance, Northwest Territory Métis Nation, the Tłı̨chǫ Government, and Yellowknives Dene First Nation) (Volume 9, Section 24; Volume 6, Section 16).

c) **Engagement structures and mechanisms**

The IS describes a relationship-based engagement approach for other and transboundary Indigenous groups. WKR has "undertaken broader outreach outside the Kitikmeot Region, to consider and incorporate non-Kitikmiut perspectives where applicable" including engagement with other Indigenous groups such as the Inuvialuit Regional Corporation, Tłı̨chǫ Government, and Yellowknives Dene First Nation, and transboundary groups such as Sahtu Secretariat Incorporated and Gwich'in Tribal Council (Volume 3, Section 6.1). These groups were engaged primarily through correspondence and meetings with leadership and representatives of these Indigenous groups and organizations.

Records of engagement meetings with the Inuvialuit Regional Corporation, Tłı̨chǫ Government, Yellowknives Dene First Nation, are documented in Volume 3 (Appendix 6C/6E), and feedback from these groups was carried into the TLMRU assessment (Volume 9, Section 24).
See also the response to IR-375 / GNWT-5 for additional detail regarding engagement with NWT Indigenous Groups.

d) **Future approach**

WKR is committed to continued engagement throughout the life of the Project. WKR "commits to continued engagement with Kitikmiut, other Indigenous groups, and other potentially affected communities during the advancement of project design, planning, and monitoring and throughout the life of the Project," and notes that "continued engagement… through the Nunavut Impact Review Board (NIRB) process will also support on-going identification of issues and mitigation measures to address them" (Volume 9, Section 27.1).

WKR notes that cross-jurisdictional engagement structures already exist and have informed the IS: the Bathurst Caribou Range Plan Working Group, which includes the Kitikmeot Regional Wildlife Board, Tłı̨chǫ Government, Yellowknives Dene First Nation, North Slave Métis Alliance, Northwest Territory Métis Nation, and Athabasca Denesųłiné NeNe Land Corporation, and the provided

substantive input on caribou movement, habitat, and harvesting concerns that are reflected in IS Volume 6, Section 16, and IS Volume 9, Section 24. WKR considers this model — a multi-jurisdictional working group organized around shared wildlife management objectives — as a precedent for how formalized NWT Indigenous engagement in future project monitoring, follow-up, and adaptive management phases could be structured.

GNWT 5 (IR-376)

Subject

Transboundary Engagement with NWT Indigenous Groups

Issue / Concern

The IS identifies engagement with NWT Indigenous groups (e.g., Tłı̨chǫ, Gwich'in, Sahtu, North Slave Métis); however, there is limited detail on the scope, frequency, and continuity of engagement activities relative to Kitikmeot communities.

While engagement outcomes are summarized, the IS does not clearly demonstrate how input from NWT Indigenous groups influenced baseline conditions, effects assessment, mitigation, or monitoring. This suggests limited integration of transboundary perspectives.

In addition, while the proponent commits to ongoing engagement, future engagement activities are primarily described for Kitikmeot communities, with no clear commitments for sustained and structured participation of NWT Indigenous groups across project phases.

Information Request

Provide clarification on the scope, outcomes, and future approach to engagement with NWT Indigenous groups, including:

a) ***Engagement Scope and Activities***
- *Detailed record of engagement activities with each NWT Indigenous group (dates, format, participation, topics)*
- *Frequency and duration of engagement, including comparison with Kitikmeot communities*
- *Explanation of how engagement scope was determined for NWT groups*
- *Description of engagement methods used, and rationale for any differences in approach or intensity*

b) ***Integration of Engagement Outcomes***
- *Identification of issues raised by NWT Indigenous groups*
- *Description of how these inputs influenced baseline conditions, effects pathways, mitigation, and monitoring*
- *Examples where NWT input resulted in changes to the Project or assessment*

c) ***Future Engagement and Participation***
- *Description of planned engagement activities with NWT Indigenous groups during construction and operations*
- *Frequency and format of future engagement*
- *Measures to ensure ongoing, structured transboundary participation.*

Proponent Response

a) **Engagement scope and activities**

The Impact Statement documents engagement with NWT Indigenous groups as part of a multi-phase, relationship-based engagement program conducted from 2016 to 2025 (Volume 3, Section 6.3). WKR *undertook broader outreach outside the Kitikmeot Region, to consider and incorporate non-Kitikmiut perspectives where applicable,*" including engagement with other Indigenous groups such as the Inuvialuit Regional Corporation; Tłı̨chǫ Government; and Yellowknives Dene First Nation (Volume 3, Section 6.1.1.2).

Records of engagement meetings are documented in Volume 3 (Appendix 6C/6E), where the previous Project proponents provided Project overview presentations and received feedback (Volume 3, Section 6.3; Appendix 6E). More recent notification and engagement (conducted by WKR in 2024–2025) with NWT Indigenous groups, including the Inuvialuit Regional Corporation; Tłı̨chǫ Government; Yellowknives Dene First Nation; North Slave Métis Alliance; Northwest Territory Métis Nation; Athabasca Denesųłiné NeNe Land Corporation; and Ghotelnene K'odtineh Dene, is also recorded (Appendix 6C).

On the determination of engagement scope, engagement "*focused on parties with geographic, cultural, harvesting, governance, socio-economic, or jurisdictional connections to the Project area,*" and was structured to be "*inclusive, and relationship-based to provide those with interest, knowledge, or questions the opportunity to be informed about the Project and provide their feedback*" (Volume 3, Section 6.1.1.1).

Consistent with NuPPAA and the NIRB Proponent's Guide, engagement "*prioritizes the five Kitikmeot communities,*" reflecting the Project's location in Nunavut and Kitikmiut as the primary users of the project area, with broader outreach to NWT and other groups where applicable (Volume 3, Section 6.1).

b) **Integration of engagement outcomes**

The IS records issues raised by NWT Indigenous groups and traces how they were carried into the assessment. Documented concerns include: the Tłı̨chǫ Government's concerns regarding Project effects on the Bathurst caribou calving grounds and increased harvesting, and interest in business opportunities tied to the Tłı̨chǫ Investment Corporation; Yellowknives Dene First Nation's concerns regarding increased access and the importance of caribou and fish; and North Slave Métis Alliance's concerns regarding caribou habitat (Volume 3, Section 6.3).

These inputs were integrated into the relevant Valued Component assessments and the influence of engagement is described in the Scope of Assessment VC components. As noted in Volume 3, Section 5.4, Inuit, Indigenous, and Community Knowledge, alongside western science, were identified as the key sources of understanding to be used together in evaluating the Project’s potential effects. Perspectives and values shared were carried through the IS.

More detail specific to each VC can be found within Volumes 5 to 9, Sections X.1.1 (Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment) and Volume 6, Section 15.2.2.1 (Inuit, Indigenous, and Community Knowledge and Engagement Feedback)

c) **Future engagement and participation**

As noted in response to GNWT 4 (IR-375), WKR "*commits to continued engagement with Kitikmiut, other Indigenous groups, and other potentially affected communities during the advancement of project design, planning, and monitoring, throughout the life of the Project,*" and identifies that continued engagement through the NIRB process "*will also support on-going identification of issues and mitigation measures to address them*" (Volume 3, Section 6.1; Volume 9, Section 27.1).

GNWT 6 (IR-377)

Subject

Transboundary Monitoring, Roles, and Adaptive Management

Issue / Concern

The IS outlines monitoring and adaptive management approaches informed by engagement and Inuit Knowledge; however, there is limited clarity on how transboundary considerations are incorporated. While the Proponent commits to monitoring and providing rationale where follow-up is not proposed for a VC, the monitoring framework does not identify:

- *Processes for notifying NWT Indigenous groups when monitoring identifies effects on transboundary resources; and*
- *The roles of GNWT agencies and NWT Indigenous groups in monitoring, threshold development, and adaptive management.*

Given that shared resources (e.g., TCWR, transboundary water systems, and wildlife) fall within NWT jurisdictional interests, monitoring outcomes and associated management responses in Nunavut may have implications for the NWT. The absence of defined coordination and notification mechanisms limits clarity on how transboundary effects will be managed across jurisdictions.

Information Request

Provide clarification on transboundary monitoring and adaptive management, including:

a) ***Notification and Coordination***
   - *Processes for notifying NWT Indigenous groups when monitoring identifies unanticipated effects on transboundary resources*
   - *Mechanisms for coordination between jurisdictions when monitoring results trigger adaptive management actions*

b) ***Roles and Participation***
   - *Description of proposed roles for GNWT agencies and NWT Indigenous groups in monitoring, follow-up, and adaptive management programs*

c) ***Indicators and Thresholds***
   - *Identification of transboundary indicators and thresholds relevant to NWT interests.*

d) ***Adaptive Management Integration***
   - *Description of how monitoring results will inform adaptive management across jurisdictions, including how decisions will be coordinated where transboundary resources are affected.*

Proponent Response

The Impact Statement includes the monitoring and adaptive management framework in Volume 4, Section 9.5 and Volume 11, Section 37. Monitoring and adaptive management "form part of WKR's commitments to verify the accuracy of effects predictions and effectiveness of mitigation measures," and monitoring "may also identify any unanticipated effects that can inform adaptive management measures" (Volume 4, Section 9.5, Page 9-18).

Within the Volume 11 Environmental Management System, "where monitoring is proposed, indicators will be selected to evaluate mitigation effectiveness and/or identify unanticipated effects to inform adaptive management," and "where necessary, proposed criteria or thresholds will be identified to trigger additional mitigation if monitoring results warrant, identify next steps, and monitor the effectiveness of mitigation and management responses" (Volume 11, Section 37.1.4). The IS also identifies that "potential follow-up measures will be identified that are aligned with applicable regional efforts to adaptively manage cumulative effects" (Volume 11, Section 37.1.4). As part of each monitoring plan, a list of regulatory agencies and others (including Inuit, Indigenous groups and local communities) that may need to be notified on results of monitoring, adaptive measures or changes in the plan will be developed. This includes any parties that need to be notified based on VCs with potential transboundary effects or monitoring and management. The specific monitoring, roles, and adaptive management approaches, will be defined through continued engagement and finalization of the Environmental Management System.

WKR is committed to updating monitoring plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and after the final hearing is completed.

GNWT 7 (IR-378)

Subject

Transboundary VC Identification, Spatial Boundaries, and Assessment

Issue / Concern

The IS defines spatial boundaries (PDA, LAA, RAA) based on zones of influence and engagement, with emphasis on Inuit Knowledge; however, the extent to which NWT land use, harvesting areas, and ecological ranges were considered in delineating VC-specific RAAs is not clearly described.

The IS also indicates that relatively few VCs are expected to have transboundary effects based on the Project's location within Nunavut; however, the criteria used to identify VCs with transboundary potential are not clearly defined.

While transboundary effects are assessed for select VCs (e.g., caribou, marine mammals, socio-economic factors), the basis for their inclusion and the extent to which NWT-specific receptors, datasets, and conditions were incorporated, it was not consistently described.

Collectively, this limits transparency in how transboundary considerations informed VC identification, spatial boundaries, and the application of the transboundary effects assessment.

Information Request

Provide clarification on the identification, scoping, and assessment of transboundary VCs, including:

a) ***VC Identification***
   - *Criteria used to identify VCs with potential transboundary effects*
   - *List of VCs assessed as having transboundary relevance*
   - *Explanation of how shared resources (e.g., caribou, migratory species, water systems, marine systems) were considered in determining inclusion or exclusion*

b) ***Spatial Boundaries (RAAs)***
   - *Description of how NWT land use, harvesting areas, and ecological ranges were considered in defining VC-specific RAAs*
   - *Identification of VCs where RAAs do not extend into NWT despite transboundary characteristics*
   - *Rationale for boundary delineations where NWT areas were not included.*

c) ***Application of Transboundary Assessment***
   - *Description of how transboundary effects were assessed for each VC*
   - *Explanation of how NWT-specific receptors, datasets, and conditions were incorporated*
   - *Confirmation of consistency in approach across VCs or rationale for differences.*

Proponent Response

a) **VC identification — criteria and list**

The criteria for identifying VCs for consideration of potential transboundary effects are provided in attached Appendix B, Transboundary Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package.

Volume 10, Section 33.3.1 of the IS identifies the following VCs as having the potential to experience transboundary effects: biophysical VCs — Air Quality, Noise and Vibration, Caribou, Birds, Other Terrestrial Wildlife, and Marine Mammals; and human VCs — Traditional Land, Marine, and Resource Use (TLMRU), Food Security and Food Sovereignty, Community Health and Well-being, Employment and Economy, and Infrastructure and Services (Volume 10, Sections 33.3.1, 33.4, 33.5). A justification for those VCs not selected as having potential to experience transboundary effects is presented in Volume 10, Section 33.3.1.

VCs selected as having the potential to experience transboundary effects are primarily those that represent “shared resources” with the NWT. For example, the IS considers the "large migration range" of the Bathurst Caribou Herd, whose range extends into the NWT (Volume 6, Section 16.6; Volume 10, Section 33.4.3). For marine mammals, the IS identifies that "many marine mammal species are transboundary in the Canadian Arctic, especially cetacean species (e.g., bowhead, narwhal, and beluga)," and that marine vessels "would cross other jurisdictions to transit to and from the Port," creating potential for transboundary effects related to sensory disturbance and mortality/injury risk (Volume 10, Section 33.4.9).

b) **Spatial boundaries (RAAs)**

Section 9.2.4.1 of the IS outlines that a Regional Assessment Area (RAA) establishes, for each VC, the context (environmental setting) for evaluating the Project-related effects and is the area in which cumulative effects of the Project’s interactions with other past, present and reasonably foreseeable future activities are assessed. The RAAs are used to represent the distance from the project at which cumulative effects may occur, can be described, are measurable, or can at least be explained and assessed. The extent to which NWT land use, harvesting areas and ecological ranges were incorporated is a function of whether a given VC's RAA extends into the NWT. It is important to note the spatial definition of an RAA for a VC does not preclude consideration of transboundary effects to that VC beyond the boundaries of the RAA, please see Addendum Appendix B.

c) **Application of the transboundary assessment**

Please see Addendum Appendix B.

GNWT 8 (IR-379)

Subject

Baseline Inputs and Significance Thresholds - NWT Consideration

Issue / Concern

The IS indicates that baseline conditions and effects assessment are informed by available datasets, Inuit Knowledge, and professional judgment; however, the extent to which data and knowledge from NWT sources (e.g., GNWT datasets, co-management boards, Indigenous Knowledge) were incorporated for each VC is not clearly described.

Similarly, while significance thresholds are based on regulatory requirements, engagement, and professional judgment, it is unclear how NWT regulatory standards, management objectives, or Indigenous-defined thresholds were considered in defining these criteria.

Collectively, this limits transparency regarding how NWT inputs informed both the characterization of baseline conditions and the determination of significance across VCs.

Information Request

Provide clarification on the incorporation of NWT inputs in baseline development and significance determination, including:

a) ***Baseline Data Inputs***
   - *Identification of baseline data sources from NWT (including GNWT datasets, co-management boards, and Indigenous Knowledge) for each VC*
   - *Identification of VCs where no NWT baseline data were incorporated*
   - *Explanation of data availability or methodological considerations influencing inclusion or exclusion*

b) ***Significance Thresholds***
   - *Description of how NWT regulatory standards, management objectives, or Indigenous-defined thresholds were considered in defining significance criteria*
   - *Identification of VCs where thresholds are based solely on Nunavut-specific or Inuit-derived criteria*
   - *Rationale for selecting thresholds where multiple jurisdictional standards exist.*

Proponent Response

a) **Baseline data inputs — including NWT sources**

Baseline conditions were developed by combining Inuit, Indigenous, and Community Knowledge with western scientific data and secondary sources, integrated on a VC-by-VC basis. Baseline information reflects "both Inuit, Indigenous, and Community Knowledge, and measured scientific data," with a summary of feedback and its integration included "in each VC baseline conditions section" (Volume 3, Section 4/6).

NWT-source data were incorporated where relevant to the VC, and each VC assessment contains a “Knowledge and Literature Cited” section which lists all reference material used including any NWT sources. For example, for caribou, regional-level studies were drawn from "government agencies including the GN-DOE and the Government of Northwest Territories Environment and Climate Change (GNWT-ECC; formerly GNWT-ENR), and by co-management or research bodies including the Wek'èezhìı Renewable Resources Board (WRRB) and the West Kitikmeot/Slave Study (WKSS) Society"; land use and management plans "including… the Bathurst Caribou Range Plan (Government of Northwest Territories 2019), and the Bathurst Caribou Management Plan (Bathurst Caribou Advisory Committee 2021)"; and "satellite and global positioning system (GPS) collar data for Bathurst, Bluenose-East, and Beverly/Ahiak caribou were provided by GNWT-ECC for the years 1996–2024" (Volume 6, Appendix 16A). Species status information also draws on the NT Species at Risk Committee (SARC) and COSEWIC (Volume 6, Appendix 16A; Section 16.1.2).

NWT socio-economic source data were obtained via publically available data sources (e.g. Statistics Canada, literature) and by a series of interviews with agencies, organizations and stakeholders in Yellowknife (Volume 9, Appendix 25A).

As appropriate, each VC assessment provides a discussion of the data incorporated in the baseline and how it was used, under the “Baseline Conditions” sections. Any considerations related to data availability or applicability are also discussed. Each VC assessment further includes a section entitled “Prediction Confidence and Uncertainty”. As appropriate, this section describes any assumptions and uncertainties related to data use and how these may have affected confidence in the assessment conclusions.

b) **Significance thresholds**

The Project is located entirely within Nunavut, with effects that are anticipated to be experienced most directly within the territory and by Nunavummiut more generally. As the NIRB is the lead assessing agency on this Project, WKR also followed the direction provided by NIRB on this topic provided in the IS Guidelines. With this in mind, the significance definitions for the VCs focused firstly on available Nunavut thresholds and standards. The extent to which NWT-specific data and thresholds were applicable varies by VC according to the geographic extent of each VC and its zone of influence; for VCs whose baseline and effects are confined to the Nunavut Settlement Area, NWT-specific datasets and thresholds were correspondingly less applicable.

The approach used to develop significance thresholds is documented in Volume 4, Section 9.4.1.4. The thresholds "are defined in consideration of territorial and federal regulatory requirements, standards, objectives, and/or guidelines where applicable" — territorial encompassing both Nunavut and, where applicable, NWT standards — and "where thresholds are not set by regulatory requirements, thresholds may be based on engagement and/or professional judgement" (Volume 4, Section 9.4.1.4, Page 9-13). Each VC contains a section entitled "Significance Definition" (generally Section X.1.6), which explains the basis for the significance definition for that VC.

For example, the significance threshold used in the assessment of potential effects on caribou was determined using a combination of conservation-based thresholds and IAG feedback (Volume 6, Section 16.1.6.1 and Section 16.1.7). The caribou assessment illustrates the incorporation of the NWT regulatory and management context into the significance framing.

GNWT 9 (IR-380)

Subject

Transboundary Effects on TCWR - Air Quality, Climate Risk, and Infrastructure

Issue / Concern

The IS identifies the Tibbitt–Contwoyto Winter Road (TCWR) as a key construction supply route, including connections from Jericho Station to Contwoyto Lake and into the NWT. While the Project has the potential to result in transboundary effects through increased transportation activity, the assessment is limited in its consideration of effects within the NWT.

Specifically:

- *The air quality Local and Regional Assessment Areas (LAA/RAA) are defined as a 5 km buffer around the PDA and do not extend into the NWT, and no assessment is provided of emissions or dust along NWT portions of the TCWR;*
- *Climate projections for the Jericho–Lupin region inform risks to winter road operability (e.g., permafrost thaw, aufeis), yet no assessment is provided of how these risks may affect shared infrastructure that depend on the TCWR; and*
- *Project-related trucking is identified as a transboundary activity, but effects on the structural integrity and capacity of the TCWR and related NWT infrastructure are not assessed.*

Collectively, this limits the assessment of transboundary effects on a shared infrastructure corridor.

Information Request

Provide clarification and additional analysis of transboundary effects on the TCWR corridor, including:

a) ***Air Quality Effects***
   - *Whether air quality effects (including vehicle emissions and dust) are predicted at the southern terminus of the winter road and along NWT portions of the TCWR;*
   - *Rationale for defining the air quality RAA as a 5 km buffer around the PDA, and how this boundary captures potential transboundary effects.*

b) ***Climate Risk and Infrastructure:***
   - *Basis for limiting the climate risk assessment to the Nunavut PDA, given reliance on Jericho–Lupin projections to characterize risks to winter road operability;*
   - *Description of how climate-related risks (e.g., permafrost degradation, reduced operability) may affect NWT portions of the TCWR and dependent infrastructure or users*

c) ***Transportation and Infrastructure Effects***

- *Description of materials to be transported, approximate truckload weights, and expected frequency of trucking along the TCWR;*
- *Assessment of potential effects on the structural stability and capacity of the TCWR and connected NWT infrastructure;*
- *Proposed mitigation measures to address potential infrastructure-related impacts.*

Proponent Response

a) **Air quality effects along the TCWR**

While the air quality Local and Regional Assessment Areas were defined as a 5 km buffer around the PDA, the potential for transboundary air emissions from Project traffic crossing the NU/NT border is addressed in the transboundary effects assessment (Volume 10, Section 33.4.1). As stated in the Appendix B, Transboundary Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package, the Impact Statement (IS) does not define an 'assessment area' for transboundary effects. Local and Regional Assessment Areas (LAA/RAA) are defined to identify the likely extent of Project residual and cumulative effects. Transboundary effects, by definition, cross boundaries and therefore drawing a line on a map to define an area within which to assess transboundary effects is not practical. As such, it is important to understand that the LAA/RAA's identified for each VC do not constrain the discussion of transboundary effects to those aforementioned areas.

The 5 km LAA for air quality was established to comply with regulatory requirements and to capture air quality effects of the specific components being assessed. The RAA is the same size as the LAA because the cumulative air quality effects attributable to other projects were expected to be negligible beyond the LAA due to natural atmospheric attenuation (e.g., natural dilution due to atmospheric mixing) of the project's ACPI emissions.

Additionally, as described in Volume 5, Section 11.3.2.1, a model domain (the Northern Domain) was selected as a 30 km by 30 km area centered on the Grays Bay Port and encompasses Grays Bay Port, the aerodrome and approximately 15 km segment of the Grays Bay Road connected to the Port. The Jericho Station emissions during construction are less than half of the construction emissions from the Port, and the emissions from the Southern segment of Grays Bay Road are approximately the same as the emissions from the Northern segment of the road. The air quality effects (and model-predicted concentrations) from the Southern Domain will be less than the Northern Domain (the 30 km by 30 km area) and subsequently, the Southern Domain was not modelled. The extent of the model domain is sufficient to capture the overall predicted maximum concentrations of ACPI for the worst-case construction and operations and maintenance emission scenarios. The model predictions for the Northern Domain provide a conservative estimate of the potential air quality effects for the entire Project.

For effects extending toward and across the NU/NT border along the TCWR, the transboundary assessment concludes the addition of project-related vehicles is limited and transboundary effects from Project vehicles are considered negligible given the current traffic volumes on the TCWR and the ISR highways. WKR will implement mitigation and management measures identified in Section 11.3.2.3 to reduce the potential for adverse residual transboundary effects.

b) **Climate risk and infrastructure**

The scope of the Climate Change Risk Assessment (CCRA) was the Project's own assets, assessing climate hazard–asset interactions for the all-season road, Jericho Station, port, and aerodrome. The CCRA's scope included the Project's approximately 3 km winter road connecting Jericho Station and the northern terminus of the TCWR (Volume 2, Section 2.6.1 and Section 2.6.1.3), for which the Jericho-Lupin climate data informed the climate risk assessment. The CCRA's scope did not include the existing TCWR itself, which is a separately licensed and operated facility by the Joint Venture Management Committee (JVMC) consisting of the Ekati and Diavik diamond mines. The annual construction of the TCWR from Contwoyto Lake to the NU/NWT border is not a component of the Project, as the NIRB has previously screened these works and activities (Volume 2, Section 2).

c) **Transportation and Infrastructure Effects**

Overland access from the south during Construction, for both construction personnel and resupply, will be via the TCWR during the winter months, connecting to Jericho Station by way of the Grays Bay Winter Road, constructed annually from Jericho Station to the northern terminus of the TCWR at the shoreline of Contwoyto Lake (Volume 2, Section 2.6.2).

Truck traffic via the TCWR will carry construction materials, fuel, and equipment to Jericho Station (Volume 9, Section 28.3.5). The winter road connection will be used for initial construction equipment mobilization and resupply for construction equipment, materials, and fuel annually until construction is completed, and culverts and bridge components will be pre-fabricated as much as possible and brought to locations as part of annual staging activities using the TCWR or by sealift (Volume 2, Section 2.6.2). Volume 2, Table 2.16 identifies up to 1000 truckloads (e.g., materials and equipment) and Mix-use Vehicles per year via the TCWR during Construction, reducing to 28 per year during Operations and Maintenance (Volume 2, Table 2.22). As the figure of up to 1,000 truckloads remains the annual bound for each Construction year, annual volumes are anticipated to be lower in subsequent Construction years. Traffic is confined to the TCWR operating season, which typically begins in December/January and operates until the end of March or beginning of April, based on winter road ice conditions (Volume 2, Table 2.16, Note 2).

Project traffic on the TCWR represents approximately 15% of annual traffic on the TCWR during Construction and approximately 0.4%, during Operations and Maintenance, and in both phases is within the total number of trucks that the TCWR is approved to transport (Volume 9, Section 28.3.5). Historical winter road statistics indicate an average of 6,605 northbound truckloads and 549 southbound backhauls used the TCWR from 2002 to 2012; the TCWR is approved to transport 12,000 trucks annually (Volume 9, Section 28.2.2.3). Adverse cumulative effects on the TCWR are

anticipated to be moderate in magnitude as cumulative demand may approach, but is not expected to exceed, capacity of the TCWR (Volume 9, Section 28.4.6).

The TCWR is operated by the JVMC rather than as part of the public highway system; access is restricted to drivers who have completed the JVMC safety orientation, the road is patrolled 24 hours a day during operations, and use is governed by speed limits and vehicle spacing requirements (Volume 9, Section 28.2.2.3). Mitigation identified in Volume 9, Section 28.3.5.2 includes scheduling construction activities to reduce disruption to public and commercial vehicle access on winter roads where practical; efficient project planning to reduce haul distances and trip numbers; posted speed limits; and working with local and territorial governments and regional businesses to reduce interference on the TCWR and, if possible, coordinate joint supply efforts. Emissions mitigation is set out in (a).

GNWT 10 (IR-381)

Subject

Dust Effects on Vegetation and Monitoring (Anticipated indirect effects on vegetation)

Issue / Concern

The IS identifies indirect effects of dust deposition on vegetation and vegetation communities as being limited to 40 m from the Project Development Area (PDA); however, available literature indicates that effects on vegetation structure and composition may extend beyond this distance. While mitigation measures include implementation of a dust control program, no monitoring program is identified to verify the extent of effects.

Information Request

Provide clarification on dust-related effects to vegetation, including:

a) ***Effects Characterization***

- *Rationale and supporting evidence for limiting dust-related effects on vegetation and vegetation communities to 40 m from the PDA*

b) ***Monitoring***

Whether a dust and vegetation monitoring program will be implemented to capture direct and indirect effects, including spatial extent, and if so, a description of the program.

Proponent Response

Please refer to KAA-17 (IR-17) for the rationale and supporting evidence for limiting dust-related effects on vegetation and vegetation communities to 40 m from the PDA.The Air Quality Monitoring and Management Plan includes the monitoring and management of dust from construction and operations and maintenance of the Project. Monitoring of vegetation is currently not proposed, as dust is anticipated to be managed appropriately prior to resulting in effects to the vegetation.

GNWT 11 (IR-382)

Subject

Caribou Habitat Disturbance and Movement - Effects Characterization and Methodology

Issue / Concern

The IS presents multiple indicators of Project-related disturbance to caribou habitat (BCH-RAA1), including range disturbance and changes in seasonal habitat, which appear inconsistent in magnitude (e.g., 1,804.2 km² vs. 55.2 km²). The IS also concludes that a substantial increase in range disturbance (59%) does not increase risk to caribou or habitat, without sufficient explanation.

In addition, the IS provides estimates of increased annual exposure to human disturbance for Bathurst and Dolphin and Union herds (BCH and DUH) under both project-specific and cumulative effects scenarios; however, the methodology used to derive these values is not described.

Information Request

Provide clarification and supporting details regarding caribou habitat disturbance and movement effects, including:

a) ***Habitat Disturbance Metrics***

- *Clarification of the discrepancy between reported disturbance values (e.g., 1,804.2 km² vs. 55.2 km²), including definitions, methods, and spatial scope used*

b) ***Effects Interpretation***

- *Rationale for concluding that a 59% increase in range disturbance does not increase risk to caribou and caribou habitat*

c) ***Movement and Disturbance Exposure***

Detailed description of the methodology used to calculate the net increase in annual exposure to human disturbance for BCH and DUH under both project-specific and cumulative effects scenarios, including assumptions, inputs, and analytical approach.

Proponent Response

a) **Habitat Disturbance Metrics**

The two indicators mentioned in the Information Request—change in range disturbance and change in seasonal habitat—measure two different things. The estimated values correspond to different potential effects, using different metrics, methods, and spatial scope.

Change in Range Disturbance (1,804.2 km²): "*Range disturbance is the result of cumulative land disturbances that produce direct (land clearing) and indirect (zone of influence [ZOI]) effects that influence landscape resiliency. This assessment follows the cumulative land disturbance framework from the Bathurst Caribou Range Plan to quantify range disturbance" (Volume 6, Section 16.4.1).* The Project *"is expected to increase range disturbance in BCH-RAA1 by 1,804.2 square kilometres (km²) to an overall disturbance level of 4,863.6 km² (a 59% increase), a total of 6.3% disturbance within the range (77,400 km²)"* (Volume 6, Section 16.4.1). This metric measures landscape-scale disturbance (surface disturbance plus ZOI buffers) across the entire BCH-RAA1.

Change in Habitat (55.2 km²). This is a separate effect that is quantified using a different method: "*This assessment uses resource selection functions (RSFs) to quantify changes in 'selected' (preferred) habitat due to the Project during different seasons*". On this basis, "*the Project directly and indirectly affects up to 55.2 km² (or 0.8%) of seasonal selected habitat within BCH-RAA1*" (Volume 6, Section 16.4.2). This metric measures the effect on modelled *selected seasonal habitat*, not landscape-scale range disturbance.

In summary, 1,804.2 km² is the Project-related increment in *range disturbance*, following the *Bathurst Caribou Range Plan* cumulative land disturbance framework (see Volume 6, Section 16.4.1), whereas 55.2 km² is the Project-related effect on *selected seasonal habitat* using outputs from resource selection functions (see Volume 6, Section 16.4.2).

b) **Interpreting Range Disturbance Effects**

The Impact Statement (IS) provides a risk conclusion based on exceedances in the *Bathurst Caribou Range Plan* cumulative land disturbance framework (CLDF) disturbance tiers, not on the percentage increase in range disturbance. For range conditions to remain “desirable” for the Bathurst Caribou Herd (BCH), total landscape disturbance must be <6,000 km² (Table 16.5, Volume 6, Section 16.1.6.1). Although the Project produces a 59% increase relative to the existing (low) disturbance level, “*the overall level of disturbance (4,863.6 km; see Table 16.11) does not increase the CLDF disturbance tier (see Table 16.5). According to the Bathurst Caribou Range Plan CLDF, the Project does not increase the risk to caribou and caribou habitat and retains landscape disturbance within a desirable range*” (Volume 6, Section 16.4.1.4). Therefore, the IS characterizes the change as "low in magnitude" occurring across the BCH-RAA1 (Volume 6, Section 16.4.1).

By contrast, the IS applies the same framework to show where the risk to caribou does increase. Under reasonably foreseeable induced (RFI) conditions, total landscape disturbance reaches 8,818.6 km² (11.4%), which "*shifts landscape disturbance levels to a cautionary range (6,000 km² to 12,000 km²)*", and cumulative range-disturbance effects are correspondingly characterized as "moderate in magnitude" (Volume 6, Section 16.5.2). This demonstrates that the risk determination tracks the framework's disturbance tiers rather than the relative percentage change.

c) **Change in Movement – Annual Exposure Methodology**

The assumptions, inputs, and analytical approach for calculating annual exposure of the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH) to human disturbance is detailed in Volume 6, Section 16.4.3.1:

> "*The first metric is the annual exposure rate of caribou to disturbances that may alter their movements, calculated as the average number of days in a year that a caribou would interact with disturbances and related ZOIs. Caribou exposure rates under baseline conditions (see Section 16.2.2.6) versus Project conditions, and the difference is calculated to determine the net increase in exposure due to the Project. The average annual exposure rate of the BCH and DUH contextualizes how often local caribou movements may be altered. Higher exposure rates are expected to increase the likelihood of effects on caribou movement. Calculation of exposure rates use the period between consecutive GPS locations (i.e., fix rates) as an indicator of maximum exposure time. For example, if a caribou location occurs within the Project's ZOI buffer, and 4 hours later, the next location occurs outside the buffer. In that case, it is assumed that the caribou was exposed to the Project ZOI up to 4 hours. The fix rate between consecutive GPS locations ranges from 1 hour to 24 hours, depending on the individual, season, and year; the average fix rate is 9.8 ± 0.1 hours. Therefore, estimated exposure rates are likely more accurate for individuals with frequent fixes (e.g., 1-hour intervals) and overestimated for individuals with infrequent fixes (e.g., 24-hour intervals). Exposure rates are calculated for the Project with the implementation of mitigation, management, and enhancement measures. With mitigation, management, and enhancement measures, such as the caribou TARP, which includes adaptive road closures and traffic management (e.g., convoying) (see Section 16.4.3.3), the ZOI of the Project Road is expected to be 1 km (see ERM Consultants Canada Ltd. 2025a). Since activities will occur continuously and year-round at the Project Port, its ZOI is expected to be 4 km (see ERM Consultants Canada Ltd. 2025a)*." (Volume 6, Section 16.4.3.1, pages 16-100 to 16-101)

Exposure rates under different conditions (baseline, Project, and Reasonably Foreseeable Induced [RFI]) are provided as averages based on all collared caribou. For example, "*The average annual exposure rate of BCH caribou to disturbances (footprints plus ZOIs) is 3.2 ± 0.2 days under baseline conditions and is projected to be 4.7 ± 0.3 days under Project conditions*" (Volume 6, Section 16.4.3.4, page 16-105). The net increase in exposure from the Project relative to baseline conditions is calculated as the difference in exposure with and without the Project. The net, cumulative increase in exposure from the Project and RFI physical activities relative to baseline conditions is calculated as the difference in exposure with and without the Project and RFI physical activities.

The resulting net annual exposure estimates are:

- **Project:** BCH — 1.5-day net increase; DUH — 4.2-day net increase (Volume 6, Section 16.4.3).
- **Project + RFI (cumulative):** BCH — 4.3-day net increase; DUH — 7.3-day net increase (Volume 6, Section 16.5.4).

GNWT 12 (IR-383)

Subject

Caribou Mitigation Thresholds, Buffers, and Monitoring

Issue / Concern

The Wildlife Management and Monitoring Plan (WMMP) defines multiple thresholds and measures for caribou protection, including site alerts (Level 3), temporary shutdowns (Level 4), blasting restrictions, and zone of influence (ZOI) buffers. However, key thresholds (e.g., "within sight" distances for Level 3 and 4 triggers) are not clearly defined. In addition, proposed thresholds for blasting and disturbance (e.g., 500 m exclusion zone and ≥25 caribou group size) differ from commonly applied mitigation measures in the NWT.

The IS also applies ZOI buffers that may not reflect the full range of values reported in recent literature or established planning tools (e.g., Bathurst Caribou Range Plan). There is limited information on how these thresholds were selected or how their effectiveness will be evaluated through monitoring.

The assessment applies the Bathurst Caribou Range Plan threshold and considers cumulative disturbance; however, application of GNWT co-management frameworks, consideration of multiple transboundary herds, and integration of NWT management context are not fully described.

Information Request

Provide clarification and justification for caribou mitigation thresholds and monitoring approaches, including:

a) ***Assessment Framework and Herd Consideration***

- *Description of how GNWT co-management frameworks and thresholds were incorporated into the caribou assessment*
- *Identification of all caribou herds considered and their relevance to the Project*
- *Explanation of how cumulative disturbance to caribou habitat across jurisdictions was evaluated, with a focus on habitat quantity, quality, and connectivity.*

b) ***Site Alert and Shutdown Thresholds***

- *Definition of "within sight," including distances from the road or infrastructure used to trigger Level 3 (site alerts) and Level 4 (temporary shutdowns)*

c) ***Blasting Mitigation***

- *Rationale for proposed blasting thresholds (e.g., 500 m exclusion zone and ≥25 caribou)*
- *Consideration of established practices in the NWT (e.g., ≥1 km exclusion zone and ≥50 caribou within 5 km), or justification for deviation*

d) ***Zone of Influence (ZOI)***

- *Rationale for selected ZOI buffers used in the assessment, including consideration of Bathurst Caribou Range Plan guidance and updated literature*
- *Whether application of a 5 km ZOI buffer for roads and ports was considered in the assessment of indirect effects*

e) ***Monitoring and Validation***

- *Description of monitoring approaches (e.g., GPS collar data, on-the-ground monitoring) to assess caribou response to project infrastructure and mitigation measures*
- *How monitoring results will be used to evaluate and adapt mitigation measures, including effectiveness of road closures and ZOI assumptions.*

Proponent Response

a) **Assessment Framework and Herd Consideration**

The caribou assessment considers two representative herds: mainland caribou represented by the Bathurst Caribou Herd (BCH), assessed within BCH-RAA1, and island caribou represented by the Dolphin and Union Herd (DUH), assessed within the DUH-RAA (Volume 6, Section 16.1.4).
The range disturbance assessment applies the Cumulative Land Disturbance Framework (CLDF) from GNWT's *Bathurst Caribou Range Plan* (GNWT 2019): "*the focus of this evaluation is the BCH and how cumulative land disturbances in the BCH-RAA1 align with the Bathurst Caribou Range Plan objectives (GNWT 2019). The DUH is not considered because the herd does not have formal range planning or associated land disturbances thresholds for comparison*" (Volume 6, Section 16.4.1).
The transboundary co-management context, including the *Bathurst Caribou Range Plan* and the co-management system spanning the BCH annual range, is described in Volume 6, Section 16.6.4 and Volume 10, Section 33.4.3.

Cumulative land disturbance is calculated from human and wildfire (1965 to 2024) sources.
Human sources include the direct footprints and indirect (Zone of Influence) buffers of the Project and past/present human activities. Scenarios with and without the Project are compared against the *Bathurst Caribou Range Plan* thresholds (Volume 6, Section 16.4.1), which implicitly incorporate the concepts of habitat quantity, quality, and connectivity to "*…ensure the Bathurst caribou herd annual range is in a resilient landscape condition"* (GNWT 2019).

b) **Site Alert and Shutdown Thresholds**

The WMMP establishes a tiered human activity management structure informed by two monitoring streams. GPS collar data are used to anticipate caribou "*approaching or near Project infrastructure… but beyond the line of sight of the PDA*," triggering Level 2 (site notification) measures. Observations by Environmental Monitors of caribou proximity and behaviour "*within the line of sight of the PDA… would initiate Level 3 (site alert) or Level 4 (temporary shutdown of infrastructure) human activity management measures*" (Volume 11, Appendix 37B, Section 8.3.3).

The Impact Statement does not currently define a specific numeric distance for the "within/line of sight" trigger for Level 3 and Level 4. The WMMP states that "*specific caribou-related triggers will be included in the Final WMMP and will be determined in consultation with the Kitikmeot Inuit Association, the GN, and the GNWT*" (Volume 11, Appendix 37B, Section 8.3.3).

c) **Blasting Mitigation**

The WMMP applies the following blasting threshold:

"*Blasting at quarries will be temporarily suspended if wildlife are identified within 0.5 km of the blast site, or if a group of caribou (i.e., ≥25 individuals) are identified within the line of sight (i.e., >500 m) from the blast area. Blasting may continue once all wildlife move outside of the 0.5 km exclusion zone, and no caribou groups (i.e., ≥25 individuals) occur within the line of sight from the blast area*" (Volume 1, Appendix B, Measure 168). A wildlife sweep of the blast site and surrounding area will be completed prior to any blasting (Volume 1, Appendix B, Measure 167).

WKR is open to considering alternative blasting thresholds for the finalized Wildlife Mitigation and Monitoring Plan (WMMP) through consultation with the identified co-management parties and on the regulatory processes that follow the NIRB review.

d) **Zone of Influence (ZOI)**

The Impact Statement (IS) applies different ZOI values for distinct purposes:

- **4 km** — the maximum predicted extent of direct and indirect effects without mitigation, defining the caribou LAA (1,381 km²): "the maximum predicted extent of direct and indirect effects occurs within a 4-km buffer of the PDA. This 4-km Project ZOI (which assumes no application of mitigation…) is consistent with the ZOIs for all-season access roads and ports identified in ERM Consultants Canada Ltd. (2025a) and other studies (Weir et al. 2007; Polfus et al. 2011; GNWT 2018; Prichard et al. 2020, 2022; Boulanger et al. 2021)" (Volume 6, Section 16.1.4.1, document page 16-16).
- **5 km** — the ZOI buffer applied around the Project for assessing range disturbance, "to be consistent with the buffers… from the Bathurst Caribou Range Plan… used specifically for comparison to the plan's range disturbance thresholds" (Volume 6, Section 16.4.1.1, document page 16-86).
- **1 km** — the Project Road ZOI expected with mitigation: "with mitigation, management, and enhancement measures, such as the caribou TARP, which includes adaptive road closures and traffic management… the ZOI of the Project Road is expected to be 1 km (see ERM 2025a, which recommended a 1-km ZOI for all-season roads where traffic is managed or the road is closed when caribou are present)" (Volume 6, Section 16.4.2.1, document page 16-89).

The IS also clarifies that "*Since activities will occur continuously and year-round at the Project Port, its ZOI is expected to be 4 km (see ERM Consultants Canada Ltd. 2025a)*" (Volume 6, Section 16.4.2.1, document page 16-89).

As described above, a 5-km ZOI is used in the assessment of range disturbance, not indirect habitat effects. The ZOI buffers prescribed from recent literature (particularly ERM [2025a]) are used in the assessment of change in habitat, which includes indirect habitat effects.

e) **Monitoring and Validation**

Caribou monitoring combines regional GPS collar data monitoring and local-scale active monitoring by Environmental Monitors along the Project Road, providing "*early warning systems as part of the caribou trigger action response plan (TARP)*" (Volume 11, Appendix 37B, Section 8.3.3). Daily active monitoring occurs April 20–September 6 for the BCH and November 1–30 and April 15–May 30 for the DUH, and weekly otherwise (Volume 11, Appendix 37B, Section 8.3.3). Primary caribou monitoring metrics include direct/indirect selected habitat loss, occurrence and distribution (within and outside the expected ZOI), timing and location of Project Development Area (PDA) crossings, and mortality events (Volume 11, Appendix 37B, Table 8.1).

The effectiveness of adaptive mitigation measures at facilitating caribou movements (crossings) and minimizing avoidance will be evaluated as follows:

> "*The methods used to verify Project effects on movement and migration will depend on the focal species. For caribou, local movements (e.g., road crossings) and broader migration will be informed through the analysis of GPS collar locations. The relatively high frequency of GPS locations (~3 per day) is sufficient to identify crossing locations, verify migration pinch points, and analyze delays in migration. For other wildlife, local movements (e.g., crossing locations) will be informed by remote camera photos, where possible. Other methods like active monitoring active monitoring (i.e., Environmental Monitors) and incidental observations will provide further information on local movements by focal wildlife species.*" (Volume 11, Appendix 37B, document page 26)

> "*[V]erification of indirect effects on caribou habitat will employ a modelling technique that uses GPS collar data, as demonstrated in the IS (see Section 16.4.2 of the IS), and extend that method to estimate the Project's ZOI*." (Volume 11, Appendix 37B, document page 24)

Monitoring results post-construction will be compared to the predictions in the IS. Where mitigation measures do not achieve the desired result, adaptive management is triggered and may include additional work pauses or temporary shutdowns at locations/times coinciding with frequent crossings or migration pinch-points (Volume 11, Appendix 37B, Sections 8.3.1, 8.2.2.4, Section 9).

GNWT 13 (IR-384)

Subject

NWT Procurement Strategy

Issue / Concern

The Proponent is developing/implementing a Procurement Strategy (26.5.3 and 27.3.3.2) focused on Inuit contracting opportunities. However, the IS also states (27.1.1.1) that "Kitikmeot communities and Yellowknife are interested in procurement and employment opportunities" and that, "during early project engagement, the Tłı̨chǫ Government recommended that jobs should be available for local businesses tied to the Tłı̨chǫ Investment Corporation (GBRP 2027)."

Information Request

Clarify if the Inuit-focused Procurement Strategy (27.3.3.2) being developed by the Proponent includes accommodations for Tłı̨chǫ, Yellowknife-based and other NWT businesses, or if a separate procurement strategy will be developed for NWT businesses.

Proponent Response

The Procurement Strategy described in IS Volume 9, Section 27.3.3.2 (p. 27-55) is a Kitikmeot Region and Inuit-focused strategy. WKR plans to prioritize Kitikmeot Inuit participation first. Beyond that preference layer, procurement will focus on other Nunavut and NWT businesses, and finally Canadian businesses.

This approach will generate substantial benefits to other Nunavut and NWT businesses, since the Project's workforce and procurement requirements are expected to exceed what the Kitikmeot Region and Nunavut's business and labour capacity can supply. IS Volume 9, Section 27.3.6.1 (p. 27-69) states directly that "the project workforce requirements are expected to exceed the capacity of the available skilled labour force in the Kitikmeot Region and Nunavut," with approximately 85% of the direct construction workforce expected to originate from outside Nunavut. The SCIPIOPM supply chain modelling in IS Volume 9, Section 27.3.6.3 (p. 27-88) estimates that approximately 39% of Operations and Maintenance expenditure on goods and services will represent interprovincial imports — including NWT-based suppliers, which have historically been the primary interprovincial supplier of goods and services to the Kitikmeot Region.

In addition, WKR anticipates that there may be procurement and labour synergies associated with the construction of the Arctic Economic and Security Corridor and the Project. WKR is open to continued discussion with Tłı̨chǫ Government, the Yellowknives Dene First Nation, their respective economic development corporations, and the GNWT on how to best coordinate procurement and labour strategies across both projects.

GNWT 14 (IR-385)

Subject

Cumulative Effects - NWT Inclusion in Regional Context

Issue / Concern

Cumulative effects are assessed using a regional context including multiple activities and induced scenarios; however, the extent to which NWT ecological, harvesting, and socio-economic systems are represented within this regional context and cumulative pathways is not clearly described.

Information Request

Provide:

a) Description of how NWT ecological systems, harvesting areas, and socio-economic conditions were incorporated into the cumulative effects assessment;
b) Identification of cumulative pathways that extend into NWT;
c) Explanation of how NWT-based activities and stressors were considered in cumulative analysis.

Proponent Response

a) **How NWT ecological, harvesting, and socio-economic systems were incorporated into the cumulative effects assessment.**

Section 9.2.4.1 outlines that a Regional Assessment Area establishes, for each VC, the context (environmental setting) for evaluating the Project-related effects and is the area in which cumulative effects of the Project's interactions with other past, present and reasonably foreseeable future activities are assessed. The RAAs are used to represent the distance from the project at which cumulative effects may occur, can be described, are measurable, or can at least be explained and assessed. The extent to which NWT ecological, harvesting, and socio-economic systems were incorporated is a function of whether a given VC's RAA extends into the NWT.

The socio-economic RAA extends into the NWT (Yellowknife), as documented in the Employment and Economy assessment (Volume 9, Section 27.1.4), Community Health and Well Being (Volume 9, Section 26.1.4), and Infrastructure and Services (Volume 9, Section 28.1.4). As such NWT socioeconomic systems were included in the CEA.

The RAAs for all the biophysical VC's are contained within Nunavut based on the potential effects pathways of the Project with past, present, and reasonably foreseeable projects and activities.

It should however be noted that the RAA for the assessment of cumulative effects to caribou is the BCH Range Assessment Area 1 (BCH-RAA1) which is drawn from the GNWT's Bathurst Caribou Range Plan cumulative land disturbance framework (GNWT, 2019). Although the BCH-RAA1

assessment boundary "is restricted to NU to focus on the potential interactions between the BCH and the Project," effects associated with the BCH's range in the NWT are addressed through the transboundary assessment (Volume 6, Sections 16.1.4, 16.6).

b) **Cumulative pathways that extend into the NWT**

As noted in response to Part a), cumulative effects pathways with the potential to extend into NWT are related to Employment and Economy (Volume 9, Section 27.1.4), Community Health and Well Being (Volume 9, Section 26.1.4), and Infrastructure and Services (Volume 9, Section 28.1.4).

c) **How NWT-based activities and stressors were considered**

NWT-based activities were captured through the Project Inclusion List (PIL; Volume 4, Appendix 9A), which was assembled using a conservative spatial boundary extending "southwards to Yellowknife" and "westwards to Great Bear Lake" — thereby capturing NWT physical activities (e.g., the Diavik, Ekati, and Gahcho Kué diamond mines; the Tibbitt to Contwoyto Winter Road; NICO; Courageous Lake; and the Yellowknife Gold Project) for screening against each VC's RAA (Volume 4, Section 9.4.3). Each VC then screened these listed activities for spatial and temporal overlap with the Project's residual effects and carried forward those with the potential to interact cumulatively (see, e.g., the interaction tables in Volume 6, Section 18 for Other Terrestrial Wildlife).

The Holistic Assessment (Volume 10, Section 31) integrates these VC-level cumulative findings across interconnected systems and identifies those regional frameworks — including the Bathurst Caribou Range Plan — offer means to manage cumulative effects beyond project-specific commitments (Volume 10, Section 31; Executive Summary).

GNWT 15 (IR-386)

Subject

Road Management and Related Plans

Issue / Concern

Appendix 37A describes the Road Management Plan (RMP). Table 2.2 presents a list of related Management Plans. However, two important Management Plans appear to have been omitted.

1. Permafrost Management Plan

Concerns regarding permafrost degradation have been raised and discussed throughout the IS, largely in relation to climate change. However, road construction projects, such as the Grays Bay Road Project, may further accelerate the permafrost degradation process. It is therefore imperative that a Permafrost Management Plan be developed and implemented for both the construction and the operations and maintenance phases of the project.

2. Adaptive Management Plan (AMP)

Section 7.2 of the IS describes adaptive management; however, the level of detail provided appears to be insufficient for a project of this scale and scope. A detailed stand-alone AMP would be more appropriate.

The Road Management Plan is expected to undergo an internal review annually, or as needed, to confirm the effectiveness of the management measures and update the plan accordingly. In the absence of a condition requiring the proponent to submit the annual review of the plan for approval by a specified annual deadline (e.g., March 31 of each year), there is a risk that this commitment may not be consistently undertaken.

Information Request

1. Permafrost Management Plan

a) Has the proponent considered developing a Permafrost Management Plan?

b) If not, provide a rationale.

2. Adaptive Management Plan

a) Would the proponent consider developing a detailed stand-alone Adaptive Management Plan?

b) If not, provide a rationale.

Proponent Response

1. At this time there is not a separate Permafrost Management Plan. Permafrost management measures will be outlined in the Road Management Plan, Port Management Plan, and Aquatic Effects Management Plan to align with the overall management of different infrastructure components of the Project. Relevant permafrost-related data and management actions will be coordinated across plans to allow an integrated approach.

2. An overview of the Follow-up and Adaptive Management approach for the Project is provided as part of the Environmental Management System framework described in Volume 11, Sections 37.1.1 and 37.1.5, and more specific adaptive management details will be reflected in each plan (Volume 11, Appendix 37A, Section 7.2) rather than a separate Adaptive Management Plan. This allows an understanding of the parameters to be monitored, mitigation measures, and corresponding adaptive management actions to be presented in a single location for each Valued Component or related group of valued components.

   The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

GNWT 16 (IR-387)

Subject

Monitoring Activities for Traditional Land, Marine, Resource Use (TLMRU)

Issue / Concern

The IS identifies potential effects on wildlife that may influence TLMRU for Kitikmeot and other potentially affected Indigenous groups, including transboundary effects. While the Proponent commits to adaptive management and engagement, there is limited clarity on how TLMRU will be monitored, particularly with respect to qualitative indicators and inclusion of NWT Indigenous communities.

Information Request

Provide clarification on TLMRU monitoring, including:

a) *Whether qualitative parameters in Table 24.2 (e.g., perceptions of resource health and cultural connection) will be monitored, and under which program(s);*
b) *Which Indigenous communities, including in the NWT, will be included and how; and*
c) *How monitoring will inform adaptive management for transboundary effects.*

Proponent Response

Indicators on this topic, including any qualitative TLMRU parameters, are proposed to be tracked primarily through the Socio-economic Monitoring Plan (SEMP; Volume 11, Appendix 37K). The SEMP is intended to "*track how communities are experiencing effects (both positive and adverse*)" and focuses on indicators identified in the Impact Statement related to the socio-economic environment, including health, culture, wellbeing, and food security (Volume 11, Appendix 37K, pg. 1).

Because the SEMP is currently at a conceptual stage in the IS, the specific TLMRU indicators to be monitored will be refined through further development of it and related management plans as the Project advances through the NIRB process. Through this process, WKR will consider use of qualitative indicators related to perceptions of resource health and cultural connection, informed by engagement with the GN, Inuit Organizations, potentially affected Indigenous communities, and other affected parties.

TLMRU-related monitoring will also be supported through Inuit co-developed monitoring. WKR has committed to "*develop an Inuit Environmental Advisory Committee (IEAC) (as a successor to the current Inuit Advisory Group) to review and provide feedback on the Project's monitoring and management plans with regards to study designs, the inclusion of monitors, monitoring findings, and adaptive management strategies,*" including relevant HTOs, Inuit land users, Elders, and Knowledge Holders (Volume 3, Table 6.4).

Monitoring will be co-developed with Inuit through the IEAC and WKR will participate in regional monitoring through the Kitikmeot Socio-Economic Monitoring Committee. The SEMP notes that, "*in consultation with the Kitikmeot Socio-Economic Monitoring Committee, WKR will identify the role it will take in regional monitoring initiatives*" (Volume 11, Appendix 37K). The specific communities to be included, and the mechanisms for their participation, will be defined through continued engagement and finalization of the SEMP.

Monitoring results will inform adaptive management across TLMRU-related plans. Volume 9, Section 24.4 notes that WKR "*will apply adaptive management strategies that will be informed through monitoring and ongoing engagement*". Under the SEMP, "*where monitoring indicates that mitigation measures are not achieving intended outcomes or targets, WKR will apply adaptive management approaches, which may include additional investigations, modifying implementation methods, enhancing engagement with Inuit organizations and communities, or revising commitments in consultation with regulators*" (Volume 11, Appendix 37K, Section 4). Because the spatial boundaries for the Community Health and Well-being and Infrastructure and Services VCs specifically include Yellowknife, that spatial boundary will be considered during SEMP development.

GNWT 17 (IR-388)

Subject

Monitoring and Assessment of Food Security and Community Health and Well-being

Issue / Concern

The IS identifies pathways linking project-related changes in wildlife to impacts on traditional food systems, cultural practices, and community health and well-being, including transboundary effects. However, there is limited clarity on the basis for excluding NWT communities from the Food Security VC and on how food security and health (including mental health) effects will be monitored.

Information Request

Provide clarification on food security and health monitoring and assessment, including:

a) *Rationale for excluding NWT Indigenous communities (including, and beyond, Yellowknife) from the Food Security VC;*
b) *Whether parameters for "Change in Traditional Food System" (Table 25.1) will be included in the Socio-Economic Monitoring Plan (SEMP), and which communities will be included;*
c) *Whether and how health (including mental health) and well-being effects linked to changes in TLMRU and cultural practices will be monitored;*
d) *How monitoring will account for transboundary effects affecting NWT communities.*

Proponent Response

a) **Rationale for the Food Security VC spatial boundaries (Yellowknife/NWT)**

The Impact Statement documents the rationale for the Food Security and Food Sovereignty VC spatial boundaries. The LAA comprises the five main Kitikmeot communities, and the RAA is the Kitikmeot Region (including the seasonal settlements of Kingaok/Bathurst Inlet and Omingmaktok/Bay Chimo) (Volume 9, Section 25.1.4). The IS states: "The LAA and RAA for the Food Security and Food Sovereignty VC do not include Yellowknife because the Project may affect traditional harvesting for residents based within the Kitikmeot communities and the Project is not anticipated to affect the market food system in Yellowknife. Transboundary effects (e.g., potential effects on traditional harvesting for residents based in Yellowknife, potential effects on the market food system in other provinces or territories) are assessed in Volume 10, Section 33" (Volume 9, Section 25.1.4.1, pg. 25-10).

Accordingly, potential food-security effects on NWT communities were not excluded from the Impact Statement; they are addressed through the transboundary effects assessment (Volume 10, Section 33.5) rather than within the Food Security VC assessment areas. The transboundary assessment identifies the "potential for transboundary effects on the stability of the traditional food

system as a result of changes to wildlife distribution and wildlife habitat, which could affect harvesting success for individuals in NT" (Volume 10, Section 33.5.2.1, pg 33-25). Additionally, the transboundary assessment assesses the effects of the market food system and states “WKR will transport supplies sourced from Yellowknife to the Project site using charter aircraft. Transport of supplies using air freight is not anticipated to interfere with resupply to communities in NT, many of which also source supplies from Yellowknife.” (Volume 10, Section 33.5.2.2, pg 33-26).

b) **"Change in Traditional Food System" parameters in the SEMP, and communities included**

The SEMP will address potential Project effects on availability and cost of market food among other socio-economic indicators (Volume 9, Section 26.7, pg 26-107). With respect to the traditional food system, Section 25.3.3.3 states “These types of effects may be more difficult to detect and monitor, underscoring the importance of thoughtfully and consistently tracking harvest patterns and perceptions through the Socio-economic Monitoring Program and consideration of Inuit, Indigenous, and Community Knowledge and perspectives.” (Volume 9, Section 23.3.3.3, pg 25-41) and Section 25.7 states “WKR will also develop "Guidance for Incorporating Community Perspectives and Inuit, Indigenous, and Community Knowledge in the Project's Monitoring Programs” to meaningfully incorporate this valued information and knowledge into project operations.” (Volume 9, Section 25.7, pg 25-67).

The SEMP remains at the conceptual stage in the IS. Operational details related to traditional food system indicators will be further considered upon SEMP engagement and development. The specific communities included the SEMP are undefined at this stage however the SEMP will apply for workers, Inuit and regional communities potentially affected by the Project (Volume 11, Appendix 37K).

c) **Monitoring of health (including mental health) and well-being effects linked to changes in TLMRU and cultural practices**

The Community Health and Well-being (CHWB) VC assesses, among other effects, "change in mental health, emotional health, and coping mechanisms" (Volume 9, Section 26.1.3, Table 26.1; Section 26.3.5). The CHWB LAA includes the five Kitikmeot communities and Yellowknife as those communities “are predicted to be most likely to experience direct and indirect socio-economic effects as a result of the Project” (Volume 9, Section 26.1.4.1, pg 26-12). The IS explains linkages between mental health and changes in TLMRU and states “Fears and uncertainties related to the Project, including potential effects on the environment and TLMRU, may also adversely affect mental health conditions for residents within the LAA” (Volume 9, Section 26.3.5.1, pg 26-52). WKR will develop and implement a workplace health promotion program, including an Employee and Family Assistance Program (EFAP) and an Inuit Employee Assistance Program (IEAP) and “through provision of an EFAP and IEAP, the Project may serve to increase access to mental health services for employees and their dependents,..” (Volume 9, Section 26.3.5.3, pg 26-55). The SEMP will collect monitoring indicators on the EFAP and IEAP usage, which includes “access to culturally appropriate services” (Volume 11, Appendix 37K, Table 2.1)

d) **How monitoring will account for transboundary effects affecting NWT communities**

The specific mechanisms by which monitoring will account for transboundary effects on NWT communities are identified as being developed through SEMP finalization. The operational design of the SEMP will be developed in advance of construction and prior to implementation. WKR is committed to ongoing engagement with the GN and/or Inuit Organizations and other affected parties during advancement of project design.

GNWT 18 (IR-389)

Subject

Medevac and Healthcare System Demand

Issue / Concern

The Proponent relies on comparison data (e.g., B2Gold Back River Project) to characterize potential demand on NWT medevac and health services; however, the absence of annual personnel data alongside medevac utilization limits the ability to estimate project-specific demand. Additional gaps include a lack of detail on onsite medical capacity at work camps and unclear responsibility for medical travel costs, particularly where non-resident workers require transfer beyond Yellowknife for higher-level care. Past experience indicates GNWT resources are often used for onward transfers, with cost recovery challenges. Collectively, this limits the ability to assess potential impacts on NWT healthcare system capacity, consistent with NIRB Final EIS Guidelines (Section 8.2.10.3).

Information Request

Provide information to support a clearer understanding of potential demand and responsibilities related to NWT health services, including:

a) ***Comparable Project Data***
   - *Annual personnel numbers*
   - *Annual medevac requirements*
   - *Health service utilization rates*

b) ***Onsite Medical Capacity***
   - *Description of onsite medical services (hours of coverage, staffing)*
   - *Diagnostic and treatment capabilities (e.g., X-ray, lab, point-of-care testing)*
   - *Types of conditions managed onsite and criteria for external transfer*

c) ***Medical Travel and Cost Responsibility***
   - *Responsibility for medical transport costs where non-resident workers require transfer beyond Yellowknife*
   - *Whether insurance coverage will be required for non-resident workers, or whether costs will be borne by the proponent or Government of Nunavut*
   - *Any planned agreements between the Proponent and the Government of Nunavut to formalize cost responsibility*

d) ***Coordination with NWT***
   - *How arrangements will account for potential reliance on GNWT air ambulance and health services, including coordination or cost recovery mechanisms.*

Proponent Response

a) **Comparable project data**

Project workforce numbers are documented elsewhere in the IS; for example, Construction and Operations and Maintenance workforce estimates are provided in Volume 2 and Volume 9, Section 27. Health service baseline information for Yellowknife is described in Volume 9, Appendix 25A (People and Communities Baseline Report), Section 11.0. However, the IS does not present a consolidated table that pairs annual personnel numbers with anticipated annual medevac requirements and health service utilization rates. Project-specific medevac requirements and health service utilization rates are difficult to predict because they depend on final workforce numbers, rotation schedules, onsite medical capacity, worker health status, the occurrence of medical emergencies and the effectiveness of mitigation, management, and enhancement measures.

To support a clearer understanding of potential demand, the IS draws on comparable data from B2Gold Corp.'s Back River Project, which is relevant because it is a nearby, recent northern project with a similar regional context, although it has a larger workforce and different project characteristics (i.e., it is a large scale mine development rather than a port and road). Section 26.3.3.3 (Volume 9, Section 26.3.3.3,pg 26-48) states "However, the Back River project is larger in scale than the Project, requiring a larger workforce: there were 1,379 personnel in 2023 and 3,221 personnel in 2024 who worked on the Back River project, while the Project is anticipated to directly employ approximately 200 to 500 people per year during Construction and approximately 22 to 32 people total during Operations and Maintenance. It is, therefore, anticipated the Project's contribution to demand on health infrastructure and services in the LAA will be less than that of the Back River project." Additionally, comparable health statistics were described through the following statement "Between 2018-2024, the Back River project has required use of GN emergency health services ten times for project personnel at project sites (Jason Prno Consulting Services Ltd. 2025). All ten instances were for use of medevac services from the project sites to Yellowknife. Twenty-six uses of GN emergency health services were required by B2Gold Nunavut in 2025, all of which were medevac events to Yellowknife, NT. 211 additional emergency health care incidents were resolved in Yellowknife, NT or Edmonton, AB with the assistance of B2Gold Nunavut charter aircraft." (JPCSL 2026). The Back River project also required use of non-emergency health services (with the assistance of B2Gold Corp. charter aircraft) in Yellowknife 28 times in 2023 (Jason Prno Consulting Services Ltd. 2024), and in Yellowknife and Edmonton 91 times in 2024 (Jason Prno Consulting Services Ltd. 2025)" (Volume 9, Section 26.3.3.3, pg 26-48).

WKR has identified mitigation, management, and enhancement measures to reduce reliance on health care services in the LAA, including using health promotion measures to reduce the likelihood of worker injuries and illness. Measures also include the development and implementation of a Health and Medical Services Plan (HMSP) that will detail injury and disease prevention, onsite medical and first-aid services, medical emergency response including evacuation, workplace health promotion supports, and worker education on available onsite health services. Additionally, WKR will develop and implement a socio-economic monitoring plan (SEMP) intended to monitor health infrastructure use among other socio-economic factors, and enable adaptive management (Volume 9, Section 26.7).

The HMSP and the SEMP remain at the conceptual stage in the IS. Operational details related to health infrastructure usage indicators will be further considered during HMSP and SEMP engagement activities and development.

b) **Onsite medical capacity**

WKR will develop and implement a HMSP that will include the following components (Volume 9, Section 26.3.3.2, pg. 26-46):

- prevention and management measures for injuries, infection, and disease;
- a description of medical and first-aid services available to personnel at the Project site, including first-aid/medical staff and a medical clinic;
- medical emergency response procedures, including procedures for emergencies requiring evacuation; and
- a workplace health promotion program, including an Employee and Family Assistance Program (EFAP) and an Inuit Employee Assistance Program (IEAP), where appropriate resources exist.

The Risk Management and Emergency Response Plan (RMERP) (Volume 11, Appendix 37H, Attachment H4) will outline provisions for medical emergencies (Section 4.2.3), evacuation and medical response (Section 4.3), and emergency communication protocols (Section 5).

The HMSP and RMERP remain at the conceptual stage in the IS. Operational details related to onsite medical services, diagnostic and treatment capabilities, conditions managed onsite, and criteria for external transfer will be further considered through HMSP and RMERP engagement activities and development.

c) **Medical Travel and Cost Responsibility**

WKR will bear the cost of medical transport for Project personnel requiring emergency departure from Site. Volume 9, Section 26.3.3.3 states that "In the event of medical emergencies and non-emergency incidences requiring care that cannot be addressed on-Site, WKR will transfer workers to appropriate medical facilities," with workers most likely transferred to Stanton Territorial Hospital in Yellowknife or to hospitals in southern Canada, such as Edmonton. This commitment includes financial responsibility for the transfer. WKR will adhere to the Government of Nunavut's policy on medical evacuation of non-Nunavummiut, and should a medevac situation arise at Site, WKR will accept responsibility for the fees related to these events.

Insurance coverage for non-resident workers

Costs will not be borne by the Government of Nunavut. Three coverage mechanisms apply:

- Workers' compensation. All employees and contractors will be registered with the Nunavut Workers' Safety and Compensation Commission (WSCC) prior to mobilization, in accordance with the Workers' Safety and Compensation Act (Nunavut), which establishes coverage for injured workers regardless of territory of residence.

- Medical transport. As described above.
- Diagnosis and treatment. Costs of care delivered at a receiving facility are addressed through existing interjurisdictional arrangements rather than by the GN. Cost recovery for patients' diagnosis and/or treatment is addressed in accordance with the reciprocal agreement(s) among territories and provinces, which allow a medical care facility to invoice the medivacked patient's resident province or territory. Non-resident workers therefore remain covered by the health insurance plan of their home province or territory.

Planned agreements with the Government of Nunavut

No project-specific cost-sharing agreement between WKR and the GN is currently proposed, because the existing framework already assigns cost responsibility without one. The GN has an agreement in place with Keewatin Air LP for the provision of medivac services from Nunavut to relevant medical facilities in southern Canada, and major project users are billed for that service as and when used; reciprocal territorial–provincial billing agreements address the treatment component. The GN policy on medical evacuation of non-Nunavummiut will be discussed in the Health and Medical Services Plan (Volume 1, Appendix B, Commitment 52) prior to construction. It has also been summarized by the GN in their August 19, 2026 submission to NIRB, responding to this IR.

d) **Coordination with NWT**

The Impact Statement recognizes Yellowknife as the principal off-site destination for Project medical transfers. Health infrastructure and services in the Kitikmeot Region have limited capacity, and people seeking medical services currently often travel to Yellowknife and, in some instances, to southern Canada such as Edmonton (Volume 9, Section 26.2.2.2). The main referral centres for people located in the Kitikmeot Region are Cambridge Bay, Yellowknife and Edmonton. Stanton Territorial Hospital in Yellowknife is the largest hospital in the NWT, offering a full spectrum of health care services for NWT patients as well as residents of the Kitikmeot Region of Nunavut (Volume 9, Section 26.2.2.2; Volume 9, Section 25, Appendix 25A). Project workers requiring off-site medical attention would most likely be transferred to Stanton Territorial Hospital or to hospitals in southern Canada (Volume 9, Section 26.3.3.3). The Project's reliance on NWT health services is therefore a continuation of an established referral pattern rather than the creation of a new one.

The scale of anticipated reliance is informed by comparable project experience as noted in the response to part 1 of this IR.

Measures to limit reliance on GNWT resources

WKR will develop and implement a Health and Medical Services Plan (HMSP) specifically intended to limit unnecessary use of local and transboundary health and medical services (Volume 9, Section 26). On-site treatment capacity and the use of WKR-arranged charter transport are the primary means of limiting demand on GNWT air ambulance and hospital resources. Under the RMERP, where a worker is injured but does not require immediate medical assistance or transportation, first aid is provided on-site, the supervisor is notified, and the worker is transported to the on-site medical clinic; where immediate assistance or medevac transportation is required,

the procedure is to provide immediate first aid, notify on-site medical personnel via radio emergency channel, contact the nearest regional health centre, and, if medevac is required, contact the appropriate air carrier and coordinate aircraft, logistics, and the receiving hospital (Volume 11, RMERP). Coordination of the receiving hospital as part of the medevac call-out is the principal mechanism by which advance notice will be provided to NWT facilities.

Coordination and notification mechanisms

The RMERP will provide the coordination architecture. As described in the Impact Statement, the Project-specific RMERP will include the scope of the plan and types of emergencies covered (e.g., fire, medical, security); responsibilities of the GN, contractor, and other responders; a communications plan for alerting employees, communities and the GN during an emergency; an evacuation and response plan; government agencies and communities to be notified; and training, testing, and reporting (Volume 10, Section 34.6.2; Volume 11, Road Management Plan). The draft RMERP further provides that the medical emergencies section will outline response procedures including first aid and on-site medical care, emergency communications, transportation or evacuation of injured personnel, and coordination with local or regional medical services, with consideration given to site remoteness and access constraints (Volume 11, RMERP, Section 4.2.3). The RMERP will be developed in accordance with federal and territorial laws and regulations, in addition to GN policies and procedures that are protective of the environment and human health, and will be enforced with subcontractors and workers for the duration of Construction and Operations and Maintenance (Volume 11, Road Management Plan). WKR will also require relevant Project contractors to demonstrate their ability to provide emergency response services at the Project site sufficient in capacity and capability to respond to emergency events in a remote Arctic operating environment (Volume 10, Section 34.6.2).

The RMERP will identify NWT receiving facilities and, where applicable, GNWT health system authorities, given that Yellowknife is the anticipated primary receiving location. The RMERP remains at a conceptual stage as filed, and WKR is committed to developing these NWT-specific notification and liaison arrangements in advance of Project construction, in consultation with the GN Department of Health and the GNWT through the Northwest Territories Health and Social Services Authority (NTHSSA), which provides health and social services to all areas of the NWT (Volume 9, Section 25, Appendix 25A).

Cost recovery

Cost recovery for transfers beyond Yellowknife is addressed in the response to Part 3 above.

GNWT 19 (IR-390)

Subject

Consideration of Transboundary Scoping Guidance

Issue / Concern

To inform the assessment of transboundary and transregional impacts, NIRB appended the following to the Final Scope and Guidelines:

- *MVEIRB's Supplemental Transboundary Scoping Report (STSR), developed in accordance with the NIRB and MVEIRB Cooperation Plan for Assessing Transboundary/Transregional Impacts of the Proposed Grays Bay Road and Port Project and Section 142 of the Mackenzie Valley Resource Management Act, and*
- *comments from the Environmental Impact Screening Committee (EISC) For the Inuvialuit Settlement Region (ISR) and the Environmental Impact Review Board (EIRB) for the ISR on the draft Scope and Guideline.*

The Revised IS does not clearly indicate how the STSR or the EISC and EIRB comments informed the Proponent's assessment. As a result, it is unclear whether, or how, recommended approaches for assessing potential impacts in the Mackenzie Valley or the ISR have been incorporated to date. The GNWT acknowledges that in the ISR, assessment processes are ongoing.

This lack of clarity raises concerns regarding whether sufficient information has been provided to support a meaningful review of potential impacts in the Mackenzie Valley and ISR.

Information Request

a) Consideration of STSR (Proponent)

- *Identify how and where the recommendations outlined in the STSR and comments from the EISC and the EIRB were considered and incorporated into the IS*
- *Provide rationale where recommendations were not adopted*

b) Consideration of STSR and comments from the EISC and the EIRB (NIRB)

- *Describe how the IS was reviewed in light of the STSR and the comments from the EISC and the EIRB*
- *Provide rationale supporting the conclusion that the content of the IS is sufficient to assess transboundary and transregional impacts*

c) Consideration

Clarify expectations for transboundary effects assessment, including the requirement to incorporate NWT context, relevant baseline information, and input from NWT Indigenous groups, and any necessary references to other assessment bodies' processes.

Proponent Response

The NIRB Final Impact Statement Guidelines appended the following documents and directed the proponent that "*both submissions should also be considered by the Proponent in the preparation of their Impact Statement*".

- MVEIRB's Supplemental Transboundary Scoping Report (STSR) [Doc#358508, 358507]
- Comments from the Environmental Impact Screening Committee (EISC) [Doc#359144]
- Comments from Environmental Impact Review Board (EIRB) [Doc#359234]

Each of the appended documents was reviewed and considered by WKR in the compilation of the Impact Statement. Below details how and where the recommendations outlined in the STSR and comments from the EISC and the EIRB were considered and incorporated.

MVEIRB's Supplemental Transboundary Scoping Report (STSR) [Doc#358508, 358507]

STSR Section 2.1 - Use and incorporation of Traditional Knowledge and Inuit Quajimaningit.

The STSR requested that "Impact Statement must describe how Traditional Knowledge and Inuit Quajimaningit was sought, considered, and incorporated in relation to transboundary impacts

Volume 10, Section 33.2 – Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment, details how traditional knowledge and Inuit Quajimaningit were sought, considered and incorporated in relation to the transboundary impacts. Table 33.1 provides a summary of the Inuit, Indigenous and Community Knowledge and Feedback received in relation to transboundary effects. Additionally, Volume 3, Sections 4-8 describe how Inuit, Indigenous, Community Knowledge and Perspectives were obtained and integrated into components of the Impact Statement.

STSR Section 2.2 - Alternatives

The STSR requested the proponent describe any alternatives to the proposed Project or project components that it is considering, including routing and how these alternatives might change the potential transboundary impacts in the Mackenzie Valley, particularly on caribou.

Volume 2, Section 2.4 provides a description of project alternatives. Alternatives were evaluated using criteria informed by and/or based on the consideration of Inuit, Indigenous, and Community Knowledge, potential effects to the biophysical and socio-economic environment, practicality and technical feasibility, and cost-effectiveness. Tables 2.2 and 2.3 provide a summary of the evaluations completed including potential effects on Caribou herds and ranges.

Further discussion around alternatives is provided in the response to IR TG-01.

STSR Section 2.3 - Cumulative Effects Assessment

The STSR requested the proponent "*identify and describe any cumulative effects that may be experienced within the Mackenzie Valley, including cumulative effects from the use of existing infrastructure, existing and reasonably foreseeable developments, as well as induced developments anywhere along the road and existing projects in Nunavut and the Northwest Territories*". The STSR requested the CEA include impacts from existing infrastructure, existing and reasonably foreseeable future developments and induced development.

A CEA was completed for the Project which included impacts from existing infrastructure, existing and reasonably foreseeable future developments and induced development. The Regional Assessment Areas identified for each VC for the CEA were largely based on an area likely adequate to represent measurable or discernible cumulative effects, given the nature of the Project description and types of effects assessed for the VC. The potential for transboundary effects as a result of the Project in areas beyond the Nunavut Settlement Area, such as the Mackenzie Valley are addressed in Volume 10, Section 33.

A summary of the cumulative effects discussion and locations where such information can be found in the IS is provided in Appendix A, Cumulative Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package.

STSR Section 2.5 - Assessing Transboundary impacts in a large Review

The STSR requested the Proponent provide a stand-alone transboundary effects assessment.

Volume 10, Section 33 of the Impact Statement provides a stand-alone transboundary effects assessment. The section includes references for relevant sections of the Impact Statement where additional information can be found. Additional information can be found in Addendum Appendix B.

STSR Section 3 - Transboundary Effects

The STSR requested a transboundary assessment for specific VCs. A transboundary effects assessment was completed for each VC identified in the STSR. Table IR-390.1 lists those VCs and the locations within the Impact Statement where the transboundary assessment is located.

Table IR-390.1 Valued Components and the Locations Within the Impact Statement Where the Transboundary Assessment is Located

VCs identified in STSR	Location of assessment in Impact Statement
Caribou and Traditional Harvesting of Caribou	Volume 6, Section 16.6 and Volume 10, Section 33.4.3
Other wildlife	Volume 10, Sections 33.4.5, 33.4.6, 33.4.7, 33.4.8
Birds	Volume 10, Section 33.4.4
Water, fish	Volume 10, Section 33.3.1
Permafrost	Volume 10, Section 33.3.1
Air quality	Volume 10, Section 33.4.1
Traditional Food Security	Volume 10, Section 33.5.2
Culture and Traditional activities	Volume 10, Section 33.5.1
Health	Volume 10, Section 33.5.3
Socioeconomic	Volume 10, Section 33.5.4 and 33.5.5

Comments from the Environmental Impact Screening Committee (EISC) [Doc#3591) and Environmental Impact Review Board (EIRB) [Doc#359234]

The comments NIRB received from the EISC and EIRB, generally related to requests directed to NIRB to update the Project Scope and Impact Statement Guidelines relative to 1/ marine activities and 2/ the NIRB's definition of RSA in relation to transboundary effects. NIRB did not make any amendments to the Final Project Scope and Final Impact Statement Guidelines as a result of the request, as these activities were addressed in the scope of the assessment outlined in the scope and guidelines document issued by the NIRB. At the request of NIRB, WKR did consider the comments and below summarizes how the comments where addressed in the Impact Statement.

Marine Activities

The EISC/EIRB specifically requested that "…*the NIRB reconsider including marine activities, including project-related and induced shipping and associated land-transportation activities (such as staging and barging) within and outside the Nunavut Settlement Area (NSA) into the project scope*.

Reasonably foreseeable induced shipping and associated land-transportation activities were included in the IS. As noted earlier in this IR response, a Cumulative Effects Assessment (CEA) was completed for the Project which included impacts from existing infrastructure, existing and reasonably foreseeable future developments and induced development, including induced marine activities. Each VC's assessment of cumulative effects begins by evaluating potential cumulative interactions with past, present, and reasonably foreseeable physical activities. This is followed by a sub-section "Reasonably Foreseeable Induced" in which potential interactions with RFI physical activities are assessed. These are separated because of the differences in certainty, descriptive details, and assessment approach. Please see Table IR-390.1, above, for details of where cumulative effects assessment details can be located in the Impact Statement.

The same scenarios for reasonably foreseeable future developments and induced development, including induced marine activities, were used as the basis for the transboundary effects assessment which discussed potential effects outside the NSA (Volume 10, Section 33).

Transboundary Effects

In relation to transboundary effects EISC/EIRB specifically requested that "*the ISR be expressly included in the Regional Study Area for specific and relevant VC*".

The Impact Statement's transboundary effects assessment is presented in Volume 10, Section 33, which was prepared in accordance with Section 7.4.4 of the NIRB Impact Statement Guidelines for the Project and assesses potential effects extending beyond the Nunavut Settlement Area (NSA) into adjacent jurisdictions, including the Mackenzie Valley and the Inuvialuit Settlement Region (ISR) (Volume 10, Section 33; Volume 4, Section 9.4.2).

Please see Appendix B, Transboundary Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package for a discussion on study areas and transboundary methodology.

Inuvialuit Game Council

West Kitikmeot Resources Corp. (WKR), thanks the Inuvialuit Game Council (IGC) for its Information Requests (IRs) dated July 3, 2026 (NIRB Document 260703-24XN038-IGC IRs Re Impact Statement-IR3E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the IGC's IRs are provided below.

WKR looks forward to continuing to work with IGC, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

IGC-001 (IR-391)

Subject

Marine Mammal Disturbance and impacts to Inuvialuit harvesting from increased project related marine shipping within the Inuvialuit Settlement Region

Issue / Concern

The Inuvialuit Game Council (IGC) is concerned that the Impact Statement does not adequately assess the potential effects of increased project related marine shipping on marine mammals and Inuvialuit harvesting activities within the Inuvialuit Settlement Region (ISR).

The impact statement states that project related shipping is expected to occur from spring to fall and would have limited overlap with harvesting activities. However, the impact statement does not appear to consider the beluga harvesting within the ISR which occurs during July to August/September, which means there will be an overlap with the project shipping season and periods of increased vessel activity.

The impact statement does not appear to provide sufficient information regarding:

- *Potential impacts of vessel traffic on beluga harvesting success and harvesting access*
- *Cumulative underwater noise levels from increased shipping from the project*
- *The extent to which Inuvialuit Knowledge and harvesting information informed the assessment*

Marine Mammals, including beluga, bowhead whale, ringed seal, and bearded seal, are central to Inuvialuit harvesting rights which are protected under the Inuvialuit Final Agreement (IFA) and Section 35 of the Constitution Act, 1982.

Information Request

1. *A) Provide the complete marine mammal baseline dataset relied upon in Section 23 of Volume 8 of the impact statement, including species occurrence, seasonal abundance and distribution, movement corridors, survey methodologies, spatial coverage, and years of data collection.*
   B) Clarify whether the baseline surveys and assessment boundaries included waters within the Inuvialuit Settlement Region.
2. *Provide a quantified assessment of projected underwater noise levels associated with project related vessel traffic, including cumulative seasonal noise levels, vessel traffic assumption, and species-specific disturbance threshold for beluga, bowhead whale, ringed seal, and bearded seal.*
3. *Clarify how the assessment concluded that project shipping would have limited overlap with Inuvialuit harvesting activities as beluga harvesting within the ISR occurs during July and August, which overlaps with the project shipping season.*

4. *Identify all proposed mitigation measures intended to reduce impacts to marine mammals and Inuvialuit harvesting activities within the ISR, including vessel speed restrictions, seasonal operational measures, marine mammals' observation protocols, and adaptive management measures. Provide the evidence for how effective each mitigation measure would be.*
5. *Clarify whether Inuvialuit Knowledge, harvesting observations, or information provided by the Inuvialuit Game Council (IGC), Fisheries Joint Management Committee (FJMC), Joint Secretariat (JS), or Inuvialuit Hunter and Trappers Committees (HTC) were incorporated into the marine mammal assessment. If not, provide the rationale for their exclusion and describe how much engagement was done with Inuvialuit co-management boards and Inuvialuit Knowledge holders during the development of marine mammal baseline and effects assessment.*

Proponent Response

1-3. The marine mammal baseline characterization and effects assessment presented in Volume 8, Section 23 were completed within the assessment boundaries defined for the Marine Mammal Valued Component (VC) based on the geographical extent over which project activities and their effects are likely to occur. The Marine Mammal Regional Assessment Area (RAA) encompasses the Coronation Gulf region and does not extend into the Inuvialuit Settlement Region (ISR). Where cumulative effects drivers extend beyond, and/or occur outside the RAA (if an interacting VC or activity moves beyond the RAA over very large distances), the selected RAA nonetheless represents an area large enough to meaningfully describe and assess cumulative effects based on available information while remaining measurable or otherwise discernible (Volume 10, Section 2.2.1). Potential effects on marine mammals in ISR waters are addressed through the Transboundary Effects Assessment (Volume 10, Section 33). The LAA and RAA do not constrain the discussion of transboundary effects, as transboundary effects, by definition, cross boundaries and therefore drawing a line on a map to define an area within which to assess transboundary effects is not practical. As such, it is important to understand that the assessment areas identified for each VC do not constrain the discussion of transboundary effects to those aforementioned areas. (Addendum Appendix B, Transboundary Effects Assessment Supplement, Section B.3.2).

The marine mammal baseline characterization relied on a weight-of-evidence approach integrating Project-specific field studies completed in 2012 and 2025, Inuit, Indigenous, and Community Knowledge available in the context of the RAA, regional scientific literature, historical observations, and available government datasets relevant to the assessment area. Baseline information describing marine mammal occurrence, habitat use, seasonal distribution, and movement patterns is summarized in Volume 8, Section 23.2 (Baseline Conditions), including Sections 23.2.1.2 (Field Studies) and 23.2.2 (Baseline Overview), and is further presented in Tables 23.5 and 23.6 and Figure 23.5. Detailed survey methodologies, supporting data, species accounts, and field study results are provided in Appendix 23A (Marine Mammal Baseline Report). The information from these sources was applied within the defined Marine Mammal LAA and RAA. It should be noted that the baseline characterization was developed using multiple lines of evidence, and not all supporting information exists as discrete tabular datasets. In addition to Project-specific survey data, the assessment relies on Inuit, Indigenous, and Community Knowledge, published literature, historical

records, and government information sources that have been presented within the baseline assessment and supporting appendices.

Potential interactions with Inuvialuit harvesting activities are expected to be limited because vessel movements through the ISR would be temporary and intermittent in nature and would primarily involve transit to and from the Project area. As a result, while there may be some temporal overlap between vessel transits and seasonal harvesting activities, the potential for sustained interference with harvesting activities or marine mammal availability to harvesters within the ISR is expected to be limited.

4. Proposed mitigation measures include speed restrictions for vessels calling at Grays Bay Port (Volume 10, Section 32.5), adherence to DFO Codes of Practice, section 7 of the Marine Mammal Regulations, and Notices to Mariners (Volume 8, Section 23.4.2.2). These apply to vessels in Canadian waters, including the ISR (Volume 8, Table 23.1). The IS identifies these as industry standards that have demonstrated effectiveness in managing potential effects on marine mammal mortality and/or injury risk (Volume 8, Sections 23.5.2.3). The Project will implement follow-up programs and monitoring to evaluate the effectiveness of mitigation measures and compare the realized effects of Project activities with the conclusions in the assessment (Volume 8, Section 23.7).

5. Inuit, Indigenous, and Community Knowledge was considered and integrated into the marine mammal baseline characterization and effects assessment where relevant to the defined assessment areas, including Inuit, Indigenous, and Community Knowledge used to characterize marine mammal occurrence, distribution, habitat use, and seasonal movement patterns, as summarized in Table 23.5 and further described in Appendix 23A (Marine Mammal Baseline Report). Information from these sources informed the assessment within the Marine Mammal LAA and RAA. Notwithstanding the assessment boundaries, Project-related vessel operations would be subject to applicable federal marine shipping legislation, navigation requirements, and marine mammal protection requirements regardless of the location of vessel transit.

IGC-002 (IR-392)

Subject

Caribou Herd Fragmentation, Wildlife Movement, Increased Access, and Cumulative Effects on Inuvialuit Harvesting Within the Inuvialuit Settlement Region

Issue / Concern

The Inuvialuit Game Council (IGC) is concerned that the impact statement does not adequately assess the potential long-term effects of the proposed all-season road corridor and associated industrial traffic on migratory caribou movement, habitat connectivity, and Inuvialuit harvesting activities within the Inuvialuit Settlement Region (ISR).

The project corridor is located within a broader regional landscape used by migratory barren-ground caribou herds relied upon by Inuvialuit beneficiaries, including the Dolphin and Union herd, the Bluenose-East herd, and the Bluenose-West herd. These herds are critical to Inuvialuit harvesting rights protected under the Inuvialuit Final Agreement (IFA) and Section 35 of the Constitution Act, 1982.

The impact statement identifies project-related effects on wildlife movement and mortality risk, including sensory disturbance, vehicle traffic, increased access, and habitat fragmentation. The impact statement also states that increased access to the road may increase wildlife mortality risk and harvesting pressure.

The Inuvialuit Game Council is concerned that the assessment does not evaluate:

- *Potential disruption of migratory caribou movement between Nunavut and the ISR/NWT.*
- *Fragmentation of movement corridors used by the Dolphin and Union herd and Bluenose herds.*
- *Indirect impacts on Inuvialuit harvesting success, harvesting access, travel safety, and predictability of caribou availability.*
- *The extent to which Inuvialuit Knowledge informed conclusions regarding wildlife movement and cumulative effects.*

The Inuvialuit Game Council is quite concerned that the conclusion of the residual and cumulative effects is deemed "not significant" under Section VS.6.6. This statement does not appear to be supported by sufficient analysis of long-term movement data and cumulative effects on migratory caribou herds relied upon by Inuvialuit within the ISR.

Information Request

6. *Provide all spatial mapping, datasets, and technical information relied upon in the assessment of caribou movement and cumulative effects. This includes migration routes, seasonal movement corridors, and areas identified as important to caribou.*

7. *Provide the methods and assumptions used to assess potential project-related effects on caribou movement and habitat fragmentation. This includes effects of traffic, noise, sensory disturbance, increased human access, and cumulative industrial developmental impacts.*
8. *Clarify how the assessment evaluated the potential for the project road corridor, associated traffic, and increased regional access to disrupt migratory movement and habitat connectivity for caribou herds that Inuvialuit rely upon. Explain how the potential impact on harvesting access, harvesting success, and food security within the ISR was assessed.*
9. *Provide all assumptions regarding projected traffic volumes throughout the operational life of the project. Including potential future third-party or induced industrial access.*
10. *Identify and explain all proposed mitigation and monitoring measures referenced in Section VS.6.3.5, which are intended to reduce impacts to caribou movement and Inuvialuit harvesting activities, including access controls, wildlife crossings, speed limits, traffic measurement measures, and adaptive management commitments. Provide the evidence for the effectiveness of these measures in Arctic environments.*
11. *Clarify whether Inuvialuit Knowledge, harvesting observations, or information provided by the Inuvialuit Game Council (IGC), Wildlife Management Advisory Council - Northwest Territories (WMAC NWT), Joint Secretariat (JS), or Inuvialuit Hunter and Trappers Committees (HTC) were incorporated into the terrestrial environmental assessment. If not, provide the rationale for their exclusion and describe how much engagement was done with Inuvialuit co-management boards and Inuvialuit Knowledge holders during the development of the terrestrial environment baseline and effects assessment.*

Proponent Response

6. Spatial information is available in the Impact Statement (IS). Figures related to range use (i.e., BCH seasonal range use and DUH mainland Nunavut winter range use), BCH peak calving areas, BCH calving and post-calving ranges, BCH (mainland caribou) and DUH (island caribou) migration corridors and movement routes, BCH and DUH Brownian bridge movement model outputs, and spatial information produced using Inuit Knowledge are provided in Section 16.2.2.4 (Figures 16.2 to 16.10) and Section 16.2.2.5 (Figures 16.11 and 16.12). Figures related to selected habitat, which show as areas potentially important to caribou, are provided in Section 16.2.2.5 (Figures 16.11 to 16.12).

   Some of these requested caribou spatial layers and datasets, specifically derived products (e.g., migration modelling, resource selection functions) can be provided during the Technical Review stage. However, GPS collar data for the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH), and spatial layers of BCH seasonal ranges, cannot be provided as they were acquired from GNWT-ECC and GN-ENVR through official data requests. Spatial layers from the Kitikmiut Knowledge report for the Grays Bay Port and Road Project (Banci and Spicker 2024) are not permitted for public release under the NTKP Non-Exclusive Licensing Agreement between WKR and the Kitikmeot Inuit Association (Volume 3, Section 4.2).

7. Detailed methods and assumptions on the effects pathways and analytical techniques for assessing Project-related effects on caribou movement and habitat connectivity/ fragmentation are provided in Volume 6, Section 16.4.3.

8. Please also refer to the response to Information Request KIA-IR-37 (IR-107) for a discussion on how changes in movement (and access to habitat) are assessed for caribou. This information is thoroughly described in the Impact Statement (Volume 6, Sections 16.4.3 and 16.5.4).

   Effects on caribou harvesting communities, traditional land, marine and resource use, and food security are addressed in Volume 9 (Sections 24 and 25), not in the caribou assessment (Volume 6, Section 16).

9. Sections 2.6.2 and 2.6.3 in Volume 2 provide the projected traffic volumes for the Project in the Construction phase and Operations and Maintenance phase, respectively. The timing and anticipated traffic of reasonably foreseeable induced (RFI) physical activities is provided in Volume 4, Appendix 9A, Attachment 9A2, and a summary of the RFI scenario is provided in Addendum Appendix A, Cumulative Effects Assessment Supplement, Section A.4.4. Please also see Addendum Appendix A, which summarizes the scenarios assessed in the IS, from the Project alone to the possible future scenarios considered in the CEA. It also describes the RFI scenario and where it is documented in the IS (Volume 10, Section 32; Volume 4, Section 9).

10. A comprehensive list of proposed mitigations is provided in Table 7.1 of the Wildlife Mitigation and Monitoring Plan (WMMP) (Volume 11, Appendix 37B, Section 7.1). Please also refer to the response to Information Requests KIA-IR-39 (IR-109), GN-IR-09 (IR-289), and GN-IR-11 (IR-291) for discussion on key caribou mitigations, including access control, Project design, traffic management (e.g., convoying), caribou Trigger Action Response Plan, and Mobile Caribou Conservation Measures (including adaptive road closures), and the validity/ effectiveness of those proposed mitigations. Several other mitigations (e.g., speed limits and signs, road communication procedures, snowbank maintenance) draw from industry best practices from other Arctic projects: “In accordance with the IAG's guidance to WKR, best management practices to avoid or reduce Project-related effects on land, water, and the animals that use them are adapted from previously approved major development projects in the Arctic. The projects considered by WKR to be relevant sources of best management practices are used from relevant Arctic projects that have incorporated Inuit, Indigenous, and Community Knowledge” (Volume 6, Section 16.1.1.6).

    WKR has committed to developing the details for each proposed mitigation in an updated WMMP, to be finalized through consultation with co-management parties.

11. WKR engaged with the Inuvialuit Regional Corporation (IRC) on several occasions to outline the Project and showcase environmental studies; these meetings are outlined in Table 6C.1 of Volume 3, Appendix 6C. Following the IS submission, subsequent notifications were issued to Aklavik, Inuvik, Olokhaktomiut (Ulukhaktok), Paulatuk, Sachs Harbour, and Tuktoyaktuk Hunters and Trappers Committees (HTC), including a notification of the submission of a Project screening application (Project Description) to the Environmental Impact Screening Committee (EISC) and WKR’s offer to arrange further discussions. In response to that notification, Olokhaktomiut HTC reached out and

requested an in-person meeting. WKR travelled to Ulukhaktok on September 9th, 2026, and presented to IRC, the HTC, Ulukhaktok Community Corporation, Ulukhaktok Elders Committee, Ulukhaktok Youth Council, and Community members. Further, WKR travelled to Whitehorse on September 22nd, 2026, and provided a Project overview, current Project status, and regulatory update. Caribou, marine mammals, and next steps were also discussed.

IGC-003 (IR-393)

Subject

Effects of Increased Marine Vessel Traffic and Potential Icebreaking Activities on Polar Bears and Inuvialuit Harvesting of Polar Bears Within the Inuvialuit Settlement Region

Issue / Concern

The Inuvialuit Game Council (IGC) is concerned that the impact statement does not properly assess the potential effects of increased marine vessel traffic associated with the proposed Grays Bay Port on polar bears (Ursus maritimus) and on the Inuvialuit harvesting of polar bears within the Inuvialuit Settlement Region (ISR).

Polar bears are listed as a Species of Special Concern under the Species at Risk Act (SARA) as well under the Northwest Territories Species at Risk Act and are recognized as Vulnerable by the International Union for Conservation of Nature (IUCN). The Northern Beaufort Sea subpopulation, estimated at approximately 1,291 polar bears, has an area that spans over portions of the Coronation Gulf, Banks Island, and the broader Beaufort Sea region. Polar bear harvesting is of cultural, nutritional, and economic importance to Inuvialuit beneficiaries. Inuvialuit polar bear harvesting rights are protected under the Inuvialuit Final Agreement (IFA) and Section 35 of the Constitution Act, 1982.

During the Operations and Maintenance Phase (2035-2055), the project is expected to generate 45+ vessels transiting annually in each direction of through the Coronation Gulf, with 20+ of these vessels transiting through the ISR (Table23.16). This means the project related induced shipping will extend beyond the projects Regional Assessment Area, and into the ISR in areas that Inuvialuit beneficiaries harvest. The IGC is concerned the assessment does not properly evaluate:

- *The effects of increased shipping on Inuvialuit polar bear harvesting, including potential displacement of bears from traditional hunting areas and cumulative impacts on food security and harvesting rights under the IFA and Section 35 of the Constitution Act, 1982.*
- *The implications of climate driven sea ice loss, identified in the impacts statement's own climate projections for polar bear distribution, habitat use, and vulnerability to vessel disturbance within the ISR.*

The IGC is quite concerned that the conclusion that residual and cumulative effects on polar bears are "not significant" is not supported by adequate species-specific analysis, especially a SARA listed species whose population is poorly understood and whose habitat and use of ISR marine areas is changing.

Information Request

12. *Provide all spatial data, survey records, and technical information relied upon in the assessment of polar bear distribution, habitat use, and occurrence within any area of the ISR that could be affected by vessel traffic from the Grays Bay Road and Port. This would include any information on polar bear usage of sea ice, coastal denning, and travel corridors.*
13. *Explain how the observations of polar bears returning to the Coronation Gulf area which was documented through Indigenous Knowledge; was factored into the baseline characterization, effects assessments, and cumulative effects. If this was not incorporated, please explain the reason for its exclusion from the assessment.*
14. *Clarify the nature and extent of engagement with Inuvialuit co-management bodies on potential effects of the project on polar bears and Inuvialuit polar bear harvesting in the ISR. Specifically: (a) describe what information was shared with and received from the IGC, WMAC NWT, Joint Secretariat, and relevant Hunters and Trappers Committees regarding marine mammal and polar bear effects; (b) describe how Inuvialuit Knowledge related to polar bears in the ISR was incorporated into the marine mammal assessment; and (c) identify all proposed mitigation and monitoring measures applicable to polar bears along ISR shipping routes, confirm whether these extend to third-party vessels using project infrastructure, and provide evidence for their effectiveness in Arctic marine environments.*

Proponent Response

The marine mammal baseline characterization and effects assessment presented in Volume 8, Section 23 were completed within the assessment boundaries defined for the Marine Mammal Valued Component (VC) based on the geographical extent over which Project activities and their effects are likely to occur. The Marine Mammal Regional Assessment Area (RAA) encompasses the Coronation Gulf region and does not extend into the Inuvialuit Settlement Region (ISR). However, effects of shipping on marine mammals in ISR waters are addressed in the Transboundary Effects Assessment (Volume 10, Section 33.4.9). Local and Regional Assessment Areas (LAA/RAA) are defined to identify the likely extent of Project residual and cumulative effects. Transboundary effects, by definition, cross boundaries and therefore drawing a line on a map to define an area within which to assess transboundary effects is not practical. As such, it is important to understand that the LAA/RAA's identified for each VC do not constrain the discussion of transboundary effects to those aforementioned areas (Addendum Appendix B, Transboundary Effects Assessment Supplement, Section B.3.2). The methodology used to assess transboundary effects including how the assessment was informed by the conclusions of the residual and cumulative effects assessments is provided in Addendum Appendix B.

Baseline information regarding polar bear occurrence, habitat use, distribution, and likelihood of occurrence within the assessment areas is presented in Volume 8, Section 23.2 (Baseline Conditions), including Section 23.2.2.4 (Marine Mammal Species of Interest), Tables 23.5 and 23.6, and Appendix 23A (Marine Mammal Baseline Report). Polar bears were included as a marine mammal species of interest and were considered throughout the marine mammal assessment.

Indigenous Knowledge regarding the return of polar bears to the Coronation Gulf area was reviewed as part of the assessment and was incorporated into the characterization of existing baseline conditions for polar bears and their habitat. These observations provided important context regarding recent changes in polar bear distribution, seasonal occurrence, and habitat use within the RAA, complementing other information sources used in the assessment. The observations were incorporated into the baseline characterization by recognizing that polar bear presence in the Coronation Gulf area may be increasing or re-establishing in areas where bears had previously been observed less frequently, and by acknowledging Indigenous Knowledge as evidence of ongoing changes in species distribution.

The assessment considered Indigenous Knowledge together with Project-specific information, regional studies, and other available sources of information regarding polar bear occurrence within the Marine Mammal RAA. Consistent with these multiple lines of evidence, polar bears were identified in Table 23.6 as species known to occur within the RAA, although occurrences within the marine assessment area are expected to be infrequent and spatially variable. Accordingly, the assessment considered the potential for Project interactions with polar bears wherever overlap could occur within the RAA.

In the effects assessment, these observations informed the understanding of the potential for Project interactions with polar bears by ensuring that assessments considered the possibility of polar bear occurrence within areas of potential Project influence, including locations and periods identified through Indigenous Knowledge. As a result, mitigation measures and effects predictions were developed using both Indigenous Knowledge and other available information regarding polar bear movement, habitat use, and responses to disturbance. The assessment also incorporated mitigation, management, and monitoring measures described for marine mammals in Volume 8, Section 23, including the mitigation, management, and enhancement measures presented in Section 23.4 and summarized in Table 23.18, as well as the monitoring and follow-up commitments described in Section 23.6. These measures were considered in the evaluation of residual effects and the development of effects predictions.

Additional species-specific mitigation and monitoring measures applicable to wildlife, including polar bears where warranted, will be further developed through the Project’s Wildlife Mitigation and Monitoring Plan and associated adaptive management processes

Inuit, Indigenous, and Community Knowledge was considered and integrated into the marine mammal baseline characterization and effects assessment where relevant to the defined assessment areas, including knowledge used to characterize marine mammal and polar bear occurrence, distribution, habitat use, and seasonal movement patterns, as summarized in Table 23.5 and further described in Appendix 23A. Information from these sources informed the assessment within the Marine Mammal LAA and RAA.

In the cumulative effects assessment, these observations contributed to the understanding of broader regional trends affecting polar bears, including changing environmental conditions, sea ice dynamics, and shifts in habitat use and distribution. The return of polar bears to the Coronation Gulf area was therefore incorporated into the regional context used to evaluate the combined influence of the Project and other past, present, and reasonably foreseeable future activities on polar bears and their habitat.

Therefore, Indigenous Knowledge observations regarding the return of polar bears to the Coronation Gulf area were incorporated into the baseline characterization, effects assessment, and cumulative effects assessment and contributed to the understanding of polar bear occurrence, habitat use, and potential Project interactions within the Marine Mammal RAA.

Inuvialuit Regional Corporation

West Kitikmeot Resources Corp. (WKR), thanks the Inuvialuit Regional Corporation (IRC) for its Information Requests (IRs) dated July 3, 2026 (NIRB Document 260703-24XN038-IRC IRs Re Impact Statement-IR3E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the IRC's IRs are provided below.

WKR looks forward to continuing to work with IRC, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

IRC-01 (IR-394)

Subject

Inuit participation in economic and employment opportunities.

Issue / Concern

The references above commit West Kitikmeot Resources Corp. (WKR) to prioritizing "local," "regional," and "Inuit" participation in Project procurement, business involvement, employment, and training. The EIS does not define these terms or explain how they relate to one another. It is unclear whether "Inuit" is used solely to mean beneficiaries enrolled under the Nunavut Agreement (i.e., within the Nunavut Settlement Area), or is intended to include Inuvialuit beneficiaries and Inuvialuit businesses within the Inuvialuit Settlement Region (ISR).

Information Request

a) *Please define "local," "regional," and "Inuit" as used in the referenced commitments, and state expressly whether each is intended to include Inuvialuit beneficiaries and businesses within the ISR.*
b) *Please state whether the Labour Relations, Training, and Procurement Strategies outlined in Appendix 37J of Volume 11 extend to Inuvialuit beneficiaries. If not, please identify any commitment or mechanism that provides for Inuvialuit participation in the Project's business, employment, training, and procurement opportunities.*

Proponent Response

The Procurement Strategy described in IS Volume 9, Section 27.3.3.2 (p. 27-55) is intended to focus on the Kitikmeot Region and encourage Kitikmeot Inuit participation first. Beyond that preference layer, procurement will focus on other Nunavut and Northwest Territories businesses, including Inuvialuit businesses, and finally Canadian businesses.

IRC-02 (IR-395)

Subject

Socioeconomic transboundary effects

Issue / Concern

The basis for WKR's conclusion that the majority of transboundary effects will be low in magnitude is not clear. There is no information to identify what changes were considered with respect to harvested wildlife availability, cross-border worker travel, community health dynamics, shifts in employment and income distribution, and increased demand on infrastructure. Any impacts or changes to harvested wildlife availability are subject to Section 13 of the Inuvialuit Final Agreement.

The draft EIS does not identify how significance thresholds for transboundary effects were set, what scenarios were assumed, or which effects are not included in this conclusion. It is also not clear which, if any, effects are anticipated to occur in the Inuvialuit Settlement Region, or whether socioeconomic effects on Inuvialuit communities were considered at all among transboundary effects.

Information Request

a). *For each socio-economic transboundary effect listed (changes to harvested wildlife availability, cross-border worker travel, community health dynamics, shifts in employment and income distribution, and increased demand on infrastructure), please identify any specific changes within the ISR that were assessed in reaching the conclusion on magnitude.*

b) *Volume 11 includes a draft Socio-economic Monitoring Plan (SEMP) at Appendix 37K, which addresses "effects that are directly attributable to the Project and related to the Project's workforce." Please confirm whether any transboundary socioeconomic effects fall within the SEMP or any other management plan and, if so, identify any monitoring and mitigation measures applicable to the ISR.*

c) *If such effects fall outside the SEMP, explain how WKR proposes to monitor and mitigate transboundary socioeconomic effects, including effects within the ISR, and describe whether and how Inuvialuit communities and IRC will be included in the design and delivery of that monitoring and mitigation.*

Proponent Response

This response summarizes the relevant transboundary socio-economic assessment presented in Volume 10, Section 33.5, and clarifies how the assessment considered potential effects in the Northwest Territories, including Yellowknife and relevant transportation-related interactions within the ISR.

As described in Volume 10, Section 33.1, transboundary effects are effects linked to the Project that occur across territorial boundaries, or effects within the designated area from works outside it.
The transboundary socio-economic assessment is presented in Volume 10, Section 33.5 and addresses Traditional Land, Marine, and Resource Use; Food Security and Food Sovereignty; Community Health

and Well-being; Employment and Economy; and Infrastructure and Services. These sections draw on the corresponding Volume 9 (Human Environment) VC assessments and residual-effects conclusions that were developed.

To further supplement the transboundary effects assessment provided in Volume 10, Section 33, a Transboundary Effects Assessment Supplement (Appendix B to the Addendum to the Information Request Proponent Response Package) was drafted. This document summarizes the potential for transboundary effects related to the four primary pathways by which the Project could cause transboundary effects (including socio-economic considerations) and the methodology used to assess transboundary effects. Transboundary effects were evaluated qualitatively and were not characterized using the same definitions as residual effects (i.e., direction, magnitude, duration, frequency, geographic extent, reversibility, timing, likelihood, or significance). The transboundary discussion instead draws on the conclusions of the previously conducted residual and cumulative effects assessments (Addendum Appendix B, Section B.3). Descriptions such as "low in magnitude" therefore reflect the residual effects conclusions for the relevant VC.

The IS identifies the following transboundary socio-economic pathways relevant to the information request:

- Harvested wildlife availability, TLMRU, and food security: potential transboundary effects were identified for the Bathurst Caribou Herd (BCH), whose range extends into the Northwest Territories. Potential changes to BCH caribou may affect the quality, quantity, or distribution of harvested resources for Indigenous groups outside the Kitikmeot Region and may affect harvesting success and the stability of traditional food systems in the Northwest Territories. Transboundary effects on birds, muskox, moose, bear, and wolverine were characterized as negligible or small and are not anticipated to measurably affect Northwest Territories populations (Volume 10, Sections 33.5.1 and 33.5.2). For the Dolphin and Union caribou herd (DUH), the IS predicts habitat change that is low in magnitude and confined to the LAA with negligible health effects. Because the Project does not meaningfully reduce the herd's abundance or condition, the number and health of DUH caribou that return to northern Victoria Island — and are therefore available to ISR harvesters — is not materially diminished (IS Volume 6, Section 16.4).
- Cross-border worker travel and community health dynamics: the IS identifies potential adverse transboundary community health effects related to Project-related travel, health-care requirements, working conditions, employment, and income. Examples include potential communicable disease transmission by out-of-region workers to home communities outside Nunavut, effects on community and personal safety, potential increased alcohol and drug use during transit through locations such as Yellowknife, and rotational shift-work effects on workers and families outside Nunavut (Volume 10, Section 33.5.3).
- Employment and income distribution: transboundary employment and economy effects were assessed in Volume 10, Section 33.5.4, drawing on the conclusions of the Employment and Economy VC assessment presented in Volume 9, Section 27. These effects relate to labour demand, employment opportunities, income, and procurement-related outcomes that may extend beyond Nunavut depending on Project workforce sourcing and contracting.

- Demand on infrastructure and services: the IS assesses potential transboundary infrastructure and services effects in Volume 10, Section 33.5.5, drawing on conclusions presented in Volume 9, Section 28. The assessment considers the Project's potential demand on transportation systems, health and emergency services, temporary accommodation, waste management, community resupply, and regional transportation networks, including Yellowknife. The IS also notes the potential for construction-phase barge cargo movements through Inuvik or Tuktoyaktuk, where up to three barges per year of Project construction may require approximately 45 truckloads per barge to travel through the ISR from the Yukon border to existing staging facilities, before barging to Grays Bay during the open-water season (Volume 10, Section 33.5.5).

The conceptual Socio-economic Monitoring Plan (SEMP; Volume 11, Appendix 37K) addresses effects directly attributable to the Project and related to the Project workforce. The IS describes socio-economic mitigation, management, and enhancement measures related to the Food Security and Food Sovereignty, Community Health and Well-being, Employment and Economy, and Infrastructure and Services VCs. This includes development of a Labour Relations Strategy, Procurement Strategy, Employee and Family Assistance Program, Inuit Employee Assistance Program, Health and Medical Services Plan, Travel Policy, Drug and Alcohol Policy, and SEMP (Volume 9, Sections 25, 26, 27, and 28). The SEMP is currently at a conceptual stage in the IS, and the specific indicators, communities, and mechanisms for participation will be refined through further development of the SEMP and related management plans as the NIRB review progresses. Through this process, WKR will consider indicators related to transboundary socio-economic effects, including those associated with Yellowknife and potential ISR-related pathways identified through continued engagement. WKR will continue to engage the GN, Inuit Organizations, potentially affected Indigenous communities, IRC where applicable, and other affected parties during advancement of Project design and when planning additional management and monitoring measures.

IRC-03 (IR-396)

Subject

Use of lands and ports within the Inuvialuit Settlement Region

Issue / Concern

The draft EIS frames the Project's reliance on ISR ports and logistics as contingent, but lacks information to assess the likelihood of this contingency. It is not clear at what scale Project activity, workforce, fuel supply, or infrastructure would occur in the ISR if triggered; or whether use of ports, laydown areas, and labour in the ISR has been considered in the assessment of transboundary effects or excluded from the EIS.

Information Request

a) *Please identify all circumstances, including any circumstances not identified above, that would require reliance on Inuvik and Tuktoyaktuk as transportation hubs, and explain when, and on what basis, that determination would be made. Please provide an assessment of the likelihood of any such circumstances occurring, including any information relevant to the likelihood that equipment and materials would be sourced in western Canada.*

b) *Please clarify whether effects on community health, employment and income distribution, and demand on infrastructure and services from the above-noted activities were included in WKR's assessment of transboundary socioeconomic effects.*

c) *The spatial boundaries for the Infrastructure and Services VC (Section 28.1.4.1) include Yellowknife because it "will serve as a logistics and staging location for the Project," but exclude the use of Inuvik or Tuktoyaktuk for staging. Please explain why staging at Inuvik and Tuktoyaktuk did not warrant inclusion within the VC's assessment boundaries, and under what circumstances WKR would bring them within the assessment scope.*

d) *At what point in the Project timeline would the decision to use transportation through the ISR be finalized, and when would WKR commit to notifying IRC of that determination?*

Proponent Response

a) **Circumstances triggering reliance on ISR Infrastructure**

Materials and equipment for construction, and operations are primarily planned to come from Quebec ports via sealift. However, WKR has identified the option of using existing public infrastructure within the ISR such as the Dempster Highway and the Port of Inuvik, to transport materials and supplies more readily available in western Canada to Grays Bay. Use of the ISR infrastructure could be considered when specialized materials or equipment are more readily available in western Canada; or where short-term flexibility is required prior to the arrival of the annual sealift. The exact circumstances under which these decisions would be made would be on a case-by-case basis. However, given current understanding of the Project needs, WKR estimates up to 3 barges per year

from the ISR, which equates to approximately 135 truckloads using the Dempster Highway. Use of infrastructure in the ISR presents economic opportunities for contracting and employment, however it is optional and WKR can rely entirely on sealift from eastern Canada if there is not support for transporting construction materials through the ISR.

b) **Community health, employment and income distribution**

Although the use of the ISR is presented in the Impact Statement as optional the potential effects, both positive and adverse, are assessed and presented in Volume 10, Section 33 Transboundary Effects Assessment.

c) **Spatial Boundaries**

Inuvik and Tuktoyaktuk were not specifically included in the Regional Assessment Area in Volume 9, Section 28.1.4.1) because the use of ISR infrastructure is, as noted above, optional, whereas the use of Yellowknife as a logistics hub will be a requirement for the Project. The potential effects, both positive and adverse, of the use of ISR infrastructure are however assessed in the Impact Statement in Volume 10, Section 33 Transboundary Effects Assessment.

d) **Notification**

The Project can rely entirely on sealift from eastern Canada if there is not support for transporting construction materials through the ISR. WKR anticipates that IRC would be notified annually of the decision to use transportation through the ISR starting in 2028, before the pre-construction phase of the Project commences in late summer 2029. WKR looks forward to further discussion with the IRC to address any concerns related to the use of ISR infrastructure.

IRC-04 (IR-397)

Subject

Project use of, and effects on, the Inuvik–Tuktoyaktuk Highway and ISR road network

Issue / Concern

The EIS estimates potential traffic volumes of 135 trucks/year through the Inuvialuit Settlement Region (ISR), but does not assess the effects of that traffic on the ISR road network, including the Inuvik–Tuktoyaktuk Highway (ITH) and the Dempster Highway.

The conclusion that effects are "negligible" is not supported by reference to the current or approved capacity of those roads, their maintenance regime, or gravel resupply and is inconsistent with IRC's views and prior experience of increased traffic demands on the ITH.

Information Request

a) *Please identify the "current traffic volumes… on the ISR highways" relied on for the conclusion that transboundary effects from Project vehicles are "negligible". The Infrastructure and Services baseline (Volume 9, Section 28.2.2.3) describes traffic volumes and approved capacity for the TCWR only. If no ISR highway traffic or capacity data was relied on, please explain how the conclusion was reached without it.*
b) *Please explain how the conclusion in Section 33.4.1 that Project-related vehicle effects on the "ISR highways" are "negligible" was reached, including any traffic volume or capacity information considered for the ITH and other ISR highways. If no such information was available or relied on, please identify the basis for the conclusion.*
c) *Please identify whether any Project-related or reasonably foreseeable induced increase in traffic on the ITH or other roads within the ISR was assessed, and if so, where. If not assessed, please explain the basis for the assumption that RFI activity will result in "minimal, if any" traffic on ISR roads (Section 33.4.1).*

Proponent Response

a) ISR traffic data was relied upon to reach the conclusion that transboundary effects as a result of Project vehicles are predicted to be negligible. Data for the basis of the conclusion was obtained from the NWT Bureau of Statistics (Bureau of Statistics - Transportation). Data for the ITH for the period 2018 – 2024 indicates an average of 50 vehicles per day, equating to an average of 18,250 vehicles/year. The Project is estimating 135 trucks/yr which equates to less than 1% of average annual traffic. Data for the Dempster Highway from Yukon/NWT border to Inuvik for the period 2011-2024 indicates an average of 135 vehicles per day, equating to an average 50,005 vehicles/year. The Project is estimating 135 trucks/yr which equates to less than 0.5% of the average annual traffic. Given these statistics it was concluded that the effects because of the addition of the Project traffic would be negligible.

b) See response to Part a).

c) Project related traffic on the ITH and other roads in the ISR (Dempster Highway) was assessed and the results are presented in Volume 10, Section 33.4. The basis for the "minimal, if any" conclusion is that a purpose of the Project is to provide infrastructure to allow future RFI projects to develop, which would use the Project Road and Port to transport supplies and product during operations. There would therefore be minimal, if any, traffic crossing the border to NT or using other jurisdictions (Volume 10, Section 33.4.1). A summary of the transboundary effects assessment methodology, including the three primary pathways by which the Project could cause transboundary effects, is provided in Addendum Appendix B.

   In relation to RFI projects, WKR is not aware of any plans for RFI projects to use ISR infrastructure given the level of information currently available for those projects. A summary of the reasonably foreseeable induced (RFI) scenario is provided in Appendix A, Cumulative Effects Assessment Supplement (Sections A.3 and A.4), to the Addendum to the Information Request Proponent Response Package. Under the RFI scenario, mine construction and operational support vehicles travel between the RFI mines and Yellowknife via the Tibbitt to Contwoyto Winter Road (Addendum Appendix A, Section A.3; Volume 9, Section 28.4.4.1).

Nunavut Tunngavik Inc.

West Kitikmeot Resources Corp. (WKR), thanks the Nunavut Tunngavik Inc. (NTI) for its Information Requests (IRs) dated July 3, 2026 (NIRB Document 260703-24XN038-NTI IRs Re Impact Statement-IR3E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of NTI's IRs are provided below.

WKR looks forward to continuing to work with NTI, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

NTI-1 (IR-398)

Subject

Grays Bay Road's Zone of Influence (ZOI)

Issue / Concern

The road's ZOI is of crucial importance to the assessment of potential impacts on caribou, as it essentially delineates the Local Assessment Area (LAA), or "the maximum predicted extent of Project-related environmental effects, both direct and indirect, on caribou that can be predicted or measured with a reasonable degree of accuracy and confidence" (Volume 6, p. 16-16). An unmitigated ZOI of 4 km is proposed, with a reduction to 1 km through mitigation, management and enhancement measures—despite that "in general, the effectiveness of mitigation has been weakly demonstrated" (Volume 6, Appendix 16B, p. 46). Since it is expected that mitigative measures will be applied, a road ZOI of 1 km has apparently been used in the calculation of caribou exposure rates. The caribou vulnerability assessment (Appendix 16B) however assumed a road ZOI of 5 km, pointing out that caribou can reportedly see haul trucks 2 km away and noting that ZOI estimates of over 15 km along roads prior to caribou crossing have been documented elsewhere.

Additional justification and uncertainty evaluation are required to assess effects predictions and significance determinations.

Information Request

1) *Provide technical basis and sensitivity analyses for the selected 1 km ZOI or provide evidence that mitigation can reduce responses from 4–5 km to 1 km; and*
2) *Provide sensitivity analyses for alternative ZOIs (2, 4, 5, 10 km and variable-distance).*

Proponent Response

As stated in the Impact Statement (IS), the 1-km Zone of Influence (ZOI) is a recommendation provided in the Bathurst Caribou Zone of Influence Literature Review (ERM 2025). Based on their literature review, ERM (2025) identified a 4-km ZOI for an unmitigated all-season access road, which reduces to 1-km when traffic is managed along the road or the road is closed when caribou are present. The 1-km ZOI is estimated for industry haul roads that apply road closures (see page 4, Table 1 in ERM [2025]).

In contrast, the Caribou Herd Vulnerability Model (CHVM) assessment in Volume 6, Appendix 16B used a ZOI that is consistent with the Bathurst Caribou Range Plan (5-km ZOI) and the ERM report (4-km ZOI) of an unmitigated road. Furthermore, the reference to "ZOI estimates of over 15-km along roads prior to caribou crossing" not only has limited empirical evidence, but it is also associated with changes to movement patterns—not indirect habitat loss—and associated with ZOI estimates prior to mitigations being applied (e.g., Boulanger et al 2024).

The 1-km ZOI is applied in the IS when assessing indirect habitat effects on caribou (Volume 6, Section 16.4.2) because of the mitigation, management, and enhancement measures being proposed (Volume 6, Section 16.4.2.3). As part of the caribou Trigger Action Response Plan framework, Mobile Caribou Conservation Measures will be used to inform adaptive road closures when triggered by the Project's early warning systems (e.g., collared caribou movements), well before caribou occur near the Project Road, limiting exposure to sensory disturbances (e.g., visual, auditory).

WKR contends that this information and rationale is sufficient to justify the use of a reduced 1-km ZOI under the proposed mitigation regime. Additional sensitivity analyses for alternative ZOIs are unjustified.

NTI-2 (IR-399)

Subject

ZOI and Caribou Migration Corridor

Issue / Concern

The IS reports on the existence of a fairly consistent Bathurst caribou spring migration corridor, along a northeastern trajectory from winter range to calving grounds, intersecting the southernmost 50 km of the Project's road.

The fixed-distance ZOI approach may not adequately characterize a road's effects on caribou behaviour in instances where it intersects a major migration corridor.

Information Request

1) *Explain, providing supporting analyses, why the presence of an intersecting migration corridor has not been deemed to have any bearing on the road's ZOI; and*
2) *Provide modelling weighing the potential impact of increasing traffic volumes on the ZOI in the vicinity of where the migration corridor intersects the road.*

Proponent Response

Please refer to the response to IR NTI-01 (IR-398) for rationale on why the Project Road zone of influence (ZOI) was selected, including the reduction to a 1-km ZOI for a mitigated road, and how it is applied to assess indirect effects on caribou habitat. Ultimately, the proposed mitigations (i.e., adaptive road closures) are expected to substantially reduce the Project Road ZOI from 4 km to 1 km. The same 1-km ZOI is used to assess the exposure of mainland and island caribou herds to the Project in the assessment of movement effects, but it is not the only metric used. The Impact Statement (IS) also considers how much seasonal migration corridors (developed using Brownian Bridge movement models) overlap the Project (Volume 6, Section 16.4.3.1). Together, these two metrics provide context for assessing changes to local- and broad-scale movements.

The mitigation-induced 1-km ZOI considers traffic volumes for industry haul roads (see response to IR NTI-01 (IR-398)), which are substantially higher than what is expected during Project Construction and Operations and Maintenance. Thus, the 1-km ZOI already accounts for increased traffic volumes relative to those expected for the Project.

NTI-3 (IR-400)

Subject

Effects Thresholds and Inuit Harvesting

Issue / Concern

While Project residual and cumulative effects on traditional land, marine and resource use (TLMRU) are predicted to be 'not significant' with the application of mitigation, management and enhancement measures, varied effects on the traditional food system are acknowledged throughout the IS. For instance, long-term adverse residual effects associated with Project effects on caribou range and movement and on the quality or perceived quality of caribou as country food are anticipated to be of moderate magnitude for the stability and availability (and thus utilization) of caribou, a key species for the traditional food system. Although increased hunting travel time, costs and distances are mentioned with respect to the potential alteration of cultural transference opportunities, the treatment of these intermediate outcomes is not readily accessible.

TLMURU by Inuit is already significantly restricted by the establishment of conservation measures for the Bathurst caribou herd (moratorium in the NWT and TAH of 10 bulls in Nunavut). In these circumstances, additional or cumulative effects on Inuit food security and sovereignty cannot intuitively be seen as insignificant.

Information Request

1) *Explain how the threshold for moderate magnitude residual effects is apparently higher than the agreed upon threshold for unacceptable effects;*
2) *Provide details on current or anticipated programs, policies or mitigation measures that are relied upon to bring down residual and cumulative effects to a point where Inuit TLMRU activities can continue at, or near, current levels;*
3) *Explain the usefulness of setting such a high threshold (greatly reduced or eliminated) for high magnitude residual effects on TLMRU activities;*
4) *Discuss intermediate outcomes (e.g., reduced access to and availability of caribou, increased hunting effort);*
5) *Discuss how current low abundance of Bathurst caribou and limitations on Inuit hunting have factored in the definition of thresholds and significance determination; and*
6) *Explain how the expected annual mortality of 1 to 5 caribou due to Project-related vehicle collisions, and facilitated harvest and predation, is considered 'minimal' when the Nunavut TAH is currently set at 10 bull caribou.*

Proponent Response

1) Magnitude and significance are separate factors in the Impact Statement (IS) residual effects characterization frameworks and are not directly comparable. Per the NIRB IS Guidelines, magnitude is one of several criteria considered when evaluating residual effects on a VC resulting from the Project, specifically the extent of change in a measurable parameter relative to baseline conditions.

   Significance is a separate integrated determination that includes a variety of considerations, only one of which is magnitude of a given effect.

   The Traditional Land, Marine, and Resource Use VC (Volume 9, Section 24.1.6) significance determination states:

   > "*…for the purposes of this assessment, a significant adverse effect on TLMRU is one that, following the implementation of mitigation, management, and enhancement measures, will create a long-term permanent change or disruption to TLMRU to a point where the activities cannot continue at or near current levels within the TLMRU RAA. This may include a long-term or permanent change or disruption to TLMRU even in instances where supporting biological assessments (e.g., caribou, vegetation) or physical sites (e.g., heritage sites or traplines) in the TLMRU RAA are not significantly affected. For example, harvesters may elect to avoid certain harvesting areas as a result of the Project's activities, despite the habitat and resource(s) still being accessible.*" (Volume 9, Section 24.1.6, Page 24-16)

   A Moderate effect magnitude for TLMRU, however, corresponds to an effect that "may reduce but not eliminate the ability to conduct TLMRU activity." The threshold for a significant effect, as noted above, is where a long-term permanent change or disruption occurs, to a point where the activities cannot continue at current levels within the TLMRU RAA. Therefore, a Moderate magnitude rating is not, in itself, a significant adverse effect when considered in context with other Project residual effects anticipated as TLMRU activities are anticipated to be able to continue near current levels. WKR reiterates that it recognizes that despite this conclusion, harvesters may elect to avoid certain activities or areas as a result of the Project's activities.

   The Food Security and Food Sovereignty VC (Volume 9, Section 25) significance determination states:

   > "*…a significant adverse residual effect on Food Security and Food Sovereignty as defined as one where: There is a persistent and substantial decline in country food availability or perceived quality. The Project will create a measurable adverse change from current conditions and trends with respect to food security or food sovereignty at the community level that is attributable to the Project and cannot be managed or mitigated through adjustments to programs, policies, plans, or through other mitigation.*" (Volume 9, Section 25.1.6, Page 25-13)

   Further, a moderate magnitude rating for Food Security and Food Sovereignty corresponds to an effect that "results in decline in food security and food sovereignty at the household level" (Volume 9, Section 25.1.5, Table 25.2, Page 25-12)

For the Caribou VC (Volume 6, Section 16), the same distinction applies. Significance is based on conservation-based thresholds or long-term persistence and viability, with the IS stating that an effect is significant when "*the Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management, and enhancement measures.*" (Volume 6, Section 16.1.7, Page 16-26).

Based on the magnitude ratings assigned for the Project and the definitions of significance established for this assessment, none of the predicted effects meet the thresholds required to be considered significant.

With respect to TLMRU, feedback received from IAG members (IAG 2025b) (Volume 9, Section 24.1.6) identified the following priorities, when considering unacceptable changes as a result of the Project:

- That Inuit perspectives are considered and addressed in project design,
- That the Project does not negatively affect peoples' ability to harvest caribou and put food on the table,
- That hunters have access to the Grays Bay area, and to hunting supplies at Grays Bay and Jericho Station, and
- That wildlife and water are protected.

As described above, effects arising from the Project are consistent with the priorities identified in Section 24.1.6.

2) The Project's mitigation, management, and enhancement measures for continued TLMRU are described in Volume 9, Section 24.3.3 through Section 24.3.6, summarized across Tables 24.12, 24.14, 24.15, and 24.16, and reinforced through Volume 11 (Management Plans). Mitigation, management, and enhancement measures relied upon to support the continuation of Inuit TLMRU activities at current levels include:

   - Road Management Plan, including access mitigation measures to maintain access to land and marine areas throughout all Project phases and manage road use to reduce conflicts and potential harvesting pressures.
   - Wildlife Mitigation and Monitoring Plan to limit Project-related effects on wildlife and monitor effectiveness of mitigation measures.
   - Caribou Trigger Action Response Plan (TARP), including adaptive management measures such as targeted road closures during migration periods and traffic management protocols.
   - Mobile Caribou Conservation Measures (MCCMs) to reduce potential Project interactions with caribou.
   - Traffic management measures, including speed limits and wildlife right-of-way protocols.
   - Culture Program at Project camps to support country food use, cultural awareness, and respect for Inuit traditions.

- Socio-Economic Monitoring Plan (SEMP) to monitor harvesting, food security, and other socio-economic indicators and implement responsive management measures where required.
- Annual monitoring and reporting to identify trends, evaluate Project effects, and support adaptive management.
- Marine and wildlife incident prevention and response procedures incorporated into Project management plans.
- Volume 11 (Management Plans) provides details on additional mitigation, monitoring, and adaptive management commitments applicable throughout Project construction, operations, and maintenance.

Collectively, these measures are intended to maintain or increase access to harvesting areas, reduce Project-related effects on wildlife and other TLMRU resources, and support the continued practice of Inuit TLMRU activities at or near current levels

3) The four magnitude categories for TLMRU (Volume 9, Section 24.1.6) are scaled so that effects at each level are captured and characterized within the framework, and the significance test then integrates magnitude with the other residual effects criteria to determine whether the overall effect is significant. The magnitude definitions in Table 24.3 (Volume 9, Section 24) provide a qualitative evaluation of the degree of change and cover a range of potential changes relative to current baseline conditions; the definition for “Low” represents relatively little change, while the definition for “High” represents a high degree of change.

4) The IS addresses the ‘intermediate outcomes’ referenced in the IR — reduced access to and availability of caribou, and increased hunting effort — through the following pathways in the TLMRU and food security assessments:

   Regarding reduced access to and availability of caribou, the TLMRU (Section 24) assessment identifies "Change in Access to Resources, Sites, or Areas Where TLMRU Occurs" as a distinct effect pathway (Volume 9, Section 24.3.5, Page 24-130), with measurable parameters set out in Table 24.2:

   > "*Availability of access routes, including waterways; Area of accessible land; Distance, time, and effort to access areas from communities of residence; Qualitative consideration of factors contributing to lost, created, or altered access and access routes, including land and water routes; Qualitative evaluation of harvesting pressure due to improved access for land users through road use or project workforce; Perceptions of land health and resource quality; Other changes or concerns raised by Kitikmiut or other potentially affected Indigenous groups.*"
   > (Volume 9, Section 24.1.3, Table 24.2, Page 24-10)

   As noted above, "*Distance, time, and effort to access areas from communities of residence*" is one of the parameters used to assess the outcomes identified in the IR. Caribou-specific pathways for reduced access are also addressed in Volume 6, Section 16.4.2 (Change in Habitat), Section 16.4.3 (Change in Movement), and Section 16.4.4 (Change in Mortality Risk).

Regarding increased hunting effort, Volume 9, Section 25.3.3.3 (Accessibility and Utilization) records:

> "*…rotational shiftwork and time spent at the worksite may affect individuals' ability to participate in the traditional food system. A frequently reported barrier for harvesting country foods is decreased time available for land- and marine-based activities due to waged employment.*" (Volume 9, Section 25.3.3.3, Page 25-42)

Rotational shiftwork is one of several contributors to changes in hunting effort identified in the Section 25 assessment. Section 25.3.3.1 further records community engagement feedback that "*land users reported they have had to travel further to access wildlife, fish, and plant resources than they did in the past*" (Volume 9, Section 25.3.3.1, Page 25-37).

In Section 24.3.3 (Residual Effects Characterization), residual effects on change in the quality, quantity, or distribution of TLMRU resources are characterized as follows:

> "*Overall, during both the Construction and Operations and Maintenance phases, and following the implementation of mitigation, enhancement, and management measures, the residual effects of the Project on changes in the quality, quantity, or distribution of resources involved in or required for Kitikmiut or other potentially affected Indigenous groups' TLMRU are predicted to be adverse in nature. As a result, effects are predicted to range in magnitude from low to moderate in magnitude within the PDA, LAA, and RAA, and occur short-term (i.e., Construction phase only) to long-term (i.e., extend throughout Operations and Maintenance). Some species and ecological components may be affected by project activities more than others. While effects on some harvested resources such as birds and other terrestrial wildlife are expected to be low in magnitude, effects on caribou are expected to be moderate.*" (Volume 9, Section 24.3.3.3).

5) The current abundance of the Bathurst Caribou Herd (BCH) and existing harvest limitations were directly incorporated into the Caribou VC magnitude thresholds presented in Volume 6, Section 16.1.6.4:

> "*The TAH of BCH caribou in NU is currently set to 10 bulls/year from the herd (GN 2020a), which comprises 0.28% of the herd's most recent (2025), preliminary population size estimate (3,609 caribou) (GNWT 2025a). The TAH of BCH caribou is zero in NT (GNWT 2019)… Given the Critical Low status of the BCH and the Endangered status of the DUH, the lower annual harvest rate (0.28%) is set as the threshold to identify the highest magnitude of annual change in mortality risk. Magnitude thresholds correspond to the excess mortality expected due to the Project (i.e., mortalities beyond what would occur without the Project).*" (Volume 6, Section 16.1.6.4, Page 16-24)

The IS uses the Nunavut TAH-equivalent rate (0.28% of herd size) as the threshold for high magnitude effects, specifically to reflect the herd's current status. Lower-magnitude thresholds are scaled proportionately below this. This is a direct application of the herd's current abundance and the existing conservation-based harvest limitations in place, to the significance framework. Section 16.1.7 determines significance against "conservation-based thresholds or [threats to] the long-term persistence and viability of the population" (Volume 6, Section 16.1.7, Page 16-26).

6) Volume 6, Section 16.1.6.4 characterizes the Project's expected annual excess mortality of 1 to 5 caribou as low magnitude, defined relative to the TAH-anchored high magnitude threshold:

> "*The Project's potential magnitude of effect is divided into four annual rates of mortality: negligible = 0.0% of the herd size (no mortality); low = 0.0% to 0.13% of the herd size; moderate = 0.14% to 0.28% of the herd size; and high = >0.28% of the herd size (see Table 16.4). Based on the BCH's current population size, these magnitudes are equivalent to the following total annual mortalities: negligible = 0 caribou; low = 1 to 5 caribou; moderate = 6 to 10 caribou; and high = >10 caribou.*"
> (Volume 6, Section 16.1.6.4, Page 16-24 to 16-25)

The 1-to-5-caribou range corresponds to 0.0% to 0.13% of the current BCH population and is characterized as a low magnitude effect, relative to the 0.28% high magnitude TAH-equivalent anchor. Further, as the magnitude is based on the current BCH, based on natural population cycles, if the herd rebounds, these effects would become even lower magnitude in the future. The IS characterization applied in Section 16.1.6.4 for the Project's expected 1 to 5 caribou annual excess mortality range is thus low magnitude.

NTI-4 (IR-401)

Subject

Potential Impact of RFI Road Network on Caribou Movement

Issue / Concern

The IS acknowledges that the combination of the north-south Grays Bay and Izok roads (west of Contwoyto Lake) and the east-west Hackett/Back River road (east of Contwoyto Lake) may pose an issue for Bathurst caribou. Should simultaneous activity on all roads "create a continuous filter to movement", then "all BCH caribou are likely to experience local movement effects (e.g., avoidance, crossing delays, changes in activity) that could alter the timing of migration and the location of calving" (Volume 6, p. 16-139).

The above excerpt alludes to cumulative effects that are seemingly of significance.

Information Request

1) *Provide modelling of permeability, crossing probability, migration delay, migration route alteration, calving area displacement and barrier effects in a future scenario with all RFI roads active; and*
2) *Provide traffic sensitivity analyses for RFI development scenarios.*

Proponent Response

WKR does not consider that the additional modelling (i.e., permeability, crossing probability, migration delay, migration route alteration, calving area displacement, and barrier effects) and traffic sensitivity analysis being requested is necessary to assess RFI development scenarios.

The Impact Statement (IS) assesses the movement-related effects of the Project and Reasonably Foreseeable Induced (RFI) physical activities by quantifying (1) caribou annual exposure rates and (2) overlap between migration corridors and the Project/ RFI physical activities. These two metrics are then used to infer and describe the combined effects of physical and perceptual filters on caribou movement under RFI conditions (Volume 6, Section 16.5.4.3).

The cumulative effects characterization considers that:

> "*All existing and proposed projects in NU are required by law and regulation to implement appropriate environmental safeguards and project-specific mitigation plans. It is assumed that mitigations required for active RFI mines would exceed the mitigations proposed for the Project. For example, a caribou TARP, including MCCMs like adaptive road closures and traffic management like convoying, are likely required for all RFI access roads. Some regional-level coordination among the Project and RFI physical activities is expected during key time periods, such as BCH spring migration, calving, and post-calving*". (Volume 6, Section 16.5.4.2, document page 16-138)

Hypothetical modelling of future conditions beyond what is reasonably known does not increase the certainty of the caribou assessment, nor does it change the necessity of the mitigations being proposed for the Project or those expected for RFI activities.

NTI-5 (IR-402)

Subject

Cumulative Exposure of Caribou to Disturbance

Issue / Concern

The IS notes the likelihood that Bathurst caribou will experience a 4.3-day net increase their annual exposure to disturbance due to Project and RFI activities. This compares to a 1.5-day net increase due to the Project alone, which is expected to be moderate in magnitude and lead to both local and broader movement alterations. Exposures to disturbance will mainly occur during the herd's spring migration and are expected to overlap with its central migration corridor and migration pinch points.

Information Request

1) *Determine how using a 5 km ZOI as the basis for defining exposure, as was done in the Vulnerability Assessment (Appendix 16B), would affect the IS' calculation of cumulative caribou exposure to disturbance;*
2) *Clarify whether caribou behavioural responses (e.g., road paralleling, deflection) are included in exposure time calculations;*
3) *Clarify if the potential effect of varying traffic intensity on caribou road crossing behaviour and delay has been accounted for in exposure time calculations;*
4) *Explain the effect of increasing traffic on exposure duration, crossing time and success, paralleling and deflection, avoidance and cumulative effects; and*
5) *Identify significance thresholds for cumulative exposure.*

Proponent Response

WKR provides answers to each of the five questions/requests below.

1) A 5-km Zone of Influence (ZOI) is not used to define exposure because it is not consistent with the expected ZOI for a mitigated road, i.e., one that applies adaptive road closures and strict traffic management measures. Please refer to the response to Information Request IR NTI-01 (IR-398) for additional information.

2) Caribou behavioural responses (e.g., road paralleling, deflection) are not included in the exposure time estimates because those calculations use the movement paths of existing GPS-collared caribou (not those exposed to the Project, which does not yet exist). However, exposure time estimates are very conservative and likely overestimate the expected exposure:

> "*Calculation of exposure rates use the period between consecutive GPS locations (i.e., fix rates) as an indicator of maximum exposure time. For example, if a caribou location occurs within the Project's ZOI buffer, and 4 hours later, the next location occurs outside the buffer. In that case, it*

is assumed that the caribou was exposed to the Project ZOI up to 4 hours. The fix rate between consecutive GPS locations ranges from 1 hour to 24 hours, depending on the individual, season, and year; the average fix rate is 9.8 ± 0.1 hours. Therefore, estimated exposure rates are likely more accurate for individuals with frequent fixes (e.g., 1-hour intervals) and overestimated for individuals with infrequent fixes (e.g., 24-hour intervals)." (Volume 6, Section 16.4.3.1, document page 16-100)

3*)* The Impact Statement (IS) is explicit that exposure time calculations assume the application of mitigation, management, and enhancement measures:

"*Exposure rates are calculated for the Project with the implementation of mitigation, management, and enhancement measures. With mitigation, management, and enhancement measures, such as the caribou TARP, which includes adaptive road closures and traffic management (e.g., convoying) (see Section 16.4.3.3), the ZOI of the Project Road is expected to be 1 km (see ERM Consultants Canada Ltd. 2025a). Since activities will occur continuously and year-round at the Project Port, its ZOI is expected to be 4 km (see ERM Consultants Canada Ltd. 2025a).*" (Volume 6, Section 16.4.3.1, document pages 16-100 to 16-101)

Mitigations such as adaptive road closures and traffic management reduce traffic volume/ intensity and do not increase it.

4*)* Please refer to the response to question (3), above. Though increased traffic would entail additional adverse effects (i.e., increase exposure, increase crossing time and reduce crossing success, and increase paralleling, deflection, and avoidance), mitigations like adaptive road closures and traffic management reduce traffic volume/ intensity and do not increase it.

5*)* The IS draws inferences made from the Caribou Herd Vulnerability Model (CHVM) (Volume 6, Appendix 16B) to contextualize exposure levels. The CHVM demonstrates how exposure affects caribou body condition and population vital rates, and the hypothetical predictions made by the CHVM help demonstrate relative changes to herd dynamics under different exposure levels.

Given that the CHVM (a) calculated an exposure rate "6.3-times larger than the actual BCH exposure rate calculated in this assessment" (Volume 6, Section 16.6.3.3, document page 16-156), and (b) had "[s]everal assumptions related to exposure rates [that] are likely producing overestimates in the effects of human development on caribou herds" (see Volume 6, Section 16.6.3.3, document page 16-156), it is expected that the more realistic exposure rates calculated in the caribou assessment (Volume 6, Section 16.5.4.3) would result in limited effects on body condition and population vital rates.

The estimated exposure levels in the IS—which are also conservative estimates (see response to question [2] above)—are not expected to reach levels that would be deemed significant, as per the definition used in the assessment:

> "*Significant: The Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management, and enhancement measures*". (Volume 6, Section 16.1.7, document page 16-26)

NTI-6 (IR-403)

Subject

Cumulative Effects: Caribou Assessment Area Boundaries

Issue / Concern

In relation to Project-related and cumulative effects, the primary assessment boundaries for mainland caribou encompass the portion of the Bathurst caribou range within Nunavut, rather than the herd's entire range, even though "distribution is a key component of assessing the Grays Bay Road" (Volume 6, Appendix 16B, p. 18). This is particularly true for Bathurst caribou, given that the herd's drastic decline has resulted in range shifts and contraction. While focusing on Nunavut may seem sensible, cutting off at the territorial border effectively impedes the assessment of potential effects on caribou migration, as all seasonal ranges overlap to at least some extent with Project and RFI roads.

During a recent workshop on the Mary River Cumulative Effects Assessment Framework (CEAF), emphasis was placed on the need to expand the geographic scope of cumulative effects assessments to include the entire range of migratory wildlife species harvested by Nunavut Inuit.

Information Request

1) *Assess the implications of excluding a portion of the annual range of Bathurst caribou with respect to the assessment of cumulative effects on the herd's migration and distribution;*
2) *Provide an analysis of cumulative effects on Bathurst caribou using the herd's full annual range; and*
3) *Explain the interaction between cumulative effects occurring outside of Nunavut and Project effects on Bathurst caribou.*

Proponent Response

The spatial scope of the Cumulative Effects Assessment (CEA) for the BCH (i.e., BCH-RAA1) and Dolphin and Union Caribou Herd (DUH) (i.e., DUH-RAA) is sufficient to provide regional context for these herds. The herd assessment areas cover vast landscapes and account for the interaction between Project residual effects and other cumulative land disturbances. Though the BCH and DUH may interact with other sources of disturbance beyond the herd-specific assessment areas, these very distant disturbances are not included for two reasons:

1. The CEA is a regional assessment that focuses on the Project. The CEA is not a caribou range assessment. Range-level assessments are beyond the scope of a single project and are led by well-established co-management regimes. For example, the Bathurst Caribou Range Plan guides the management of the BCH across its annual range, including other range assessment areas (e.g., RAA2) that cover existing and future developments like the Arctic Economic and Security Corridor (AESC). The Bathurst Caribou Range Plan develops range-wide disturbance thresholds to help inform land use planning, and the Impact Statement (IS) adopts the Plan's RAA1 (i.e., the Nunavut portion of the annual range) to guide the caribou assessment in the region surrounding the Project.

2. WKR contends that it is sufficient to infer the state of caribou (e.g., body condition) upon their arrival in BCH-RAA1 and DUH-RAA using Inuit, Indigenous, and Community Knowledge, known ecology, peer-reviewed literature, and the relative contribution of natural (primarily climate and weather) and human-related (development) factors considered in the CHVM (Volume 6, Appendix 16B). The CHVM identified negligible effects of human development on DUH body condition and population vital rates based on potential interactions in their annual range. In contrast, the CHVM clarifies that both natural and human-related factors can influence BCH body condition and population vital rates. The IS acknowledges that BCH caribou "carry" these effects as they interact with developments in their winter range in the Northwest Territories. Once the BCH arrives in BCH-RAA1, WKR aims to minimize any potential effects the Project may contribute to the herd's already affected state. Specifically, the proposed Trigger Action Response Plan (TARP) framework will allow WKR to implement Mobile Caribou Conservation Measures (MCCMs), including adaptive road closures, to minimize additional effects on the state of BCH caribou.

For the reasons described above, expanding the regional assessment areas to each herd's full range does not change the conclusions of the CEA. Furthermore, WKR contends that additional analysis on the BCH's full annual range is not warranted.

NTI-7 (IR-404)

Subject

Bathurst Caribou Herd as a Proxy for Mainland Caribou

Issue / Concern

The IS focuses on Bathurst caribou because it suggests that the other mainland herds' infrequent interactions with the Project tend to mirror those of the Bathurst herd in range use and movements. While the ranges of the Beverly and Ahiak herds minimally overlap with the Project, Inuit observations and collaring data alike point to considerable interactions between Bathurst, Beverly, Ahiak, and Dolphin and Union caribou during migrations and overwintering.

Considering the Bathurst herd's drastic 98% decline between 1986 (over 470,000 caribou) and 2018 (less than 7,000 caribou), and the reported emigration of thousands of Bathurst caribou to the Beverly and Ahiak herds between 2011 and 2023, it is not inconceivable that the behaviour of Beverly, Ahiak, and Dolphin and Union caribou may be, or become, more representative of Bathurst caribou range use and migratory movements than the reverse.

Information Request

1) *Explain in greater detail why separate assessments for the Beverly, Ahiak, and Dolphin and Union herds are not contained in the IS;*
2) *Provide evidence that Bathurst caribou range use, movements and Project-related responses represent those of the Beverly, Ahiak, and Dolphin and Union herds, respectively;*
3) *Provide analyses of range, migration, exposure overlap and vulnerability for the Beverly, Ahiak, and Dolphin and Union herds; and*
4) *Provide the results of any other herd-specific assessments.*

Proponent Response

WKR provides answers to each of the four questions/requests below.

1) Please refer to the response to GC IR-02 (IR-149), which reinforces the rationale for assessing the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH) as representative mainland and island herds, respectively, and why other herds are not considered explicitly in the assessment of potential effects (endpoints) (see Volume 6, Section 16.3.5) using the measurable parameters outlined in the Impact Statement (IS) (see Volume 6, Section 16.1.3).

2) Please refer to the response to GC IR-02 (IR-149) for a description of the limited potential interactions between the Project and Bluenose East and Beverly/Ahiak herds. Furthermore, these mainland herds are not a different subspecies or ecotype of caribou than the BCH. Collar data demonstrates that when caribou from the Bluenose East and Beverly/Ahiak herds mix with the BCH within the BCH's Nunavut range, all caribou are using the landscape similarly. The IS does not claim that the DUH behaves similarly to the BCH; a separate assessment is completed for the DUH as a representative island herd.

3) Such analyses are not warranted for the Beverly/Ahiak herd but are provided for the DUH throughout the caribou assessment (see Volume 6, Section 16). The independent study implementing the Caribou Herd Vulnerability Model (CHVM) also rationalizes the exclusion of the Beverly/Ahiak herd from the vulnerability assessment because the "herd has little interaction with the Grays Bay Road" (Volume 6, Appendix 16B, document page 23).

4) Please refer to responses 1) through 3) above.

NTI-8 (IR-405)

Subject

Cumulative Effects Mitigation and Monitoring

Issue / Concern

A suite of plans (e.g., Wildlife Mitigation and Monitoring Plan, Road Management Plan, Caribou Trigger Action Response Plan, Marine Mammal Monitoring Program, Air Quality Monitoring and Management Plan) are earmarked as key instruments in the minimization of Project effects. The notion that cumulative effects are expected to be minimized by the same mitigations as those proposed for the Project is similarly brought forward. For instance, the Road Management Plan will "help limit Project-related disturbance to wildlife by setting clear expectations for industrial traffic" (Volume 1, p. MD-95), and establish "control over development tied to the road" (Volume 2, p. 2-53). Also, the continued ability of caribou to move freely and cross roads is expected, "assuming these RFI projects implement mitigation, management, and enhancement measures similar to the Project's" (Volume 6, p. 16-142). Conversely, it is noted that "WKR is not responsible for other proponents, nor are these parties under WKR's care or control when using WKR-owned infrastructure", and that infrastructure users will be responsible "for assessing and managing the effects of their own activities" (Volume 10, p. 32-5).

Considering that this array of monitoring plans is at the core of WKR's proposed cumulative effect mitigation strategy, clarity and certainty regarding the extent to which third-party infrastructure users will be bound by WKR plans are required.

Information Request

1) *Identify which measures, if any, are only applicable to WKR (versus all infrastructure users);*
2) *Explain how infrastructure users will be bound to abide by mitigation and monitoring measures laid out in WRK plans, and describe related mechanisms through which third-party compliance will be achieved and enforced, if need be; and*
3) *Clarify whether cumulative effects conclusions were made under the assumption of total third-party infrastructure user compliance with WKR mitigation and monitoring plans.*

Proponent Response

1) Identify which measures, if any, are only applicable to WKR (versus all infrastructure users);

   In general, the measures identified are applicable to all infrastructure users. However, WKR will be responsible for design and construction commitments, as well as certain responsibilities during Operations and Maintenance.

   - Access control and gate management at Grays Bay Port and Jericho Station

- All-weather road inspection and maintenance, dust suppression, watercourse crossing inspection and maintenance, and winter ice road inspection and maintenance
- Emergency response coordination through the Risk Management and Emergency Response Plan;
- Wildlife monitoring under the WMMP by WKR's Environmental Manager and Environmental Monitors — remote cameras, active monitoring, incidental observation logbooks, caribou collar data acquisition, bird nest sweeps, grizzly bear and wolverine monitoring, and marine mammal management and monitoring;
- Caribou Trigger Action Response Plan (TARP) and Mobile Caribou Conservation Measures (MCCMs), including road closures when "lead caribou (cows or cows with calves) or groups of caribou (≥25 animals) are observed near the road" or "collar data provided by GN/GNWT suggest that caribou are on a trajectory to cross the road";
- Level 1–4 site-management framework administered by the Site Manager, including Level 3 Site Alert triggers at ≥25 caribou within sight of the Project, muskox within 500 m of the Project footprint, or a predator identified near Project buildings;
- Random speed audits: "Random speed audits shall occur when the road is operational, administered by WKR to encourage driver compliance" (Volume 11, Appendix 37B, Table 7.1);
- Annual reporting and adaptive management program administration.

2) Explain how infrastructure users will be bound to abide by mitigation and monitoring measures laid out in WRK plans, and describe related mechanisms through which third-party compliance will be achieved and enforced, if need be.

   Measures that will be applicable to all infrastructure users (including third parties), will be implemented as a condition of access or use of WKR's infrastructure, as described in Volume 10, Section 32.2.1: "As a privately owned Project access to the Road and Port will be controlled by WKR. This provides the unique opportunity to require third-party users to adhere to mitigation measures (protocols and procedures) that contribute to the reduction and management of cumulative effects.

   Prior to using the road all commercial and Community Users (anyone using the road for non-industrial and non-security uses) will be required to sign an Access and/or Code of Conduct Agreement, which will include road use rules and expectations, including those measures implemented for the protection of wildlife. Access-agreement instruments include (Volume 11, Appendix 37A, Section 5.1.1):

   - Mining users on a tolled basis, with port and road use fees to be established through agreements between WKR and mining/exploration companies;
   - Security and other public government users through agreements between WKR and the relevant government department or agency;
   - Community users with free access for travel and transportation purposes, subject to safe operating procedures, implemented through the Access and/or Code of Conduct Agreement;

- Harvesting users requiring prior approval (permit) issued jointly by the Kitikmeot Inuit Association and the Hunters and Trappers Association, with WKR responsible for ensuring permits and licences are in place before granting access.
- Unauthorized use may lead to security alerts and reports to local authorities. (Volume 11, Appendix 37A, Section 5.1.1)

Operational and wildlife-protection measures binding on all authorized users of the road include:

- Design speeds — typically 60 km/h;
- Wildlife right-of-way: "All vehicles and equipment must slow down to 30 km/h when wildlife occur within line of sight of the driver and must stop for 20 minutes when wildlife are within 100 m of the road and show intent to cross" (Volume 11, Appendix 37B, Table 7.1);
- Compliance with TARP-triggered temporary road closures administered by WKR;
- Prohibitions on feeding/harassing/hunting wildlife while working on the Project, on recreational use of ATVs and snowmachines by construction and Operations and Maintenance personnel, on cell phone use in Project vehicles, and on driving under the influence;
- Firearms buffer: "Use of firearms within the designated one-mile (1.6km) safety buffer zones around operations is prohibited, as per Section 5.7.17 of the Nunavut Land Claims Agreement Act" (Volume 11, Appendix 37A, Section 5.1.2);
- Reporting of wildlife observations to the WKR environment department, with sightings of caribou or muskox reported immediately;
- Load securement, seat belts, headlights, convoy protocols, and signage compliance;
- Harvesting permit requirement — (Volume 11, Appendix 37A, Section 5.1.1): "Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA)"; If no approval process is in place, WKR anticipates that use of the road for harvesting purposes would be prohibited.
- Vessel operator obligations at the Port — vessel operators are subject to the vessel speed restrictions, established navigation routes, and operational protocols for the protection of marine mammals.

The measures outside WKR's care or control include any third-party activities on the third party's own project (mine construction, ore processing, mine-site environmental management, or vessel movements within shipping lanes beyond the Port) are the responsibility of that proponent.

Physical access control at security gates. Volume 11, Appendix 37A, Section 5.1.1: "Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station on the IOL. These access points will manage and monitor road use through sign-in procedures and radio check-ins… WKR will maintain logs recording the entry and exit of all vehicles using the road. Logs will also record any incidents or accidents for regulatory and safety audit purpose."

Monitoring of user compliance and corrective actions. Volume 11, Appendix 37B, Table 7.1 identifies random speed audits administered by WKR. The WMMP identifies corrective actions: Additional awareness training to personnel operating vehicles and equipment on speed limits. Written warning for repeated infractions with possible personnel termination at the Site Manager's discretion.

3) Whether cumulative effects conclusions were made under the assumption of total third-party infrastructure user compliance with WKR mitigation and monitoring plans

The IS cumulative effects conclusions rest on two distinct conditions:

- **Condition A — third-party USERS of WKR infrastructure.** For persons and entities accessing the road and Port — mining users, government users, community users, and permitted harvesters — the cumulative effects conclusions are based on WKR's control of infrastructure access and the enforcement mechanisms identified in Sections (1) and (2) above. Volume 10, Section 32.2.1 identifies the access-agreement and permit measures as ones that "contribute to the reduction and management of cumulative effects." The IS does not represent the CEA conclusions as conditional on absolute compliance; the WMMP Table 7.1 corrective-action framework applies when infractions occur.
- **Condition B — third-party PROPONENTS operating separate RFI projects.** For the reasonably foreseeable induced (RFI) projects assessed in the CEA, the IS identifies an assumption regarding proponent mitigation. Volume 6, Section 16.5.4 (Page 16-142) states, in the context of the change-in-movement cumulative effects pathway: "assuming these RFI projects implement mitigation, management, and enhancement measures similar to the Project's." This assumption is reasonable and relates to measures that are currently in use at other mines in Nunavut and would be expected to be implemented and possibly improved for any new mine. Further, this assumption is not a compliance mechanism administered by WKR. WKR does not have contractual, permitting, or physical-access authority over other proponents' own projects, per Volume 10, Section 32.2.1.

NTI-9 (IR-406)

Subject

Cumulative Effects Mitigation and Monitoring

Issue / Concern

It is expected that cumulative effects will be minimized through an expanded use of the Project-related mitigative measures. At the same time, WKR highlights that it is not responsible for third-party infrastructure users, emphasizing that these users will bear the responsibility for effects resulting from their own activities and for complying with their own operational mitigations and commitments.

However, WKR also acknowledges that "some regional-level coordination among the Project and RFI physical activities is expected during key time periods, such as BCH spring migration, calving, and post-calving" (Volume 6, p. 16-138), and that "enhanced herd co-management is needed for herd recovery, which would increase the herd's resilience to the costs of the Grays Bay Road" (Volume 6, Appendix 16B, p. 47).

Information Request

1) *Does the NIRB see itself playing a role in providing a framework for the assessment of cumulative effects from all GBRP-related activities?; and*
2) *Does the NIRB envision how monitoring may be apportioned between WKR and third-party infrastructure users to ensure a coordinated, gapless approach to the assessment of cumulative effects on wildlife from road and port use?*

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage"

NTI-10 (IR-407)

Subject

Inuit Harvesting Access Permit System

Issue / Concern

In order to minimize overharvesting, wastage and poaching risks, an access pre-approval and permitting system involving the KitIA and an unnamed Hunters and Trappers Organization (HTO) is envisioned; without which, use of the road for harvesting purposes would be prohibited. This controlled harvesting access is expected to align with the current tag system and TAH. It is unclear how the access protocols to be included in the Road Management Plan to prevent unintentional restrictions on Inuit merge with this harvesting access/permitting system.

NTI emphasizes that the Nunavut Agreement grants Inuit free and unrestricted right of access for the purpose of harvesting (with exceptions), as well as the right to harvest without any form of licence, permit or imposed fee.

Information Request

1) *Identify which HTO(s) are expected to participate in discussion with the KitIA regarding the access application and permit issuance processes;*
2) *Describe the current status of the discussions regarding the joint KitIA-HTO issuance of road access for harvesting permits;*
3) *Indicate how the access/permitting system might operate if consensus between the KitIA and the HTO(s) is not attained and/or if alignment with the tagging system and TAH is not achieved as expected;*
4) *Specify, in the event of a Bathurst caribou recovery, how an eventual TAH removal and the reopening of non-Inuit harvesting might affect the access/permitting system; and*
5) *Explain how the contemplated access and permitting system will not unduly burden the exercise of Inuit hunting rights.*

Proponent Response

The access permit concept is intended to respond directly to concerns raised by Inuit, Indigenous groups and communities during engagement regarding overharvesting, wastage, and poaching risk associated with improved corridor access. It is not intended to condition, licence, or impose a fee on the exercise of Inuit harvesting rights. It would apply only to harvesters who choose to use WKR's private infrastructure (Grays Bay Road, Grays Bay Port, Aerodrome) to facilitate harvesting. Harvesters who reach harvesting areas by any other means (e.g., overland routes, snowmachine, boat, aircraft) are unaffected and may continue to harvest as they do today. Inuit community users retain free access to the road for travel and transportation, subject only to safe operating procedures (Volume 3, Section 6.3.6, Table 6.4).

WKR is open to alternative mechanisms that achieve the same objective if preferred by the Kitikmeot Inuit Association, HTOs, and Nunavut Tunngavik Inc. (NTI).

1) Participating HTOs: WKR expects the Kugluktuk Angoniatit Association (Kugluktuk HTO) to be the primary HTO participant, as the community organization closest to the corridor. Because the corridor is used by harvesters from across the region, WKR anticipates that the other Kitikmeot HTOs, including Ekaluktutiak (Cambridge Bay), Gjoa Haven, Spence Bay (Taloyoak), Kurtairojuark (Kugaaruk), Umingmaktok (Bay Chimo), and Burnside (Bathurst Inlet), and the Kitikmeot Regional Wildlife Board may also need to participate. Final composition will be determined by the Kitikmeot Inuit Association and the HTOs, not by WKR.

2) Current Status: The concept has been discussed preliminarily with the Kitikmeot Inuit Association and the Kugluktuk HTO. Both raised concerns consistent with those expressed by NTI, particularly regarding the interaction with Nunavut Agreement harvesting rights. No terms have been agreed. WKR is looking to initiate formal discussions with the Kitikmeot Inuit Association and HTO and will report progress through the NIRB review and through development of the Road Management Plan.

3) If Consensus is Not Reached: If no jointly agreed process is established, WKR would not authorize use of its private infrastructure for harvesting purposes. This is a limit on WKR's grant of access to infrastructure it owns and operates; it does not restrict harvesting itself, and harvesters may continue to access the same areas by other means as they do today. WKR is open other proposals about how to address these concerns.

   Tagging: Harvest licences and species authorization tags would remain entirely within the Nunavut Hunting Regulations, administered by the Government of Nunavut and the Nunavut Wildlife Management Board. WKR has no authority to limit harvesting itself, only access to privately owned infrastructure for harvesting purposes.

4) Bathurst Caribou Recovery / TAH Removal: Because tags and licences flow from the Nunavut Hunting Regulations rather than any Project-specific instrument, a change in the BCH TAH, including its removal and the reopening of non-Inuit harvesting, would take effect through the Nunavut Wildlife Management Board and Government of Nunavut processes without Project-specific action. WKR's infrastructure access controls would remain in place for safety and traffic management, but the harvesting-related terms would be revisited as directed by the Kitikmeot Inuit Association and HTOs at that time and adjusted as necessary. Access by non-Inuit and commercial harvesters would remain subject to whatever conditions the Kitikmeot Inuit Association and HTOs recommend.

5) Impact on Inuit Harvesting Rights: The concept is designed so that it does not attach to the harvesting right itself; it applies only to use of WKR-owned infrastructure; it carries no fee; it creates no new licence or authorization to harvest; authorization would be issued by Inuit institutions rather than by WKR; and non-harvesting travel on the road remains free to Inuit and community users; and access to harvesting areas by all other routes is unaffected.

The access process must be consistent with the Nunavut Agreement, and WKR will work with Kitikmeot Inuit Association, the HTOs, NTI, and the relevant Nunavut co-management bodies to ensure consistency before any process is finalized.

NTI-11 (IR-408)

Subject

Consideration of Caribou Vulnerability Assessment

Issue / Concern

The IS concludes that, taking mitigation into account, Project related residual effects as well as cumulative effects on Bathurst caribou are predicted to be not significant, even though the herd's vulnerability is presumably already high (since its 98% decline has yet to be followed by a recovery). Assuming low traffic and no hunting along the Project road, but excluding costs associated with any deflection from the road, the vulnerability assessment projects a 1.6% exponential decline of the Bathurst herd compared to no development, under current climate conditions. Factoring in the all-season upgrade of the TCWR in addition to the Project road potentially brings about a 3.6% annual decline in the Bathurst herd under current climate conditions, and a 12% under a future (i.e., warmer) climate scenario.

Overall, the vulnerability assessment concludes that "development-related exposure from the GBRP and associated roads results in measurable impacts on caribou energetics and demographics, particularly for the Bathurst herd. Climate change introduces additional strain, and the combination of both factors significantly accelerates projected population decline. However, mitigation measures targeting traffic and hunting pressure have the potential to reduce those effects when applied consistently" (Volume 6, Appendix 16B, p. 3).

Information Request

1) *Clarify how demonstratable impacts on Bathurst caribou energetics and demographics leading to an accelerated projected population decline—of an already severely declined herd—can be considered not significant; and*
2) *Provide an indication of how mitigation will be effective enough to offset projected negative demographic outcomes for Bathurst caribou under low traffic and no hunting conditions, but also under high traffic (exposure penalties doubled) and high traffic and active hunting (exposure penalties tripled).*

Proponent Response

Significance Definition

To preface our response, WKR would like to respectfully reiterate how the Impact Statement defines "significant":

> "Significant: The Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management, and enhancement measures." (Volume 6, Section 16.1.7, document page 16-26)

This definition guides the response below.

Response

The purpose of the Caribou Cumulative Effects (CCE) model—referred to as the Caribou Herd Vulnerability Model (CHVM) in Volume 6, Section 16—is to identify the main drivers of change of caribou herds (e.g., climate, development-related disturbance), particularly the Bathurst Caribou Herd (BCH), in order to make inferences about potential Project-related and cumulative effects, and to identify the potential effectiveness of mitigations in reducing those effects. The intent of the CHVM is not to quantify and predict the exact outcomes of every possibility or scenario.

As an extension to this argument, please refer to the response to NTI IR-05 (IR-402) for a discussion of how the CHVM drastically overestimates exposure, changes to body condition, and population vital rates in all the scenarios assessed in Volume 6, Appendix 16B. The more accurate exposure levels calculated in the caribou assessment (Volume 6, Section 16), though still overestimates, are considerably lower and are unlikely to result in levels that would result in population changes that would be deemed significant, as per the definition used in the assessment.

To clarify, the CHVM is intended to be used as a tool to understand the relative drivers of change in caribou herds, not to make specific predictions. Nonetheless, the mitigations being proposed for the Project are substantial:

1. The caribou Trigger Action Response Plan and associated Mobile Caribou Conservation Measures, including adaptive road closures as well as strict traffic management protocols, are expected to substantially decrease caribou exposure levels to the Project. Please refer to the responses to KIR IR-39 (IR-109) and NTI-05 (IR-402) for further details. Monitoring results post-construction will be compared to the predictions in the IS. Where mitigation measures do not achieve the desired result, adaptive management is triggered and may include additional work pauses or temporary shutdowns at locations/times coinciding with frequent crossings or migration pinch-points (Volume 11, Appendix 37B, Sections 8.3.1, 8.2.2.4, Section 9).
2. The Grays Bay Road is not an open, public road. Access will be controlled by WKR, and all harvesting will occur within Total Allowable Harvest limits. Please refer to the response to GN IR-20 (IR-300) for further details.

NTI-12 (IR-409)

Subject

Alternative Road Alignment

Issue / Concern

Given the current low numbers of the Bathurst caribou herd and the further reduction in cow and calf weight that is expected to result from exposure to traffic on the Grays Bay Road (see Appendix 16B), it is important to understand the trade-offs being made when deciding on whether an alternative road alignment is appropriate. Previous versions of the project have proposed a road alignment that would avoid Bathurst caribou calving grounds, however this alignment has been rejected for the current project on the grounds that it would result in "additional design and construction costs for the road and less desirable vehicle operation and safety considerations." Given the significance of the trade-off being proposed (construction costs verus increased effects on caribou), it is important to understand this trade-off in more detail.

Information Request

1) *Provide a comparative chart which would allow readers to compare the technical details of the proposed road alignment and the rejected alternative, including distance, number of bridge crossings, road footprint, number and size of fill areas, and projected construction costs;*
2) *Provide updated version of the Vulnerability assessment of the Bathurst, Beverly/Ahiak, and Dolphin and Union caribou herds to the proposed Grays Bay Road and Port Project which carries out the same analysis for the alternative road alignment.*

Proponent Response

WKR acknowledges NTI's request for a comparative chart for further evaluation of the alternative road alignments that were previously evaluated at earlier stages of the development of the Project. However, those alignments have already been rejected as described in the IS (Volume 2, Section 2.4) based on siting, alignments of Project components and constructability. These alignments were rejected by the KIA and Government of Nunavut, as Proponents of the Project, in 2016. WKR similarly rejected those same alternative alignments based on our own alternatives assessment presented in Volume 2 section 2.4.

"In 2016, an alternate road alignment was evaluated to avoid overlap of the published mapping of core calving grounds from the Government of Nunavut, which have subsequently been used in the Nunavut Planning Commission's Draft Nunavut Land Use Plan. This alignment was not carried forward based on the additional 50% length added to the road, two bridge crossings that would be greater than 100 m in length, the more rugged topography with a higher number of valleys and hills that would increase the road footprint and require additional fill areas; all of these resulted in additional design and construction costs for the road and less desirable vehicle operation and safety considerations. Therefore, this route option was not carried forward." (Volume 2, Section 2.4, Page 2-12).

As provided in Volume 6, Section 16.2.2.4, peak calving areas for the Bathurst Caribou Herd (BCH) and the current road alignment overlap minimally. Historical data shows that the peak calving area for the BCH is not stationary, and over the past 28 years, the peak calving areas have shown an eastward trend.. Mitigation measures are proposed to limit the potential effects on the BCH. Further analysis on additional road alignments are not warranted.

The Caribou Herd Vulnerability Model (CHVM) does not link to an assessment endpoint or measurable parameter. Please refer to the response to Information Request IR-137 (WCS-IR-16) for further discussion on this point on the purpose of the CHVM. Given the uncertainties associated with the CHVM, the IS provides a careful framing of how the outputs should be interpreted:

> "*The CHVM links three assumption-based submodels (movement, energy-protein, and population) to make hypothetical predictions of herd dynamics under different scenarios, including the effects of development and climate change, and the potential effectiveness of mitigations. The CHVM helps "explore and project such complex and interacting threats as climate change and industrial development … [and] gaming with such simulation models then allows the user to analyze responses to a single variable or suites of variables" (White et al. 2014). Thus, the primary utility of CHVMs is evaluating the relative changes in predictions across different scenarios. These models can be used to identify areas of herd vulnerability and can help define key mitigation, management, and enhancement measures to minimize effects on caribou herds.*" (Volume 6, Section 16.1.5, document pages 16-19 to 16-20)

To WKR's knowledge, the CHVM has not been validated against real-world observations. The submodel for movement (behaviour) and its associated assumptions and penalties draw from published literature covering different herds, development types, and regional contexts. The CHVM will not be updated on the alternative road alignment because the model (a) already identifies the main drivers of change of caribou herds and (b) is not intended to make precise predictions for assessment. An adjust road alignment does not change the interpretation of the CHVM outputs.

NTI-13 (IR-410)

Subject

Identification of Representative Species of Terrestrial Mammals

Issue / Concern

The assessment of potential effects on other territorial wildlife contained in Part 18 relies on the use of "four indicator species selected to represent the Other Terrestrial Wildlife Valued Component (VC) for this effects assessment" (vol 6, p. 18-1). However, no justification is offered for why the four selected species should be considered "indicator species" or for why the anticipated effects on these species can be extrapolated out to other terrestrial mammal species whose lifecycles and use of the project area are dissimilar from that of the four indicator species.

Information Request

1) *Provide reasoning and justification, based on Inuit, Indigenous, and Community Knowledge and scientific knowledge and data, for why these four species should be considered "indicator species".*
2) *Indicate any ways in which the indicator species may not be representative of the effects of the project on other terrestrial mammals.*
3) *Provide reasoning and justification, based on Inuit, Indigenous, and Community Knowledge and scientific knowledge and data, for why the effects of the project on other terrestrial mammal species, such as foxes, hares, and other small mammals, do not need to be studied but can rather be assumed to be minimal.*
4) *Provide reasoning and justification, based on Inuit, Indigenous, and Community Knowledge and scientific knowledge and data, for why the mitigation measures proposed to reduce the effects of the project on the four indicator species would apply to terrestrial mammal species whose use of the project area differs from that of the four indicator species.*

Proponent Response

1) **Reasoning and justification for selection of indicator species**

The Impact Statement (IS) acknowledges that "studying all wildlife within a proposed development area is important" to Inuit and the Wildlife Baseline Report included foxes and small mammals as focal species groups (Volume 6, Appendix 16A Section 3.1.1). With caribou a primary focus of the IS, it was considered that an assessment of project effects on all other terrestrial wildlife species would result in a superficial assessment across most species, with low confidence in many of its predictions. Instead, it was decided that a more detailed assessment of a select group of other terrestrial wildlife species representing a broad range of effects pathways (i.e., mechanisms by which project activities may result in a specific effect) would result in more certain predictions and, in combination with the caribou assessment, a suite of mitigation and monitoring measures that would benefit all other

terrestrial wildlife. Professional judgement was used to select the representative (or indicator) species, considering the following factors:

- The NIRB guidelines on representative terrestrial mammals to consider for the effects assessment (i.e., caribou, muskox, wolverine, polar bear, wolves, foxes, and hares).
- Relative importance to Inuit based on the Inuit Knowledge (IK).
- Sufficient IK and/or western science knowledge base to produce a useful characterization of baseline conditions of habitat, movement, and mortality risk.
- Sufficient IK and/or western science knowledge base of species responses or reasonably predictable responses to disturbances of the type associated with the Project.
- Representative of a range of ecological roles (large and medium-sized carnivores/scavengers, and ungulates [other than caribou]), a range of effects pathways and applicable mitigation measures, and operating at scales associated with higher risk of population-level effects relative to the scale of the Project.

2) **Ways in which the selected species my not be representative of the effects of the Project on other terrestrial mammals**

The four indicators span the two main ungulate groups, other than caribou, in the Project area (muskox and moose) and the two main large-to-medium carnivore/scavenger groups (grizzly bear and wolverine). The IS does not include an assessment of project effects on small mammals, such as Arctic hares, which utilize different foraging strategies, have differing mobility patterns, eruptive population dynamics, and are subject to different mortality risks. While there are obviously clear ecological differences between this mammal group and the four indicator species, they will still be subject to the same primary effects pathways in the form of habitat loss or alteration, potential disruption of movement patterns due to sensory disturbance, and increase in mortality risk due to increased human activity.

3) **Why the effects of the Project on other terrestrial mammal species, such as foxes and hares, can be assumed to be minimal**

The effects of the Project on other terrestrial species, such as foxes, hares and other small mammals, are assumed to be minimal in large part because of the smaller ranges of these species, with any potential effects limited to a small scale. Mortality risk for those individuals inhabiting areas close to the road will likely increase with the Project. Potential effects will be minimized through the application of general mitigations applied to the Project (see response to (4), below). Monitoring at the Ekati mine, with high traffic volumes of ore trucks and lighter vehicles, found that Arctic hares were the most frequent vehicle-related wildlife mortalities (ERM Consultants Canada Ltd. 2025b). While it is likely that some vehicle-related mortalities will occur with the Project, given the low vehicle traffic volumes expected, the effects on these smaller species will be local in nature, having minimal influence at broader scales. Monitoring of vehicle-related mortalities will be conducted, with excessive mortalities triggering modifications to mitigation practices.

4) **Why the mitigation measures for the four species would apply to terrestrial mammal species whose use of the project area differs**

While some, mostly caribou-related, mitigation and follow-up monitoring measures are species-specific, most are relatively generic, without a target species in mind, and are generally applicable to all terrestrial wildlife species, including those not explicitly examined in the effects assessment. Amongst others, such generic measures include road and snowbank design, access and traffic controls, policies that give wildlife right-of-way on roads, pre-disturbance wildlife sweeps, setbacks and timing restrictions, and attractant controls, supported by active and incidental wildlife monitoring and annual reporting of Project-related wildlife mortalities. For example, management of attractants to reduce conflicts with wolverines will also reduce attractants for foxes. Should gaps in mitigation or monitoring measures for specific terrestrial wildlife species be identified through continued engagement with the Kitikmeot Inuit Association, Government of Nunavut, Inuit Advisory Group, and other affected parties, these will be addressed in updates to the Wildlife Monitoring and Mitigation Plan.

NTI-14 (IR-411)

Subject

Design of Security Gates

Issue / Concern

The mitigation measures proposed by the proponent rely heavily on the fact that the road will be a "controlled access" road. This assumption, in turn, relies on the presumption that the gates at either end of the road will be effective at preventing unauthorized use of the road.

Information Request

1) *Please provide details regarding the anticipated design and placement of the proposed gates.*
2) *Explain how the gates will prevent unauthorized access to the road, particularly by vehicles other than heavy trucks.*
3) *Explain what actions the promoter intends to take when unauthorized use of the road takes place.*

Proponent Response

Volume 11, Appendix 37A, Section 5.1.1 documents the access-control framework:

> "*Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station on the IOL. These access points will manage and monitor road use through sign-in procedures and radio check-ins, helping to track users and ensure the safety of users. WKR will maintain logs recording the entry and exit of all vehicles using the road. Logs will also record any incidents or accidents for regulatory and safety audit purpose. Unauthorized use may lead to security alerts and reports to local authorities*." (Volume 11, Appendix 37A, Section 5.1.1)

As stated in Volume 11, Appendix 37A, Section 5.1.2, "Vehicles authorized to use the road are expected to include Heavy transport vehicles (semi-truck trailers, dual-powered road trains (DPRT), etc.) construction and maintenance equipment (graders, snowblowers, etc.) and light vehicles (trucks, atvs, snowmobiles, etc.)." A process for sign-in / radio check-in / vehicle log framework applies to all these vehicle categories including light vehicles.

WKR will work with KIA to further refine the process to manage access to the road, prevent unauthorized access, and for monitoring of road users. These procedures will be outlined in the Road Management Plan, that all users of the road must adhere to. The design of the gates has not been completed at this stage of the Project design. WKR will also work with KIA and other interested parties to investigate the most appropriate vehicle control structures to be installed.

Volume 11, Appendix 37A, Section 5.1.1 "Unauthorized use may lead to security alerts and reports to local authorities." In addition, Section 5.1.2 identifies that Project and contractor vehicles are required to report "Unauthorized vehicle use of the road" via radio to WKR staff.

Refinement of the specific enforcement pathway — including escalation procedures, interaction with local authorities, and any WKR-administered penalties or exclusion mechanisms for third-party commercial users — will occur through the finalization of the RMP, the RMERP, and applicable permits and authorizations.

Yellowknives Dene First Nation

West Kitikmeot Resources Corp. (WKR), thanks the Yellowknives Dene First Nation (YKDFN) for its Information Requests (IRs) dated July 2, 2026 (NIRB Document 260703-24XN038-YDFN IRs Re Impact Statement-IR3E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of YKDFN's IRs are provided below.

WKR looks forward to continuing to work with YKDFN, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

YKDFN IR #1 (IR-412)

Subject

Failure to factor in the connection of the Grays Bay Road (the "GBR" or the "Road") to an all-season road corridor in the Northwest Territories (the "NWT")

Issue / Concern

The proposed all-season road to Jericho Station is stated to link to the Tibbitt to Contwoyto Winter Road (TCWR) at Contwoyto Lake via a 3 km winter road.

In the Main Document (p. MD-10) and Volume 2 (p. 1-22) it is stated that Canadian Sovereignty and Security (including supplying Canadian Naval and Coast Guard vessels at the Port) are project objectives. This would suggest connection via an all-season road to the southern Canadian road network. A linking all-season road is noted as a potential future development (Vol. 1 MD-13; Vol. 2 Section 2.3) once the NWT portion of an allseason road is in development.

The federal strategy cited in Volume 2 (p. 1-22) is to construct an all-season road link between a port on the Arctic Ocean with all-season roads in southern Canada. The proposed GBR relies on winter roads from Jericho Station to Yellowknife for its link to the southern all-season road network. The current TCWR does not connect to the Nunavut border. Further, construction of the TCWR in the future is in doubt owing to closure of the Diavik Mine, financial difficulties at the Ekati Mine (currently under creditor protection), and declines in diamond values that may also affect the Gahcho Kue mine.

As Canadian sovereignty and security are project objectives, then connection to a permanent all-season road through the NWT is not only reasonably foreseeable, it is necessary to achieve the Project objectives and benefits that are noted in the Impact Statement.

Information Request

Why do the cumulative effects of the GBR not explicitly consider the construction and operation of a connecting all-season road in the NWT?

Proponent Response

The cumulative effects of the GBRP do consider the construction and operation of a connecting all-season road in the NWT. The Arctic Economic and Security Corridor (AESC) in NWT is identified as a Reasonably Foreseeable (RF) physical activity in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List (PIL). WKR understands that the AESC is a partnership between the Tłı̨chǫ Government, Yellowknives Dene First Nation, and the Government of the Northwest Territories to advance for purposes including facilitation of mineral development and access to a deepwater seaport via Grays Bay Road and Port.

The AESC, as appropriate and relevant, is considered in the VC assessments (Volumes 5-9, Sections 11-30). For example, it is discussed in Section 28: Assessment of Potential Effects on Infrastructure and Services, Section 28.4.4 Change in Transportation Infrastructure.

YKDFN IR #2 (IR-413)

Subject

Controlled access

Issue / Concern

The GBR is stated to be a private road (RMP, p.1). RMP Section 5.1.1 indicates that there will be controlled access on the GBR. Community users are to have free access to the GBR while access for hunting will require permits from the KIA and Hunters and Trappers Association. As hunting may affect caribou behavior (Volume 6, Section 16.4.3.2), knowledge of locations where hunting occurs may be important to understand caribou movements.

Information Request

a) *Will the road be patrolled for adherence to speed limits and the adherence to wildlife protection measures (RMP, Section 6), especially giving of right-of-way to wildlife?*
b) *Beyond requiring the presentation of a permit for hunting at a controlled access point, will there be monitoring of locations and timing of hunting activities and other offroad use where the GBR provided the initial point of access?*
c) *If the Proponent does not monitor harvest directly, can it conclusively state that indirect Project-related mortality of caribou is not significant?*
d) *How effective will a gate be against access to the GBR via snowmachine or quad?*
e) *Will access controls change when the GBR is connected to an all-season road in the NWT or other roads?*

Proponent Response

a) **Adherence to speed limits and the adherence to wildlife protection measures**

Compliance with speed limits and wildlife protection measures is monitored in three ways:

- "*Random speed audits shall occur when the road is operational, administered by WKR to encourage driver compliance*" (Volume 11, Appendix 37B, Table 7.1).
- Environmental Monitors will document compliance with the 30 km/h speed limit that applies when caribou are near the road (Volume 6, Section 16.4.4.4).
- Environmental Monitors will travel the Project Development Area, including the road. They will do so daily from April 20 to September 6 for the Bathurst Caribou Herd (BCH), daily from November 1 to 30 and April 15 to May 30 for the Dolphin and Union Caribou Herd (DUH), and weekly for the rest of the year (Volume 11, Appendix 37B, Sections 8.2.1.3 and 8.3.3).

Under the Road Management Plan, speed limits will be posted and enforced, and "*[a]ll wildlife has the right-of-way on roads.*" All commercial and community users must sign an Access and/or Code of Conduct Agreement that includes the wildlife protection measures (Volume 11, Appendix 37A, Sections 5.1.2 and 6).

b) **Monitoring of hunting locations/timing and off-road use beyond permit presentation**

WKR will "*[d]ocument caribou harvest by users of the Project Road based on harvesting permits presented at access checkpoints. However, WKR does not have the authority to conduct more in-depth monitoring of potential shifts in regional-scale harvest distribution. Such efforts will require oversight by the GN, NWMB, and local HTOs. When feasible, WKR is committed to collaborating to support such monitoring efforts*" (Volume 6, Section 16.9). The Wildlife Mitigation and Monitoring Plan (WMMP) also identifies monitoring of "*[m]ortality events from interactions with vehicles (e.g., right-of-way compliance, speeds), predators (including predator occurrence near the Project), and hunters (location and timing of harvesting)*" (Volume 11, Appendix 37B, Section 8.2). During active monitoring, "*[w]hen possible, interactions between wildlife will be documented, including predator-prey interactions, as well as interactions between wildlife and humans, including trappers and hunters*" (Volume 11, Appendix 37B, Section 8.2.1.3). Please also refer to the response to YKDFN IR #5 (IR-416).

c) **Whether indirect mortality can be stated conclusively to be not significant**

The Impact Statement presents a significance determination reached under an explicitly stated assumption, and does not rely on direct harvest monitoring by WKR. As set out in (b), WKR will record harvest by road users at the access checkpoints. Volume 6 states that "*The assessment of caribou assumes that all policies and legislation being implemented (e.g., TAHs) are being followed and enforced by the relevant parties*" (Volume 6, Section 16.8.1). On that basis, the Impact Statement concludes that "*the Project's residual effects on the BCH are determined to be not significant*" and "*the Project's residual effects on the DUH are determined to be not significant*" (Volume 6, Section 16.7.1). It rates overall confidence in the caribou conclusions as moderate (Volume 6, Section 16.8) and includes follow-up monitoring to verify the predicted effects (Volume 6, Section 16.9). If an investigation of a mortality event "*identifies an unforeseen circumstance that may result in an increased mortality risk to wildlife (e.g., illegal harvesting or poaching), adaptive management will be triggered*" (Volume 11, Appendix 37B, Section 8.2.2.3).

d) **Gate effectiveness against snowmachine or quad access**

Controlled access exists for user safety, given use by heavy transport and light vehicles, and to address community concerns about increased pressure on harvested resources. WKR staff will operate gates at Grays Bay Port and at Jericho Station, on Inuit Owned Land, with approved vehicle access managed by staff through sign-in protocols and radio check-ins, and movement governed by the RMP (Volume 2, Section 1; Volume 11, Appendix 37A, Section 5.1.1). Access to the land by snowmachine or quad is not the target of the gates and is not restricted by them: users remain free to reach the land and their traditional harvesting areas by off-road means, as they do today. Project and contractor vehicles will report unauthorized vehicle use of the road by radio (Volume 11,

Appendix 37A, Section 5.1.2), and "*[u]nauthorized use may lead to security alerts and reports to local authorities*" (Volume 11, Appendix 37A, Section 5.1.1). In winter, snowmobiles already give open access to the landscape, including traditional hunting areas, without using the road (Volume 6, Section 16.4.4.4). The gates, together with staffed access management, are therefore an effective means of managing road use for safety and harvest-pressure purposes, while fully preserving land access.

e) **Changes to access controls upon connection to an all-season road in the NWT or other roads**

Access controls are dictated based on the terms of the Kitikmeot Inuit Association land use licence (with respect to IOL) and the CIRNAC land use permit (with respect to Crown land), as well as other regulatory authorizations and permits, such as the NIRB Project Certificate, and are not anticipated to change upon connection to an all-season road or other roads. Please refer to the responses to YKDFN IR #39 (IR-450) regarding the NWT connection and YKDFN IR #30 (IR-441) regarding access roads for reasonably foreseeable induced projects.

YKDFN IR #3 (IR-414)

Subject

Ice breaking and migration of Dolphin and Union Herd (DUH) caribou. Potential changes in harvesting of Bathurst Caribou Herd (BCH) and DUH caribou and herd persistence.

Issue / Concern

The Proponent states that: "No icebreaking will occur during normal port operations during the Construction or Operations and Maintenance phases of the Project. The port will only receive vessels during the open-water season, which is typically from late June through October, and as such, is not expected to alter DUH caribou migration paths" (p. ES-30).

The Proponent further states that: "Icebreaking will not occur during DUH migrations. Currently, the Canadian Coast Guard is the only entity authorized to break fast ice and may do so only in specific situations, including emergencies. Future third party activities, such as icebreaking, which may impede DUH migrations across the Coronation Gulf, are not associated with the Project. Any such activity facilitated by the Project will not affect DUH migrations, as the Project Port will be operational only for shipping during the open-water season (typically from late June through October)" (p. 16-33).

Information Request

a) *What future third party activities are contemplated in the quote above with respect to icebreaking?*
b) *How has the proponent addressed in the effects assessment for the Project the potential for the Government of Canada to undertake/ increase icebreaking activities for reasons of commerce or sovereignty and security as being reasonably foreseeable?*

Even if we accept that the Proponent is not responsible for icebreaking by other parties, the fact remains that it is a reasonably foreseeable activity that must be addressed in a cumulative effects assessment for its effects on the DUH. Loss of ice for migration due to icebreaking will add to or increase the vulnerability of DUH migration noted by the Proponent in section 16.4.7.3.

c) *What temporal and spatial extent of icebreaking does the Proponent consider a threshold that would disrupt migration of the DUH caribou?*
d) *If the DUH migration is disrupted, what are the potential implications for changes in mainland caribou harvest and what are the expected effects on the persistence of both DUH and BCH populations?*
e) *What protections can the Proponent provide against shifting harvest between caribou herds?*

Proponent Response

WKR provides answers to each of the five questions/requests below.

a) Please refer to the response to IR-20 (KAA-20) regarding sea-ice breaking. WKR can only control how the Grays Bay Port and its adjacent offshore area is used, not how other operators conduct activities in the broader Coronation Gulf. For example, emergency-related ice breaking operations by the Canadian Coast Guard are already permitted in the absence of the Project and may occur in the future if deemed necessary by that agency. "*[T]he Project Port will be operational only for shipping during the open water season (typically from late June through October)*" (Volume 6, Section 16.4.3.2, document page 16-102), so it will not facilitate ice breaking.

b) Government of Canada ice breaking for purposes of commerce or sovereignty and security has not been identified as reasonably foreseeable, and therefore has not been assessed in the IS. If future unknown activities propose icebreaking, they will be evaluated for effects as required by the applicable regulatory framework at that time. As stated in the Impact Statement (IS), future human activities near the Project "*will depend on applications by future proponents and the outcomes of their effects assessment. In other words, future project approvals are contingent on the state of the environment and caribou at that time*" (Volume 6, Section 16.8.6, document page 16-163).

c) Any icebreaking that occurs along the Dolphin and Union Caribou Herd's (DUH's) "moderate intensity (75% use)" migratory corridor (Volume 6, Section 16.2.2.4, Figure 16.9) and within the known migration window (i.e., November 1 to November 30 [fall migration] and April 15 to May 30 [spring migration]; Volume 11, WMMP, Section 6.2, Table 6.1, page 10) would be disruptive. However, as previously stated, the Project does not include ice breaking.

d) In general, disruption to DUH fall migration would reduce harvest of DUH caribou on the mainland, and disruption to spring migration could affect calving. Both events would likely affect the herd's persistence. However, as previously stated, the Project will not include ice breaking and is not predicted to disrupt DUH migration. It is unclear why YKDFN suggests that disrupting the DUH migration would affect the Bathurst Caribou Herd's (BCH's) persistence.

e) Please refer to the response to IR-300 (GN-IR-20) for a discussion on controlled access along the Project Road, particularly for the purposes of harvesting, which will require permits aligned with the current tagging system and TAH for each herd. In other words, there are mechanisms already in place to prevent shifting harvest between caribou herds.

YKDFN IR #4 (IR-415)

Subject

Restriction of cumulative effects assessment on BCH to area in Nunavut. Reasonably foreseeable and reasonably foreseeable induced projects outside Nunavut (i.e., Assessment Area 1 of the Bathurst Caribou Range Plan) are ignored in cumulative effects assessment.

Issue / Concern

NIRB's guidelines for the Impact Statement (p. 32) state that: "The Impact Statement shall define the spatial boundaries of the maximum area potentially affected by the proposed project and the alternative means to undertake the project, based on the boundaries for each individual type of impact…"

The guidelines explicitly state (p. 32) that "…potential ecosystemic or socio-economic impacts outside of Nunavut" are to be considered.

The guidelines later (p. 52) indicate that transboundary impacts "should be considered for all valued components identified by the Proponent, with specific consideration given to the potential for transboundary impacts associated with…the large migration range of land mammals such as caribou."

The BCH is a transboundary herd with the majority of its range in the NWT and the critical calving, post-calving, and summer ranges occurring mostly in Nunavut.

The GBR will foreseeably be linked to an all-season road connecting it with the NWT highway network (and in the meantime be connected by the TCWR). Volume 2, Section 1.6.1.2, p. 1-22 notes that the two roads together "will complete an Arctic Economic and Security Corridor… a nation building corridor."

Together, the two roads will likely run through the calving, post-calving, summer, fall, and winter ranges of the BCH. To ignore the effect of one of the roads owing to a territorial boundary circumvents the express purpose of a cumulative effects assessment. The two roads are jointly discussed in Volume 2, Section 1.6 as contributing to the GBR's purpose and need.

The Impact Statement's cumulative effects assessment for the BCH confined the effects assessment to the area within Nunavut (BCRP-RAA1). Consequently, by excluding effects on the BCH range and animals in the NWT, the cumulative effects were underestimated, likely by a significant amount.

The Impact Statement's transboundary effects assessment does not account for additional effects of the factors considered for Project effects. Transboundary effects did not contribute to the determination of the significance of the Project's effects on the BCH.

Of particular concern are the excluded cumulative effects on movement and herd vulnerability for the BCH.

Information Request

a) For the Proponent, what are the cumulative effects of the Project and reasonably foreseeable developments on the BCH when assessed over the entire range of the BCH?

b) For the Proponent, please compare them with the cumulative effects estimated previously for BCRP-RAA1.

c) For the GN, GNWT and MVEIRB, please provide any information with respect to the cumulative effects on the entire range of the BCH.

Proponent Response

Please refer to the response to Information Request NTI-6 (IR-403) for further justification on (1) why the BCH-RAA1 (i.e., herd range extent within Nunavut) is sufficient for assessing cumulative effects of the Project on the representative mainland herd, and (2) how transboundary effects—the state of caribou when they arrive in Nunavut—are considered and addressed through mitigations. For the reasons outlined above, WKR contends that additional assessment beyond BCH-RAA1 (e.g., annual range or adjacent range assessment areas) is unwarranted.

YKDFN IR #5 (IR-416)

Subject

Hunting permitted via access to GBR

Issue / Concern

Access from the GBR for hunting BCH and DUH. Clarification sought.

Impact Statement, Volume 1, Section MD.6.3.2 states that:

- *Hunting is classified as an indirect cause of caribou mortality.*
- *Controlled access for hunting and facilitated predator management will address indirect mortality risk effects.*
- *The total additional annual mortalities from indirect effects of the Project are expected to range between 1-5 for the DUH and 1-7 for the BCH.*

Taken together, this indicates that hunter access will be controlled such that no more than 5 DUH and 7 BCH caribou are harvested annually by hunters using the GBR to access hunting areas.

Information Request

a) Will the Proponent have a role in monitoring hunter harvest, or will they be limited to checking for permits at access control points?

b) What is the extent of the current monitoring for hunter harvest in the Project area and who is responsible for that monitoring?

Proponent Response

The Issue/Concern provided with this Information Request makes two points that are not supported by the Impact Statement:

- The predicted additional annual mortalities of 1 to 5 for the BCH and 1 to 7 for the DUH are from both direct mortality risks (e.g., vehicle collisions) and indirect mortality risks (e.g., predation). These numbers are not predicted from indirect mortality risks alone as stated in the Information Request Issue/Context.
- The Issue/Concern states that "[t]aken together, this indicates that hunter access will be controlled such that no more than 5 DUH and 7 BCH caribou are harvested annually by hunters using the GBR to access hunting areas". However, as noted above, the additional annual mortalities predicted are from both direct and indirect mortality risks. Further, harvesting was not predicted to contribute to additional mortalities (see Volume 6, Section 16.4.4.4) as access to the road will be controlled and harvesting will continue to occur in a controlled manner consistent with territorial legislation and co-management objectives. Users that want to access the road for

harvesting purposes will require prior approval or permits form the Kitikmeot Inuit Association and the Hunters and Trappers Organizations, and these permits are expected to align with the current tagging system and total allowable harvest. See the response to Information Request KAA-2 (IR-2) for additional details about how access to the road will be controlled.

a) WKR efforts will primarily be focused on controlling access to permitted users and monitoring compliance with user access agreements. Access to the road for harvesting purposes will require prior approval (permits) from the Kitikmeot Inuit Association and a Hunters and Trappers Organization (HTOs), issued jointly, with WKR responsible for confirming that permits and licences are in place before granting access. The processes for access application and permit issuance will be established through discussions with the Kitikmeot Inuit Association and HTOs. Harvest licences and species authorization tag(s) will be managed through the existing Nunavut Hunting Regulations (Volume 11, Appendix 37A, Section 5.1.1).

   Beyond checking permits, WKR will "*[d]ocument caribou harvest by users of the Project Road based on harvesting permits presented at access checkpoints. However, WKR does not have the authority to conduct more in-depth monitoring of potential shifts in regional-scale harvest distribution. Such efforts will require oversight by the GN, NWMB, and local HTOs. When feasible, WKR is committed to collaborating to support such monitoring efforts*" (Volume 6, Section 16.9).

b) The management of all caribou in Nunavut "*falls under the authority of the Nunavut Wildlife Management Board (NWMB) to ensure co-management by Indigenous and government representatives.*" The Government of Nunavut – Department of Environment (GN-DOE) is represented on the NWMB. The Kitikmeot Regional Wildlife Board, representing local HTOs, is also responsible for regional caribou management (Volume 6, Section 16.1.2). Harvest is "*ultimately managed through GN government policies and enforcement but is also based on the premises of the Nunavut agreement, as carried out by Nunavut Tunngavik Incorporated, the Regional Inuit Associations (e.g., Kitikmeot Inuit Association), and Inuit Wildlife Organizations (HTOs)*" (Volume 6, Section 16.8.1). The Government of Nunavut – Department of Environment (GN-DOE) maintains harvest records in the Project area.

YKDFN IR #6 (IR-417)

Subject

Range Disturbance Assessment for BCH

Issue / Concern

The Impact Statement reports on proportional disturbance of Assessment Area 1 as defined in the Bathurst Caribou Range Plan (BCRP-AA1). As noted in the Impact Statement, the BCH is a transboundary caribou population with seasonal ranges in both Nunavut and NWT. BCRP-AA1 is defined as the portion of the Bathurst range that is in Nunavut.

The effects of the Project on the BCH and their habitat will likely extend beyond BCRPAA1, particularly when you factor in cumulative effects.

Information Request

a) What are the effects, including direct effects, cumulative effects and transboundary effects, on range disturbance and the BCH in BCRP-AA2 (the portion of the Bathurst range in the adjacent area in the NWT)?

Proponent Response

Please refer to the response to Information Request NTI-6 (IR-403) for further justification on (1) why the BCH-RAA1 (i.e., herd range extent within Nunavut) is sufficient for assessing cumulative effects of the Project on the representative mainland herd, and (2) how transboundary effects—the state of caribou when they arrive in Nunavut—are considered and addressed through mitigations. For the reasons outlined above, WKR contends that additional assessment beyond BCH-RAA1 (e.g., annual range or adjacent range assessment areas) is unwarranted.

YKDFN IR #7 (IR-418)

Subject

Barrier effect of GBR and TCWR to caribou movement

Issue / Concern

YKDFN is concerned about the barrier effect of the Project on the BCH and interruption of their movement and migration.

The Impact Statement includes:

- *an assessment of migration pathways across the proposed GBR corridor with Brownian Bridge Movement Models (Appendix 16A, s. 4.1.2.2) derived from radio-collared caribou and active on-the-ground monitoring (WMMP, s. 8.2.2.4)*
- *a commitment to adaptive mitigation strategies (WMMP and Trigger Action Response Plan)*

The barrier effect is of continuing concern as caribou are known to avoid anthropogenic disturbance.

Information Request

a) What studies has the Proponent undertaken with respect to the barrier effect of the GBR and any mitigations?

b) How would the effects assessment for the Project change if the BCH alters its movements to avoid the road?

c) Will the Proponent commit to undertaking a study and analyzing any factors (traffic and road characteristics etc.) that reduce the barrier effect for caribou?

Proponent Response

a) WKR did not conduct a barrier-effect analysis for the Grays Bay Road. Instead, the caribou assessment makes inferences about potential barrier effects from the expected caribou–road interactions (i.e., exposure levels and migration corridors) and documented effects in published literature (e.g., reduced and delayed crossings, diversion). With regards to mitigations, please refer to the response to Information Request IR-109 (KIA-IR39) for a discussion on the Mobile Caribou Conservation Measures (MCCM), including adaptive road closures and convoying, and how their implementation will help limit potential barrier or filter effects. These mitigations draw from the protocols used in other northern Canadian projects and the published literature.

b) Evidence compiled from other northern Canadian projects and published literature suggests that, when mitigations are applied (e.g., MCCM-related adaptive road closures and convoying), it is unlikely that caribou would entirely avoid the road. WKR has proposed mitigations that are both intended and proven to prevent such an outcome.

c) WKR commits to continued study and monitoring of factors (traffic and road characteristics) that would reduce potential barrier and filter effects on caribou. As stated in the Wildlife Mitigation and Monitoring Plan (WMMP), WKR commits to "*monitoring movement and migration [to] determine whether the Project affects the timing and location of wildlife crossings and, if so, whether these effects are consistent with IS predictions*" (Volume 11, Appendix 37B, document page 25). Furthermore, "*Triggers for adaptive management will be included in the Final WMMP and will be determined in consultation with Kitikmeot Inuit Association, IAG, GN and GNWT. Adaptive management measures may include work pauses or temporary shutdown of Project components at designated locations and times that coincide with frequent wildlife crossings or migration corridors/ pinch-points*" (Volume 11, Appendix 37B, document page 26).

YKDFN IR #8 (IR-419)

Subject

Ability of monitoring program to detect caribou approaching the road and extent of daily road surveys by Project environmental monitoring staff.

Issue / Concern

The Proponent has described three main methods of detecting caribou as they approach the GBR (Volume 11, Appendix 37B (WMMP) Section 8.2.1). The first is radio-collared caribou location data to be provided by the Government of Nunavut and the Government of the Northwest Territories, primarily in key seasons for each of the BCH and DUH. The second is on-the-ground active monitoring by environmental monitors who will rely on line-of-sight monitoring. Finally, incidental observations by project personnel and thirdparty users of the road will be recorded.

When caribou are first approaching the road in their migratory seasons, radio-collar data can provide advance notice of migrating animals when they are still several days away. Once the migration has begun, scheduled on-the-ground active monitoring by environmental monitors will be needed to monitor distribution and abundance and its changes over time. Dedicated daily monitoring (Section 8.3.3) is the key method to detect groups that trigger events under the caribou TARP (i.e., 25 or more animals, or cows with calves). Radio-collars will have a low probability of detection for groups as small as 25 animals (e.g., if 2% of adult females have a collar, then there will be only a 40% probability that at least one animal in a group of 25 has a collar on it). Instead, their detection will require direct observation.

Information Request

a) *Please define the geographic extent of the Proponent's daily caribou monitoring.*
b) *Will the Proponent commit to daily surveys by environmental monitors on the full extent of the GBR?*
c) *Will the Proponent conduct daily road surveys to document hunter success and harvest locations?*

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage".

YKDFN IR #9 (IR-420)

Subject

Calculation of seasonal ranges from BCH radio collar data

Issue / Concern

It is not clear in the Impact Statement how telemetry location data were used to represent seasonal ranges.

The Impact Statement notes that data were screened to only include locations from animals that generated data on at least half the days in the season.

Data collection frequency over 30 years varied from one location per animal for each 5day period to multiple locations per day per animal. Depending on methods used, this can weight some years and animals significantly more than others, especially years from 2015 onwards when all collars were set to acquire at least three locations every day.

Information Request

There are several questions important to understanding the analyses.

a) *Are the data from female caribou only? No mention is made in the methods descriptions or on the* figures.
b) Was *a separate 95% utilization distribution created for each season in each year and the seasonal 95% utilization distribution merged to create a multi-year seasonal range for Figure 16.2? Or were all data from a season pooled, irrespective of year, before a single utilization distribution for each season was calculated to represent use in all years together?*
c) *Were all available data used for all animals included in analyses (i.e., every location from each* animal*-season that was screened into the data set)?*
d) *Please provide a year-by-season table showing numbers of animals and numbers of locations included in seasonal range utilization distribution analyses. Table A.1 in Appendix A of Volume 6,* Appendix *16A shows the numbers of collared animals from each year used for Resource Selection Function analyses – a similar Table with total number of locations (in parentheses) beside the number of animals for each season in each year is what is being requested.*
e) *If all* data *from all years were pooled together before analyses to produce a single seasonal 95% utilization distribution, please discuss the implications and limitations of the results. Please also comment on an alternative analytical method similar to the method used in the report to map peak calving areas – overlaying a separately calculated range from each year to give equal weight to each year, capturing interannual variability and areas used in early years of radio-collar data collection.*

Proponent Response

Seasonal ranges provided in the Impact Statement (IS) are from both collared females and males (E. McHugh, ECC, GNWT, pers. comm. 1 September 2026). Given that collaring of bulls began in about 2015, the bulk of the seasonal ranges would be representative of cows. As stated in Volume 6, Appendix 16A of the IS:

> "*Seasonal ranges for the Bathurst herd were provided by GNWT-ECC (Nick Wilson [GNWT] 2024, pers. comm.). Those seasonal ranges were created using caribou satellite and GPS collar data (1996 to 2023) during the herd's spring migration (April 20 to June 1), calving/ post-calving (June 2 to June 28), summer (June 29 to September 6), fall (September 7 to November 30), and winter (December 1 to April 19); dates follow those identified in the Bathurst Caribou Range Plan (Government of Northwest Territories 2019)*." (Appendix 16A, Section 4.1.2.1, document page 27)

The Government of Northwest Territories (GNWT) provided some information on how these seasonal ranges were created, which is reflected in the IS:

> "*Collars that contained >50 percent (%) of the data for a given season were included when developing seasonal ranges; e.g., a collar required a minimum of 21 days of data during spring migration to be included in the range development for that season (42 days total) (Nick Wilson [GNWT] 2024, pers. comm.). To delineate seasonal range boundaries, kernel density estimation (KDE) was implemented using a 1-km (cell size) standardized grid with a seasonally variable reference bandwidth (Nick Wilson [GNWT] 2024, pers. comm.). Seasonal ranges were defined by a 95% utilization distribution (UD) boundary representing the probability of use based on density values (Worton 1989)*." (Appendix 16A, Section 4.1.2.1, document page 27)

Additional questions regarding the development of these official seasonal ranges for the Bathurst Caribou Herd would need to be directed to GNWT.

YKDFN IR #10 (IR-421)

Subject

Resource selection functions analyses data

Issue / Concern

The summary rows at the bottom of the tables do not add up. The total numbers of GPS collars shown for each year do not equal the summary row showing the total number of caribou in all years. The total number of GPS locations in a season divided by the total number of caribou yields a number of locations per animal that is outside the range presented in the final row of the Table.

Information Request

a) Please correct or explain discrepancies.

Proponent Response

Tables A.1 and A.2 in Volume 6, Section 16A, Appendix A summarize (1) the number of unique caribou (i.e., GPS collars) in each year, and (b) the *total* number of unique caribou. Adding the caribou counts across all years does not sum to the "*total number of caribou in all years*" because an individual caribou frequently has collar locations collected in multiple years. Consequently, the "*total number of GPS locations*" cannot be divided by the "*total number of caribou in all years*" to calculate the "*number of GPS locations per animal per year*" (final row).

YKDFN IR #11 (IR-422)

Subject

Restrictions on access for hunting

Issue / Concern

The Total Allowable Harvest (TAH) for the BCH is 10 bulls per year in Nunavut. Bulls are mostly separated from females for calving/post calving.

From BCH seasonal ranges calculated for other projects, it is likely that analyses will show that male BCH seasonal ranges are largely confined to areas west of the proposed GBR. Only male Bathurst caribou are to be harvested under TAH, and if males are largely restricted to areas west of the GBR, then restricting hunter access to areas west of the GBR may result in fewer disturbances affecting female caribou and the peak calving areas that are east of the road.

Assumed: Seasonal BCH ranges presented in the report are from location data for female caribou only (but see YKDFN IR#9).

Information Request

a) For the Proponent, please provide seasonal range maps from analyses of male BCH data.

b) For the Proponent, GN and KIA, please comment on the merit of restricting hunter access to areas west of the GBR.

c) For the Proponent, will the Proponent work with other parties to further limit access for hunting to ranges primarily containing male caribou (thereby reducing disturbances on females and calves)?

Proponent Response

a) WKR has relied on the official seasonal range maps for the Bathurst Caribou Herd (BCH) provided by GNWT-ECC; please refer to the response to Information Request IR-420 (YKDFN-IR-9) for additional information on these seasonal ranges. WKR suggests that YKFN contact GNWT-ECC directly for male-specific seasonal ranges for the BCH.

b) WKR has no authority to restrict hunting access anywhere other than along the Grays Bay Road. Regional-level hunting restrictions beyond the road corridor, or areas directly adjacent to it, are the responsibility of regulators, HTOs/HTAs, and other co-management parties. However, the Impact Statement (IS) states that:

> "*Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and an Inuit Wildlife Organization (HTA), and these permits are expected to align with the current tagging system and TAH*." (Volume 6, Section 16.4.4.4, page 16-113)

"*If no approval process is in place, WKR anticipates that use of the road for harvesting purposes would be prohibited*." (Volume 10, Section 32.5, page 32-17)

c) WKR is committed to working with co-management parties to address concerns related to hunting access. If co-management parties decide that restricting access to ranges primarily containing male caribou is the best approach, then WKR will help enforce that along the Grays Bay Road to the extent possible.

YKDFN IR #12 (IR-423)

Subject

RSF interpretation

Issue / Concern

Interpretation of selection ratios of habitat ratings presented in Figures on pp. A-12 (BCH calving), A-15 (BCH-summer), A-18 (BCH-fall), A21 (DUH – migration, and A-24 (DUH – winter).

Information Request

a) Are the habitat ratios to be interpreted as the relative strength of selection of habitat in each of those categories for that season? Please explain.

b) For example, the Selection Ratio for High quality habitat in the Bathurst herd is presented as (interpreting from graphs): approximately 0.8 for calving season, 1.9 for summer, and 1.5 for fall. Can we interpret this as a presented stronger preference for the best habitat in summer than in the other seasons, and a weaker selection of habitat (suggesting more equivalent value across habitat categories) in calving?

Proponent Response

a) That is correct, the habitat selection ratios presented in the mentioned appendix figures demonstrate the relative strength of selection for each habitat category within a specific season. These ratios are calculated from the proportion of *used* versus *available* locations using the equation shown on page A-9 of Volume 6, Appendix 16B, Appendix A, Section A.1.8.

b) Because the selection ratio is a standardized value comparing the proportion of *used* versus *available* caribou locations in each habitat rating category, it can help interpret which seasons demonstrate stronger habitat selection patterns. Indeed, this means that there is stronger selection for high-quality habitat during summer than during calving. But a weaker selection ratio in one season compared to another should not be confused with no selection. A lack of selection (i.e., *avoidance*) should primarily be interpreted within a season. A key ecological interpretation in the caribou assessment is the distinction between habitat rating categories that are *avoided* versus *selected*, and the amount of habitat on the landscape that is *selected* by caribou.

YKDFN IR #13 (IR-424)

Subject

Intersection of migration corridor with GBR

Issue / Concern

The intersection of the migration corridor identified through brownian bridge movement models 95% utilization distribution with the GBR is presented as a 18.3 km segment within a 128.9 km stretch of road. This is filtered to explain that a high probability of intersection of the migration corridor occupies a much smaller part of the road than the full extent containing crossings.

However, the brownian bridge movement model analysis combines data from multiple years, which have not been assessed for inter-annual variability, or for correlation with environmental covariates that may explain why animals use paths in some years but not others.

The precautionary approach would be to assume that the spring migration corridor may reasonably be expected to cross the road anywhere in the area identified by brownian bridge movement model analyses (and perhaps other areas within the 129 km stretch). Furthermore, brownian bridge movement model analyses include data from an entire season, and migration may be advanced or delayed based on conditions in a given year, irrespective of median values in Table 4-6 of Appendix 16A.

Information Request

a) *Will caribou monitoring occur for the full length of the GBR?*
b) *To facilitate future mitigation strategies, will the field monitoring include an assessment of road design (e.g., slope, material, orientation) at areas where caribou are present and where crossing does and does not occur?*

Proponent Response

a) Caribou monitoring will occur along the full length of the Grays Bay Road. This monitoring will be initiated in stages: first initiated by continuous, region-wide review of GPS collar data (in coordination with GN and GNWT), which then triggers active monitoring along relevant segments of the road. The Impact Statement (IS) states:

> "*Regional monitoring from continuous review of GPS collar data (see Section 8.2.1.2), and local-scale monitoring along the Project Road by dedicated Environmental Monitors (see Section 8.3.1, will provide early warning systems as part of the caribou trigger action response plan (TARP). Caribou collaring data will help identify when caribou are approaching or near Project infrastructure (i.e., Port site, Road, Aerodrome, Jericho Station) but beyond the line of sight of the PDA. GPS locations from collared caribou will be used to anticipate Project interactions and initiate Level 2 (site notification) human activity management measures to mitigate Project effects on caribou. Observations through active monitoring by*

> *Environmental Monitors will identify caribou proximity and behaviour within the line of sight of the PDA. These observations would initiate Level 3 (site alert) or Level 4 (temporary shutdown of infrastructure) human activity management measures. The frequency and intensity of monitoring by Environmental Monitors will depend on sensitivity timings for caribou. Daily active monitoring will occur from April 20 to September 6 for the BCH, and from November 1 to November 30 and April 15 to May 30 for the DUH. During the remainder of the year, active monitoring will occur weekly.*" (Volume 11, Appendix 37B, Section 8.3.3, document page 28)

Other forms of passive monitoring include remote cameras at locations along and beyond the PDA, and incidental observations documented by Project personnel and road users. Please also refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on the current "early design stage" of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B). WKR is committed to developing and implementing protocols and triggers/thresholds for different stages of monitoring through consultation with co-management parties.

b) Observations from remote cameras and by Environmental Monitors along the Grays Bay Road will help inform the location and conditions (e.g., slope, height over surrounding landscape, material, orientation) that facilitate or prevent caribou crossings. This information will be reviewed and will trigger adaptive management, particularly if the effects on caribou are beyond those predicted within the IS.

YKDFN IR #14 (IR-425)

Subject

Traffic patterns from 2035 onwards

Issue / Concern

Seasonal use of GBR prior to development of roads to NWT, Izok, and Hackett/Back River.

The GBR is designed to connect to the TCWR at Contwoyto Lake. Until an all-season connection to NWT is constructed, travel south of Jericho will only be possible during the TCWR operating season.

Information Request

a) *Will* there *be a period of operation of the GBR when the only destination will be the TCWR?*
b) *If so, during this time, will the GBR be closed seasonally in the BCH calving peak range, as there* will *be no other destination for vehicles? If not, please explain why not.*

Proponent Response

The Grays Bay Road and Port Project is being built to provide all season access to the Port and open water vessel traffic. During the construction phase of the Project, the TCWR will be built to the northern end of Contwoyto Lake to provide equipment and materials necessary to facilitate construction of the Grays Bay Road. Once the road is fully built out and traffic is able to move along the Grays Bay Road, equipment and materials to support the Project will be shipped through the Port, and use of the TCWR is not anticipated to be necessary to support the operations and maintenance of the Project.

Please refer to YKDFN IR #7 (IR-418) for a discussion on closure strategy.

YKDFN IR #15 (IR-426)

Subject

Traffic monitoring

Issue / Concern

In Volume 2 (p. 2-53) "Road traffic monitoring" is listed as being part of road operations. However, there is no program listed to monitor traffic on the GBR other than access control at either end of the road.

Traffic levels are mentioned in Volume 11:

- *Appendix 37A, Section 5.2.1.1 in relation to dust suppression; and*
- *Appendix 37H, Section 5 in relation to traffic volume.*

However, there is no traffic monitoring proposed among the plans in Volume 11.

Experiences at other northern projects (e.g., Ekati Diamond Mine, Meliadine Gold Mine, Meadowbank Gold Mine) have identified traffic data as an important variable to be used in examining wildlife (especially caribou) behaviour when they encounter roads. Traffic data will be important information for the assessment of effects of the Project on wildlife movement and migration.

The spatial and temporal resolution of the location data should be considered relative to the wildlife questions of concern.

Information Request

a) Please provide a traffic monitoring program for the Project.

b) Please indicate the methodologies proposed to be used by the Proponent to track vehicle traffic.

c) Please indicate whether the Proponent will provide:

  i. GPS tracking for vehicles on the GBR;

  ii. permanent vehicle transponders on Project vehicles (and possibly temporary transponders provided to non-Project vehicles at access control points); and

  iii. dedicated cameras along the GBR.

If the Proponent will not provide any of the above, please indicate why not.

Proponent Response

a) Road traffic monitoring during operation of the Grays Bay Road will be implemented through access management under the Road Management Plan (Volume 11, Appendix 37A, Section 5.1.1). The plans included in Volume 11 of the Impact Statement have been developed to a level of detail consistent with the current stage of the regulatory process and will be further developed as the review progresses. This will include further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and after the final hearing is completed, if necessary.

b) Traffic on the Grays Bay Road will be monitored through the Project's controlled access system. Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station on Inuit Owned Land (Volume 11, Appendix 37A, Section 5.1.1). Sign-in procedures and radio check-ins will be used at the access points to manage and monitor road use. WKR will maintain logs recording the entry and exit of all vehicles using the road and record any incidents or accidents for regulatory and safety audit purposes (Volume 11, Appendix 37A, Section 5.1.1). Along the Grays Bay Road, Project and contractor vehicles will be equipped with radios set to the road frequency, which will be used to report conditions on the road, including vehicle locations and unauthorized vehicle use (Volume 11, Appendix 37A, Section 5.1.2). These methods will be further defined through updates to the Road Management Plan, if necessary, as described in the response to part a).

c) WKR does not propose the use of GPS tracking, vehicle transponders, or dedicated cameras along the Grays Bay Road. Road traffic monitoring methods will be reviewed through updates to the Road Management Plan, if necessary, as described in the response to part a) and b).

YKDFN IR #16 (IR-427)

Subject

Caribou Resource Selection Function (RSF) analyses and interpretation

Issue / Concern

Orders of resource selection.

The Impact Statement presents the RSF analyses as second-order selection. However, the analyses presented are third-order selection; i.e., the daily (or shorter time period – it is not clear) selection of locations from within a previously selected seasonal range. The restriction to selection within the seasonal range is clear from the description of screening criteria (to include used locations from animals found within the seasonal range) and the generation of random locations restricted to the area within that range.

The issue is not with the analyses conducted, but with the absence of a consideration for the importance of the seasonal ranges selected by animals from the entire range used by the population (i.e., the actual second-order selection). For the Bathurst herd, the high level of fidelity of animals to specific seasonal ranges within the Project area (and the area that includes reasonably foreseeable and reasonably foreseeable induced developments) reveals the level of importance of those ranges to the persistence of the population. Any Project or cumulative depletion of those ranges, whether or not a specific habitat unit is selected at the third-order, may be critical to the herd.

Information Request

a) *Please conduct an examination of the level of inter-annual fidelity to each seasonal range and an assessment of the effects of the Project, including cumulative effects, on the direct and indirect loss of total seasonal range areas.*
b) *From the results, please explain the importance of the seasonal ranges being used. The importance of any loss of seasonal range to the Project and cumulative effects relates to the herd and its entire range, not only to the portions within BCRP-RAA1.*

Proponent Response

Point of Clarification

WKR would like to clarify that second-order selection is the process of selecting habitat within a population's range, whereas third-order selection is the process of selecting habitat with an individual's home range. Thus, the resource selection functions (RSFs) developed for the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH) in the Impact Statement (IS) relate to second-order selection. The scale that YKDFN is alluding to—selection of the population range itself in the broader landscape—is a first-order selection process. The following publications outline the definitions used in the

resource selection functions (RSFs) developed for the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH) in the Impact Statement (IS):

Johnson, D.H. 1980. The comparison of usage and availability measurements for evaluating resource preference. Ecology 61(1):65–71. DOI: 10.2307/1937156

DeCesare, N.J., Hebblewhite, M., Schmiegelow, F., Hervieux, D., McDermid, G.J., Neufeld, L., Bradley, M., Whittington, J., Smith, K.G., Morgantini, L.E., Wheatley, M., and Musiani, M. 2012. Transcending scale dependence in identifying habitat with resource selection functions. Ecological Applications 22(4):1068–1083. DOI: 10.1890/11-1610.1

Given these definitions, it is also important to keep in mind that they can be partially modified depending on the study objective. Use of seasonal ranges instead of the annual range when developing seasonal RSFs is logical, especially when the objective is to quantify the relative importance of habitat *within* a season. For instance, it is not appropriate to assume that *availability* (i.e., the extent where available/random points are sampled) during calving/post-calving extends into the BCH's winter range in Northwest Territories.

Responses

a) The seasonal ranges used to sample *availability* for seasonal RSFs were developed by the GNWT-ECC using 28 years of collar data (1996 to 2023). Consequently, the 95% utilization distributions (UDs) for each season accounts for the interannual variation in space use over nearly three decades. Therefore, WKR contends that use of GNWT-ECC's seasonal ranges is sufficient for assessing direct/indirect habitat loss from the Project and cumulative land disturbances. Further analysis of interannual fidelity is not warranted.

b) WKR refers YKDFN to response (a) above. WKR acknowledges the importance of caribou seasonal ranges and the habitats caribou use within them. The caribou assessment focuses on BCH-RAA1 because it is sufficient to provide regional context for potential effects (including direct and indirect habitats) on caribou.

   Please refer to the response to Information Request IR-403 (NTI-6) for further justification on (1) why the BCH-RAA1 (i.e., herd range extent within Nunavut) is sufficient for assessing cumulative effects of the Project, and (2) how transboundary effects—the state of caribou when they arrive in Nunavut—are considered and addressed through mitigations. For the reasons outlined above, WKR contends that additional assessment beyond BCH-RAA1 (e.g., annual range or adjacent range assessment areas) is unwarranted.

YKDFN IR #17 (IR-428)

Subject

Bathurst caribou population dynamics and population decline

Issue / Concern

YKDFN is critically concerned with respect to the population decline of the BCH. The caribou vulnerability assessment (Appendix 16B) concludes that even with effective mitigation the cumulative effects may yield a 5.3% annual decline in the BCH.

Information Request

a) *Please provide population projections for the BCH that represent the possible outcomes with the Project and with the reasonably foreseeable and reasonably foreseeable induced developments.*

Proponent Response

The purpose of the Caribou Cumulative Effects (CCE) model in Volume 6, Appendix 16B—referred to as the Caribou Herd Vulnerability Model (CHVM) in Volume 6, Section 16—is to identify the main drivers of change of caribou herds (e.g., climate, development-related disturbance), particularly the Bathurst Caribou Herd (BCH), in order to make inferences about potential Project-related and cumulative effects, and to identify the potential effectiveness of mitigations in reducing those effects. The intent of the CHVM is not to quantify and predict the exact outcomes from reasonably foreseeable or reasonably foreseeable induced developments. The 5.3% annual decline predicted by the CHVM is not the predicted residual cumulative effect on the BCH. As an extension to this argument, please refer to the response to IR-402 (NTI-5) for a discussion of how the CHVM drastically overestimates exposure, changes to body condition, and population vital rates in all the scenarios assessed in Volume 6, Appendix 16B. The more accurate exposure levels calculated in the caribou assessment (Volume 6, Section 16.5.4.3), though still overestimated, are considerably lower and are unlikely to result in levels that would result in population changes that would be deemed significant, as per the definition of significance used in the assessment.

YKDFN IR #18 (IR-429)

Subject

Mitigation of impacts to caribou

Issue / Concern

The Proponent has not identified caribou mitigation measures with certainty or precision. It is not possible to evaluate whether highest and best practices will be incorporated, or what the measures' actual impact on caribou may be.

Information Request

The Proponent states that it "will implement a Wildlife Mitigation and Monitoring Plan (WMMP) that contains mitigation, management, and enhancement measures to reduce potential changes in caribou range disturbance, habitat, movement, and mortality risk." (p. VS.6-11). Yet the Proponent's version of the WMMP included at Appendix 37B is "presently not intended to provide detailed monitoring approaches and methods" (Appendix 37B p 1).

a) *When, if ever, does the Proponent intend on providing a robust WMMP that includes detailed monitoring approaches and methods?*
b) *Will the Proponent commit to providing a complete draft WMMP for review prior to a NIRB public hearing for the Project?*
c) *Specifically, please provide details, including entities, timelines, and specific outcomes expected for the "continued discussions with governing bodies, working groups and other interested parties" the Proponent refers to as part of the process of developing "further details and monitoring design" (Appendix 37B p 1).*
d) *Does the Proponent agree to the parties submitting further information requests once (a) has been done? If not, why not? If so, please propose a timeline for doing so and explain how this would fit into NIRB's schedule.*
e) *Will there be a review panel or advisory body established to review the effectiveness of the WMMP over time? If not, why not? If so:*
    i) *What role will Indigenous groups have on the review panel?*
    ii) *What decision-making powers will the review panel have to implement changes to the WMMP? To the extent that the review panel does not have decision-making power, why not?*

Proponent Response

a) and b) The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process and will be further developed as the review progresses. This will include further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and after the final hearing is completed, if necessary.

c) Detailed monitoring approaches and methods will be developed through the plan-update milestones in Volume 11, Section 37.1.4. Development and refinement of the WMMP will engage: (i) affected Inuit and Indigenous governments and organizations; (ii) potentially affected communities; and (iii) relevant government agencies (Volume 11, Appendix 37B, Section 3). Specific caribou-related triggers will be included in the WMMP and will be determined in consultation with the Kitikmeot Inuit Association, the Government of Nunavut, and the Government of the Northwest Territories (Volume 11, Appendix 37B, Section 8.3.3).

d) The information request process is administered by the Nunavut Impact Review Board. WKR will respond to further information requests issued through that process.

WKR will continue to respond to questions and concerns from Kitikmiut, other Indigenous groups, and other potentially affected communities through its ongoing engagement efforts. Information provided following submission of the IS will be reviewed in the context of the IS and for incorporation into Project planning, including adaptive management and monitoring, as appropriate.

e) An Inuit Environmental Advisory Committee (IEAC) will be established as the review mechanism for the Project's monitoring and management plans. As stated in Volume 3, Section 6.3.6, Table 6.4:

> *"In collaboration with the Kitikmeot Inuit Association, WKR will develop an IEAC (as a successor to the current Inuit Advisory Group) to review and provide feedback on the Project's monitoring and management plans with regards to study designs, the inclusion of monitors, monitoring findings, and adaptive management strategies, where applicable. Where possible, WKR will include relevant HTOs, Inuit land users, Elders, and Knowledge Holders in the membership, or as topic-specific advisors, of the group and will demonstrate its consideration for community input and Inuit and Community Knowledge as part of the group's function"* (Volume 3, Section 6.3.6, Table 6.4).

IEAC membership, governance structure, and its role in review of the WMMP and adaptive management processes will be established in collaboration with the Kitikmeot Inuit Association and through ongoing engagement with participating Indigenous groups (Volume 3, Section 6.3.6, Table 6.4).

YKDFN IR #19 (IR-430)

Subject

Wildlife Mitigation and Monitoring Program effectiveness

Issue / Concern

Commitment to "…monitoring potential effects to inform wildlife mitigation during all phases…" (p. 1)

The stated intent is to design a detailed WMMP by beginning with management, mitigation, and monitoring practices from existing projects approved in Nunavut.

Irrespective of monitoring practices in place for other developments in Nunavut, for each element of a sampling program to be effective, it must be designed to detect a specific effect with a designed level of confidence and power. For each monitoring program element, there should be a designed level of ecological effect on measurable parameter(s) that it will detect over a given time and space.

The quantitative details regarding effect size, power, confidence, sample size, and monitoring frequency and duration should appear as the objectives of each element of the monitoring program.

Information Request

As a detailed WMMP is created, will the Proponent commit to developing and documenting effective, quantitative designs for the monitoring program; linking each element to an environmental effect of concern and an ecologically important magnitude of that effect?

Proponent Response

Listed in NIRB Appendix A "Information Requests Not Requiring Response at This Stage".

YKDFN IR #20 (IR-431)

Subject

Mitigation of impacts to caribou

Issue / Concern

The Proponent has not identified caribou mitigation measures with certainty or precision. It is not possible to evaluate whether highest and best practices will be incorporated, or what the measures' actual impact on caribou may be.

Information Request

The Proponent refers to a "caribou TARP [Trigger Action Response Plan]."

a) Has the Proponent developed a draft or final caribou TARP? If so, please provide the most recent version. If not, why has the Proponent not done this work? Please provide details on next steps and timelines for completing this work.

b) Will the Proponent commit to providing a complete draft TARP for review prior to a NIRB public hearing for the Project?

c) Does the Proponent agree to the parties submitting further information requests once (a) has been done? If not, why not? If so, please propose a timeline for doing so and explain how this would fit into NIRB's schedule.

d) Will there be a review panel or advisory body established to review the effectiveness of the caribou TARP over time? If not, why not? If so:

i. What role will Indigenous groups have on the review panel?

ii. What decision-making powers will the review panel have to implement changes to the caribou TARP?

iii. To the extent that the review panel does not have decision-making power, why not?

Proponent Response

a) WKR has not yet drafted a detailed caribou Trigger Action Response Plan (TARP). Please refer to the response to Information Request YKDFN IR #18 (IR-429) for a discussion on the current early design stage of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) and WKR's commitments to developing detailed protocols and thresholds/triggers for the caribou TARP through consultation with co-management parties. Please also refer to the response to Information Request YKDFN IR #18 (IR-429) for details on next steps for development of the WMMP, including engagement.

b) Yes, WKR commits to providing a completed (draft) caribou TARP prior to a NIRB public hearing for the Project.

c) The information request process is administered by the Nunavut Impact Review Board. WKR will respond to further information requests issued through that process.

   WKR will continue to respond to questions and concerns from Kitikmeot Inuit Association, other Indigenous groups, and other potentially affected communities through its ongoing engagement efforts. Information provided following submission of the IS will be reviewed in the context of the IS and for incorporation into Project planning, including adaptive management and monitoring, as appropriate.

   Further, WKR commits to actively engage and consult with co-management parties to develop consensus-based protocols and thresholds/triggers for the caribou TARP. See responses to (a) and (b) above for details.

d) Yes, an Inuit Environmental Advisory Committee (IEAC) will be established as the review mechanism for the Project's monitoring and management plans. Please refer to part e in the response to Information Request YKDFN IR #18 (IR-429) for additional information about the IEAC review panel or advisory board.

YKDFN IR #21 (IR-432)

Subject

Mitigation of impacts to caribou

Issue / Concern

The Proponent has not identified caribou mitigation measures with certainty or precision. It is not possible to evaluate whether highest and best practices will be incorporated, or what the measures' actual impact on caribou may be.

Information Request

The Proponent refers to "Mobile Caribou Conservation Measures (MCCMs)" to be included in its caribou TARP (Trigger Action Response Plan)

a) *Has the Proponent developed a draft or final MCCM? If so, please provide the most recent version. If not, why has the Proponent not done this work?*
b) *Please provide details on next steps and timelines for this work.*
c) *Will the Proponent commit to providing a complete draft MCCM for review prior to a NIRB public hearing for the Project?*
d) *Does the Proponent agree to the parties submitting further information requests once the above work has been done? If not, why not? If so, please propose a timeline for doing so and explain how this would fit into NIRB's schedule.*

Proponent Response

Please refer to the response to Information Request YKDFN IR #20 (IR-431). That response applies to both the Mobile Caribou Conservations Measures (MCCM) and caribou Trigger Action Response Plan (TARP).

YKDFN IR #22 (IR-433)

Subject

Further mitigation measures available for impacts to caribou

Issue / Concern

YKDFN's way of life is integrally connected to caribou, and in particular, the BCH. The BCH is considered threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). In 2023, the Bathurst Caribou Advisory Committee determined the herd's status to be "Critical Low". The BCH population has continued to decline precipitously, falling from 6,851 caribou in 2022 to 3,609 in 2025. As a result, the Government of the Northwest Territories has placed a moratorium on all BCH hunting since 2015. Likewise, the Nunavut Government has placed a moratorium on all BCH cow and calf hunting, and restricted BCH bull hunting to 10 individuals per year.

Any further negative impacts to the BCH stand to significantly impact YKDFN's Aboriginal rights and way of life. The Project, and its cumulative effects, stand to adversely impact BCH.

Yet the Proponent does not state that it has incorporated all highest and best practices possible to mitigate the Project's impacts and cumulative effects on caribou.

Information Request

Please list each measure (collectively, a "Measure") that could improve mitigation of the Project's impacts on caribou that the Proponent has committed to implement. For each, please explain:

a) What is the Measure?

b) If the Measure were included in the Project, what are the possible improvements to mitigation of impacts to caribou, and specifically to the BCH? Please also identify the relevant categories of effect (i.e. range disturbance; habitat; movement; mortality risk; health).

c) What studies have been undertaken on the effectiveness of the Measure on caribou and specifically the BCH?

Please answer the same questions with respect to the cumulative effects of the Project.

Proponent Response

Please refer to the response to Information Request YKDFN IR #18 (IR-429) for a discussion on the current early design stage of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) and WKR's commitments to developing the details of measures to mitigate Project effects on caribou through consultation with co-management parties.

Please refer to the response to Information Request GN IR 11 (IR-291) for discussion on key caribou mitigations, including the Mobile Caribou Conservation Measures, and the validity of proposed mitigations.

Once completed, the WMMP will address (a) the details of each measure, (b) how each measure mitigates effects on caribou, including which potential effect it addresses, and (c) whether the measure has been tested for effectiveness and, if so, where.

With regards to mitigation measures for cumulative effects, the Impact Statement states:

> "*All existing and proposed projects in NU are required by law and regulation to implement appropriate environmental safeguards and project-specific mitigation plans. It is assumed that mitigations required for active RFI mines would exceed the mitigations proposed for the Project. For example, a caribou TARP, including MCCMs like adaptive road closures and traffic management like convoying, are likely required for all RFI access roads. Some regional-level coordination among the Project and RFI physical activities is expected during key time periods, such as BCH spring migration, calving, and post-calving*". (Volume 6, Section 16.5.4.2, document page 16-138)

YKDFN IR #23 (IR-434)

Subject

Further mitigation measures available for impacts to caribou

Issue / Concern

YKDFN's way of life is integrally connected to caribou, and in particular, the BCH. The BCH is considered threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). In 2023, the Bathurst Caribou Advisory Committee determined the herd's status to be "Critical Low". The BCH population has continued to decline precipitously, falling from 6,851 caribou in 2022 to 3,609 in 2025. As a result, the Government of the Northwest Territories has placed a moratorium on all BCH hunting since 2015. Likewise, the Nunavut Government has placed a moratorium on all BCH cow and calf hunting, and restricted BCH bull hunting to 10 individuals per year.

Any further negative impacts to the BCH stand to significantly impact YKDFN's Aboriginal rights and way of life. The Project, and its cumulative effects, stand to adversely impact BCH.

Yet the Proponent does not state that it has incorporated all highest and best practices possible to mitigate the Project's impacts and cumulative effects on caribou.

Information Request

Please list each measure, including but not limited to taking a more rigorous approach to a proposed measure (collectively, a "Measure"), that could improve mitigation of the Project's impacts on caribou, but which the Proponent has not committed to implement. For each, please explain:

a) *What is the Measure?*
b) *If the Measure were included in the Project, what are the possible improvements to mitigation of impacts to caribou, and specifically to the BCH? Please also identify the relevant categories of effect (i.e. range disturbance; habitat; movement; mortality risk; health).*
c) *Given the critical importance of caribou, and specifically the BCH, to YKDFN and other Indigenous peoples, why did the Proponent not include the Measure?*
d) *What would be the approximate financial cost to the Proponent to include the Measure?*

Please answer the same questions with respect to the cumulative effects of the Project.

Proponent Response

WKR will implement mitigation measures that have been proven to be effective in managing the potential effects on caribou. Please refer to the response to Information Request YKNDFN IR #22 (IR-433) for details about the mitigation measures that will be included and implemented in the Wildlife Mitigation and Management Plan (WMMP).

As described in the response to Information Request YKDFN IR #18 (IR-429), the mitigation measures and monitoring that will be included in the WMMP will be developed through consultation with co-management parties.

If additional mitigation measures that could manage effects on caribou are identified by YKDFN or others, they will be considered for inclusion in the WMMP.

YKDFN IR #24 (IR-435)

Subject

Further mitigation measures available for impacts to caribou

Issue / Concern

See YKDFN IR #23.

The Proponent states that:

> *The BCH will likely have frequent interactions with the Project during spring migration (April 20 to June 1), calving/post calving (June 2 to June 28), summer (June 29 to September 6), and fall (September 7 to November 30). Calving/ post-calving are critical periods associated with cow reproduction and calf survival. BCH interactions with the Project during summer, when caribou occupy areas at the southern end of the Project, occurs when calves are still vulnerable to predation and cows increase foraging to maintain sufficient body condition. (p. 16-25)*

*As a result, the Proponent characterizes Project interactions during calving/post calving as "**very high sensitivity**", and interactions during summer as "**high sensitivity**" (p. 16-25, emphasis added).*

The Proponent states that "[b]road-scale movement effects are expected during spring migration, which may influence central migration corridors and pinch points during a short window every year (~1 month)" (p. 16-118).

IAG (Inuit Advisory Group) members advised the Proponent "to implement comprehensive measures and commitments that align with Inuit, Indigenous, and Community priorities and values", including "implementing traffic restrictions/closures during sensitive seasons" (p. 16-7).

Information Request

a) *Please confirm that the Proponent has not committed to implementing annual closures of the GBR during either or both of the following times:*
   i. *BCH calving/post calving (June 2 to June 28), a "critical period" of "very high sensitivity"; and,*
   ii. *summer (June 29 to September 6), a time of "high sensitivity".*
b) *For each time listed above, does the Proponent agree that implementing annual GBR closures would reduce the number, frequency and impact of the interactions between the BCH and the Project? If not, why not?*

Proponent Response

a) **Confirmation regarding annual closures**

The Impact Statement does not include a commitment to implementing scheduled annual closures of the Grays Bay Road during the Bathurst Caribou Herd (BCH) calving/post-calving period (June 2 to June 28) or during the BCH summer period (June 29 to September 6).

The Impact Statement's mitigation framework for Project effects on the BCH during these periods is the adaptive caribou Trigger Action Response Plan (TARP), the Mobile Caribou Conservation Measures (MCCMs), the seasonal daily monitoring frequency committed in the Wildlife Mitigation and Monitoring Plan (WMMP), the traffic management measures committed in Volume 1, Appendix B, and the annual road use plans developed under the Road Management Plan.

As stated in Volume 6, Section 16.5.2.2, the caribou TARP — encompassing MCCMs and traffic management protocols — is "the primary tool to address direct mortality risk, and indirect effects on habitat and movement" (Volume 6, Section 16.5.2.2). Cross-reference to the WKR response to YKDFN IR #22 for the full mitigation framework and the list of measures WKR has committed to.

The seasonal daily monitoring frequency during the BCH calving/post-calving and summer periods is committed in Volume 11, Appendix 37B, Section 8.3.3.

The annual road use plans developed under the Road Management Plan implement adaptive management measures to protect caribou (Volume 2, Section 2.6.3.3; Volume 11, Section 37.1.6).

b) **Whether implementing annual closures could reduce interactions between the BCH and the Project**

WKR does not agree that scheduled annual closures of the Grays Bay Road during the BCH calving/post-calving and summer periods, in addition to the adaptive caribou TARP and MCCMs currently committed in the Impact Statement, would materially reduce the number, frequency, and impact of interactions between the BCH and the Project.

The IS characterization of BCH interactions with the Project during these periods is as follows. As stated in Volume 6, Section 16.4.6.1:

> *"Project effects on caribou movement are expected to be adverse in direction and moderate in magnitude for the BCH. The net annual herd exposure to the Project is relatively minimal for the BCH (1.5 days), and migration-related interactions with the Project are primarily during spring. Project interactions are expected to affect local-scale movements (e.g., road crossings, behaviour) and broad-scale migration (e.g., migration routes of some individuals), but implementing Project mitigation, management, and enhancement measures will considerably reduce the magnitude of these effects. For example, mitigation, management, and enhancement measures that facilitate crossings, such as the TARP (including MCCM-related adaptive road closures) and traffic management (e.g., speed limits, wildlife right-of-way), are meant to prevent an increase in exposure that caribou would otherwise experience if they are unable to cross and remain in the Project ZOI"* (Volume 6, Section 16.4.6.1).

As also stated in Volume 6, Section 16.4.6.1:

> *"Broad-scale movement effects are expected during spring migration, which may influence central migration corridors and pinch points during a short window every year (~1 month)"* (Volume 6, Section 16.4.6.1).

The Impact Statement's adaptive framework — MCCM-informed road closures triggered by direct observation of lead caribou (cows or cows with calves) near the road and by caribou collar movements on a trajectory to cross the road — is designed to suspend vehicle traffic when and where BCH are actually interacting with the Project, from the start of BCH spring migration through to the end of post-calving (Volume 6, Section 16.4.3.3). The Impact Statement identifies this adaptive framework, combined with traffic management measures, as "regionally coordinated mitigation, management, and enhancement measures like MCCM-based adaptive road closures [that] will minimize migration delays and diversions and allow BCH to access (a) calving areas during spring migration and (b) habitat within the herd's summer and fall ranges" (Volume 6, Section 16.4.6.1).

Given the relatively minimal net annual BCH exposure to the Project (1.5 days), the primarily spring-migration timing of the interactions, and the adaptive design of the TARP and MCCMs (which are triggered by actual BCH presence rather than by calendar-based scheduling), scheduled annual closures during the calving/post-calving and summer periods would apply during many days when BCH are not present near the road, without measurably reducing the interactions that the adaptive framework is designed to manage.

WKR remains open to further discussion of both TARP and MCCM measures and how they apply during BCH sensitivity periods through the Final WMMP consultation process identified in Volume 11, Appendix 37B, Section 3 (with the Kitikmeot Inuit Association, other affected Inuit and Indigenous governments and organizations, potentially affected communities, and relevant government agencies), through the annual road use plans developed under the Road Management Plan (Volume 2, Section 2.6.3.3), and through the Inuit Environmental Advisory Committee (IEAC) review mechanism identified in Volume 3, Section 6.3.6, Table 6.4.

YKDFN IR #25 (IR-436)

Subject

Further mitigation measures available for impacts to caribou

Issue / Concern

See YKDFN IRs #23 and #24.

The Proponent identifies a heightened risk of direct mortality to caribou "during periods of inclement weather and reduced visibility, especially at night" (p. 16-112).

Information Request

a) Please confirm that the Proponent has not committed to the following additional measures:

- *i. GBR closures at night;*
- *ii. GBR closures during periods of inclement weather;*
- *iii. GBR closures during other periods of reduced visibility;*
- *iv. elevated standards for the above measures during the following times:*
- *a. BCH calving/post calving (June 2 to June 28), a "critical period" of "very high sensitivity" (p. 16-25); and,*
- *b. summer (June 29 to September 6), a time of "high sensitivity" (p. 16-25).*

b) For each of the measures listed above, does the Proponent agree that implementing the measure could reduce the number of direct mortality or injury events to the BCH associated with the Project and/or reduce the combined Project effects of physical and perceptual filters on caribou movement? If not, why not?

Proponent Response

a) The Impact Statement does not include a commitment to implementing scheduled closures of the Grays Bay Road at night, during inclement weather, or during other periods of reduced visibility, and does not include a commitment to elevated standards for those measures during the Bathurst Caribou Herd (BCH) calving/post-calving (June 2 to June 28) or summer (June 29 to September 6) periods.

The Impact Statement's mitigation framework for direct mortality risk from vehicle collisions during periods of inclement weather and reduced visibility is anchored to the caribou Trigger Action Response Plan (TARP), the Mobile Caribou Conservation Measures (MCCMs), traffic management protocols documented in Volume 6, Section 16.4.4.3, and the seasonal daily monitoring frequency committed in the Wildlife Mitigation and Monitoring Plan (WMMP).

The Impact Statement's characterization of reduced visibility during inclement weather and winter darkness at Volume 6, Section 16.4.4.2 is carried forward in the Project Residual Effect summary at Volume 6, Section 16.4.4.4 (p. 16-112).

Additional traffic management measures currently committed by WKR are documented in Volume 1, Appendix B, Commitments 291, 293, 294, 296, 297, 299, and 300 (site-wide notifications; tailgate meetings; radio call-outs; personnel remaining in vehicles; snowbank maintenance; construction suspension when caribou groups of more than 25 individuals are within line of sight; and dead wildlife relocation). The seasonal daily monitoring frequency during the BCH calving/post-calving and summer periods is committed in Volume 11, Appendix 37B, Section 8.3.3 — daily active monitoring from April 20 to September 6 for the BCH — which covers both the calving/post-calving and summer periods identified in YKDFN's Information Request.

Cross-reference to the WKR responses to YKDFN IR #22 (measures WKR has committed to) and IR #26 (additional traffic protocol variants proposed by YKDFN).

b) WKR does not agree that scheduled closures of the Grays Bay Road at night, during inclement weather, during other periods of reduced visibility, or during BCH calving/post-calving and summer periods, in addition to the caribou TARP, MCCMs, and traffic management protocols currently committed in the Impact Statement, would materially reduce the number of direct mortality or injury events to the BCH.

The Impact Statement's mitigation framework addresses the reduced-visibility factor identified in Volume 6, Section 16.4.4.2 through complementary detection and response elements:

- Audible vehicle detection — Project vehicles are expected to be audible on the PDA (up to 120 dBA; Volume 5, Section 13, Appendix 13B) as identified in Volume 6, Section 16.4.4.2. Audible detection is not directly affected by visibility conditions.
- Traffic management measures triggered by wildlife proximity — Vehicles must slow to 30 km/h when wildlife occur within line of sight of the driver, stop for 20 minutes when wildlife are within 100 m of the road and show intent to cross, come to a complete stop when animals are on the road, and proceed no faster than walking pace if wildlife remain after 20 minutes (Volume 6, Section 16.4.4.3). These measures apply regardless of the time of day or weather conditions at which detection occurs.
- Adaptive road closures triggered by direct observation and collar data — MCCMs will inform adaptive road closures triggered by direct observation of lead caribou (cows or cows with calves) near the road and by caribou collar movements on a trajectory to cross the road, from the start of BCH spring migration through to the end of post-calving (Volume 6, Section 16.4.3.3).

- Radio call-outs and shared awareness — Drivers must call out on the radio for wildlife observed on or immediately adjacent to the road; wildlife "hotspots" are discussed daily during tailgate meetings; and site-wide notifications of wildlife are issued during Construction and Operations and Maintenance activities (Volume 1, Appendix B, Commitments 291, 293, 294).
- Seasonal daily monitoring frequency during BCH sensitivity periods — Environmental Monitors conduct daily active monitoring from April 20 to September 6 for the BCH (Volume 11, Appendix 37B, Section 8.3.3).

For the combined physical and perceptual filter effects on caribou movement during reduced-visibility periods, the same adaptive TARP/MCCM framework and traffic management measures apply. Cross-reference to the WKR response to YKDFN IR #24, which addresses the adaptive-vs.-scheduled distinction for BCH movement effects during calving/post-calving and summer periods.

WKR remains open to further discussion of on both TARP and MCCM measures and how they apply during BCH sensitivity periods through the Final WMMP consultation process identified in Volume 11, Appendix 37B, Section 3 (with the Kitikmeot Inuit Association, other affected Inuit and Indigenous governments and organizations, potentially affected communities, and relevant government agencies), through the annual road use plans developed under the Road Management Plan (Volume 2, Section 2.6.3.3), and through the Inuit Environmental Advisory Committee (IEAC) review mechanism identified in Volume 3, Section 6.3.6, Table 6.4.

YKDFN IR #26 (IR-437)

Subject

Further mitigation measures available for impacts to caribou

Issue / Concern

See YKDFN IRs #23 and 24

Inuit, Indigenous and Community perspectives expressed the need for the following measures: temporary road closures during sensitive seasonal periods; using convoys to group vehicle movement; and real-time Inuit monitors ("boots on the ground") to manage traffic during high-density caribou periods (p. 16-8).

Information Request

a) *Please confirm that the Proponent has not committed to the following additional measures to reduce the risk of direct caribou mortality events:*
   i. *Requiring vehicles to proceed by way of convoy;*
   ii. *Monitoring and enforcing speed compliance by: checking driver time-in and timeoff the GBR against expected; speed cameras; and/or intermittent arial (drone) surveillance;*
   iii. *Real-time Inuit or Indigenous management (not just monitoring) of traffic during high-density caribou periods, at key points along the GBR;*
   iv. *Caribou will have the right-of-way when they occur on, immediately adjacent to, or within 100 m of the GBR;*
   v. *With respect to caribou on or adjacent to the GBR that do not leave, vehicles must wait 60 minutes before proceeding no faster than a walking pace;*
   vi. *Once past the caribou, vehicles must proceed no faster than a walking pace for 100 m, and then no faster than 30 km/h until the caribou are no longer in sight;*
   vii. *GBR construction activities will be suspended while any caribou individuals are within line of sight of the active work area, and will not recommence until caribou individuals are no longer within line of sight of the active work area;*
   viii. *Heightened restrictions for encounters with caribou calves and/or mother cows; and*
   ix. *Heightened restrictions during BCH calving/post calving (June 2 to June 28), a "critical period" of "very high sensitivity" (p. 16-25), and/or during summer (June 29 to September 6), a time of "high sensitivity" for BCH (p. 16-25).*

b) *For each of the measures listed above, does the Proponent agree that implementing the measure could reduce the number of direct mortality or injury events to the BCH associated with the Project and/or reduce the combined Project effects of physical and perceptual filters on caribou movement? If not, why not?*

Proponent Response

The Impact Statement's mitigation framework for direct mortality risk and combined physical/perceptual filter effects is anchored to the caribou Trigger Action Response Plan (TARP), the Mobile Caribou Conservation Measures (MCCMs), the traffic management measures documented in Volume 6, Section 16.4.4.3 and Volume 1, Appendix B (Commitments 291–300), the seasonal daily monitoring frequency committed in the Wildlife Mitigation and Monitoring Plan (WMMP), and the annual road use plans developed under the Road Management Plan.

The Impact Statement's mitigation framework has been directly informed by Inuit, Indigenous, and Community Knowledge. As stated in Volume 6, Section 16.1.1.6 (Influence of Inuit, Indigenous, and Community Knowledge on the Development of Mitigation, Management, and Enhancement Measures, p. 16-8).

The mitigation framework provided in Volume 6, Section 16.4.4.3 (traffic management measures) and Section 16.4.3.3 (caribou TARP and MCCMs) incorporates several of these perspectives, including road traffic suspension when caribou are present (through the MCCMs and Commitment 295 20-minute wait protocol), mandatory speed reductions with wildlife right-of-way (Commitment 295), and convoying under Reasonably Foreseeable Induced (RFI) conditions (Volume 6, Section 16.5.2.2). See responses to YKDFN IR #22 (IR-433) and YKDFN IR #23 (IR-434).

Additional mitigation measures will be discussed and integrated into the WMMP, as agreed on between WKR and interested parties as review of the plan continues through this review process.

Additional traffic management measures currently committed by WKR include convoying under RFI conditions (Volume 6, Section 16.5.2.2); radio call-outs by drivers for wildlife observed on or immediately adjacent to the road (Volume 1, Appendix B, Commitment 294); wildlife "hotspots" discussed daily during tailgate meetings (Commitment 293); site-wide notifications of wildlife (Commitment 291); construction suspension when caribou groups of more than 25 individuals are within line of sight of the active work area (Commitment 299); and dead wildlife relocation at least 100 m from the roadway (Commitment 300). The MCCM framework triggers adaptive road closures based on direct observation of lead caribou (cows or cows with calves) near the road and on caribou collar movements on a trajectory to cross the road from the start of BCH spring migration through to the end of post-calving (Volume 6, Section 16.4.3.3). As stated in Volume 6, Section 16.1.6.6 (Timing),"Project interactions during calving/ post-calving are considered very high sensitivity, and interactions during summer are considered high sensitivity", and the MCCM window addresses this highest-sensitivity period for lead caribou (cows or cows with calves).

The adaptive TARP/MCCM framework and the traffic management measures anchored in Volume 6, Section 16.4.4.3 are designed to facilitate caribou crossings and prevent increased exposure by responding adaptively to actual caribou presence near or on the road.

WKR remains open to further discussion of the specific measures identified in YKDFN IR #26 (IR-437) through the Final WMMP consultation process.

YKDFN IR #27 (IR-438)

Subject

Further mitigation measures available for impacts to caribou

Issue / Concern

See YKDFN IRs #23 and #24.

It appears that the Proponent has not committed to all possible monitoring measures for caribou to assist in proactively knowing or predicting when caribou are likely to be on or near the GBR, reducing the Project's adverse effect on caribou.

Inuit, Indigenous and Community perspectives expressed the need for real-time Inuit monitors ("boots on the ground") to manage traffic during high-density caribou periods (p. 16-8).

Information Request

a) *Please confirm that the Proponent has not committed to the following additional caribou monitoring measures to proactively predict when caribou are likely to be on or near the GBR:*
   i. *radio collar monitoring;*
   ii. *motion-sensing cameras bordering either side of the GBR at a specified distance (e.g. 1 km);*
   iii. *Indigenous guardian monitoring;*
   iv. *intermittent drone surveillance*
   v. *heightened monitoring measures during BCH calving/post calving (June 2 to June 28), a "critical period" of "very high sensitivity" (p. 16-25), and/or during summer (June 29 to September 6), a time of "high sensitivity" for BCH (p. 16-25).*

a) *For each of the monitoring measures listed above, does the Proponent agree that implementing the measure could assist in knowing or predicting when caribou are likely to be on or near the GBR? If not, why not?*

b) *Does the Proponent agree that knowing or predicting when caribou are likely to be on or near the GBR could, if combined with other mitigation measures (such as responsive road closures, etc):*
   i. *reduce the number of direct mortality or injury events to the BCH associated with the Project; and/or*
   ii. *reduce the combined Project effects of physical and perceptual filters on caribou movement?*

   If not, why not?

Proponent Response

a) YKDFN IR #27 (IR-438) identifies five specific additional caribou monitoring measures and asks WKR to confirm each is not currently committed, to state whether each measure would assist in knowing or predicting when caribou are likely to be on or near the Grays Bay Road, and to state whether the ability to predict caribou presence, combined with other mitigation measures such as responsive road closures, would reduce the number of direct mortality or injury events to the Bathurst Caribou Herd (BCH) or reduce the combined Project effects of physical and perceptual filters on caribou movement.

The Impact Statement's monitoring framework is documented in Volume 11, Appendix 37B (Wildlife Mitigation and Monitoring Plan, or WMMP) and includes: (i) Environmental Monitors traveling the Project Development Area (PDA) to document wildlife interactions with the Project including the line of sight surrounding the PDA (Volume 11, Appendix 37B, Section 8.2.1.3); (ii) continuous review of GPS collar data provided under data-sharing agreements with the Government of Nunavut (GN) and Government of the Northwest Territories (GNWT) (Volume 11, Appendix 37B, Section 8.2.1.2); (iii) incidental observations recorded by Project personnel and third-party road users in wildlife logbooks (Volume 11, Appendix 37B, Section 8.2.1); (iv) radio call-outs by drivers for wildlife observed on or immediately adjacent to the road (Volume 1, Appendix B, Commitment 294); and (v) seasonal daily active monitoring by Environmental Monitors during the BCH sensitivity periods (April 20 to September 6) per Volume 11, Appendix 37B, Section 8.3.3.

For identifying "high potential areas" where caribou are more likely to cross the road, the Impact Statement identifies four information sources at Volume 6, Section 16.4.3.3:

> "*The all-season road side slopes will be designed, where possible, to 3:1 (≤18.5 degrees) to facilitate caribou crossings using finer material where applicable in 'high potential areas' identified by 1) local knowledge, 2) collar data, 3) experience during road operations, 4) camera monitoring*" (Volume 6, Section 16.4.3.3).

The Impact Statement's monitoring framework has been directly informed by Inuit, Indigenous, and Community Knowledge. As stated in Volume 6, Section 16.1.1.6 (p. 16-8):

> "*Inuit, Indigenous, and Community Knowledge emphasized the importance of some of the mitigation measures listed in Sections 16.4.1.3, 16.4.2.3, 16.4.3.3, 16.4.4.3, and 16.4.5.3. Inuit, Indigenous, and Community Knowledge directly informed the development of practical, culturally responsive mitigation and monitoring measures*" (Volume 6, Section 16.1.1.6, p. 16-8).

Volume 6, Section 16.1.1.6 further identifies the Inuit, Indigenous, and Community perspectives on monitoring:

> "*IAG members strongly emphasized the use of real-time Inuit monitors ('boots on the ground') to manage traffic during high-density caribou periods, stating that this is critical and superior to relying solely on cameras and collars (IAG 2025a, 2025b)*" (Volume 6, Section 16.1.1.6, p. 16-8).

The IS-committed Environmental Monitor program (Volume 11, Appendix 37B, Section 8.2.1.3) implements the Inuit co-developed and co-implemented monitoring perspective through daily active monitoring by Environmental Monitors traveling the PDA during BCH sensitivity periods.
See responses to YKDFN IR #8 (IR-419), YKDFN IR #13 (IR-424), YKDFN IR #22 (IR-433), and YKDFN IR #23 (IR-434).

WKR confirms that the following measures identified in YKDFN IR #27 (IR-438) are not currently committed in the Impact Statement:

i. Radio collar monitoring as a Project-committed measure (distinct from the ongoing use of GN and GNWT collar data through data-sharing agreements identified in Volume 11, Appendix 37B, Section 8.2.1.2).
ii. Motion-sensing cameras bordering either side of the Grays Bay Road at a specified distance (e.g., 1 km) as a standing array (distinct from the camera monitoring identified in Volume 6, Section 16.4.3.3 as one of the four sources for identifying "high potential areas").
Iii. Indigenous guardian monitoring as a Project-committed program (distinct from the IS-committed Environmental Monitor program in Volume 11, Appendix 37B, Section 8.2.1.3 and from harvest management administered by the Kitikmeot Inuit Association and an Inuit wildlife organization (HTO) under Volume 9, Section 29).
iv. Intermittent drone surveillance.
v. Heightened monitoring measures during BCH calving/post-calving (June 2 to June 28) and summer (June 29 to September 6) beyond the seasonal daily active monitoring committed in Volume 11, Appendix 37B, Section 8.3.3.

a) For each of the five measures identified above, WKR agrees that each measure has the potential to contribute information about caribou presence on or near the Grays Bay Road. However, WKR does not agree that implementing each of these specific measures, in addition to the IS-committed monitoring framework, is necessary to know or predict caribou presence on or near the Grays Bay Road at a level that would materially strengthen the caribou Trigger Action Response Plan (TARP) and Mobile Caribou Conservation Measures (MCCMs).

The Impact Statement's monitoring framework combines regional-scale detection (collar data provided by the GN and GNWT under data-sharing agreements) with local-scale detection (Environmental Monitor active monitoring; incidental observations by Project personnel and third-party road users; radio call-outs by drivers) and seasonal intensification during BCH sensitivity periods.

The combined regional and local detection layers inform the MCCMs, which trigger adaptive road closures based on direct observation of lead caribou (cows or cows with calves) near the road and on caribou collar movements on a trajectory to cross the road, from the start of BCH spring migration through to the end of post-calving (Volume 6, Section 16.4.3.3).

b) WKR does not agree that adding the five specific measures identified in YKDFN IR #27 (IR-438) to the IS-committed monitoring framework, combined with other mitigation such as responsive road closures, would materially reduce the number of direct mortality or injury events to the BCH or reduce the combined Project effects of physical and perceptual filters on caribou movement.

   The IS-committed monitoring framework in Volume 11, Appendix 37B, Section 8, combined with the caribou TARP and MCCMs, is designed to inform adaptive road closures triggered by actual caribou presence.

   WKR remains open to further discussion of the specific monitoring measures identified in YKDFN IR #27 (IR-438) through the Final WMMP consultation process identified in Volume 11, Appendix 37B, Section 3.

YKDFN IR #28 (IR-439)

Subject

Impacts to caribou – vehicle collisions

Issue / Concern

See YKDFN IR #23.

The Proponent considers "direct mortality from caribou-vehicle collisions" but does not appear to account for the impact of non-fatal collisions.

Information Request

a) What short and long-term negative impacts can be caused by caribou-vehicle collisions that do not result in direct mortality? Please consider, without limitation: health, fecundity, lifespan, and learned aversion.

b) For each answer above, please identify the basis for the answer and any references to support it. If there are no references, please confirm.

Proponent Response

a) The Impact Statement (IS) assumes that a caribou–vehicle collision on the Grays Bay Road would result in a mortality event. In the unlikely event that a caribou has been hit but not killed, it is expected that the individual would perish soon after or experience long-term effects on its health, fecundity, and lifespan. It is likely that any "close-call events" (e.g., near collisions) would cause an individual to avoid interactions with the road when traffic is present.

b) No references are provided.

YKDFN IR #29 (IR-440)

Subject

Caribou recovery

Issue / Concern

See YKDFN IR #23.

Information Request

Please confirm that the Proponent has not committed to any action with the primary purpose of supporting the recovery of the BCH or DUH populations.

Proponent Response

While the Impact Statement does not set out a specific commitment by WKR to undertake an action whose primary purpose is supporting the recovery of the Bathurst Caribou Herd (BCH) or Dolphin and Union Caribou Herd (DUH) populations, its caribou-related mitigation, management, and enhancement measures have been developed to avoid and reduce Project-related effects on the BCH and DUH (Volume 6, Section 16.7.3). Management of the BCH and DUH falls under the authority of the Nunavut Wildlife Management Board (NWMB), a co-management body on which Indigenous and government representatives sit, as described in Volume 6, Appendix 16A, Sections 4.2.1 and 4.3.1 for each herd. The Project's Wildlife Mitigation and Monitoring Plan annual reports will be distributed to governing bodies, Inuit and other Indigenous governments and organizations and potentially affected communities for their review, input, and information, as appropriate (Volume 11, Appendix 37B, Section 10.3).

YKDFN IR #30 (IR-441)

Subject

Further mitigation measures available for cumulative effects on caribou

Issue / Concern

See YKDFN IR #23.

The Proponent has identified three (3) reasonably foreseeable induced (RFI) access roads resulting from the Project: Izok Lake Mine Access Road, Hacket River Project and Back River Access Road, and Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border (p. 16-125).

The Proponent states that "[U]nder RFI conditions, adverse residual cumulative effects are expected for BCH range disturbance, habitat, movement, and mortality risk" (p 16143).

Yet "no additional mitigation, management, and enhancement measures are proposed beyond those identified to address Project-related effects" (p 16-131).

Information Request

Please confirm that the Proponent has not committed to adding gated entry-points at each new access road that may connect to the GBR over time, including the three RFI access roads listed above (Izok Lake Mine Access Road, Hacket River Project and Back River Access Road, and Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border (p. 16125)), and if so, why not?

Proponent Response

The Impact Statement does not include a commitment by WKR to add gated entry points at each new access road that may connect to the Grays Bay Road over time, including the three Reasonably Foreseeable Induced (RFI) access roads identified in Volume 6, Section 16.5.1 (Izok Lake Mine Access Road, Hackett River Project and Back River Access Road, and Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border).

The Impact Statement identifies that each RFI access road would be advanced as a separate project by the respective RFI proponent under existing regulatory processes. Each RFI access road would be subject to its own regulatory review, mitigation planning, and effects management by the responsible RFI proponent. Gated entry points at the RFI access roads, if determined to be appropriate mitigation for cumulative caribou effects, would be a mitigation commitment developed by the RFI proponent during that proponent's own regulatory process rather than by WKR in the Impact Statement.

YKDFN IR #31 (IR-442)

Subject

Risk threshold for annual caribou mortality

Issue / Concern

See YKDFN IR #23.

The Proponent does not adopt the lowest annual caribou harvest rate as the threshold to identify the highest magnitude of annual change in mortality risk.

Governments have set total allowable harvest (TAH) for caribou as follows:

- *Northwest Territories: BCH caribou = zero*
- *Nunavut:*
  - *BCH caribou = zero cows or calves, 10 bulls per year (which comprises 0.28% of the herd's 2025 population size estimate);*
  - *DUH caribou = 105 per year (which comprises 2.01% of the herd's 2023 population size estimate).*

The Proponent states that "Given the Critical Low status of the BCH and the Endangered status of the DUH, the lower annual harvest rate (0.28%) is set as the threshold to identify the highest magnitude of annual change in mortality risk." This is not accurate.

Information Request

a) Does the Proponent agree that the lowest annual harvest rate for caribou standing to be impacted by the Project is zero caribou (i.e. 0% or no mortality), as established by the Northwest Territories for BCH?

b) If zero caribou (i.e. 0% or no mortality), rather than 0.28%, were used as the highest magnitude of annual change, what aspects of assessing the Project's effect would change? Please list all changes, but specifically discuss any changes to:

   i. what constitutes a "negligible", "low", "moderate" and "high" impact to herd size (see, e.g. p 16-24);

   ii. the magnitude of the combined direct and indirect sources of mortality risk from the Project to caribou (see, e.g., p. 16-112);

   iii. change in mortality risk resulting from the Project (see, e.g., p. 16-116, 16-118).

c) Please answer (a) and (b) as they apply to assessing the cumulative effects of the Project (see, e.g., Volume 6, section 16.5).

d) Does the Proponent agree that the annual harvest rate for BCH females and calves (and therefore the lowest) is zero BCH females and zero BCH calves (i.e. 0% or no mortality), as established by both the Northwest Territories and the Government of Nunavut? Please explain how this has been taken into account, and if not, explain why.

e) If zero BCH females and zero BCH calves (i.e. 0% or no mortality), rather than 0.28%, were used as the highest magnitude of annual change, what aspects of assessing the Project's effect would change? Please list all changes, but specifically discuss any changes to:

i. what constitutes a "negligible", "low", "moderate" and "high" impact to herd size (see, e.g. p 16-24);

ii. the magnitude of the combined direct and indirect sources of mortality risk from the Project to caribou (see, e.g., p. 16-112);

iii. change in mortality risk resulting from the Project (see, e.g., p. 16-116, 16-118).

f) Please answer (d) and (e) as they apply to assessing the cumulative effects of the Project (see, e.g., Volume 6, section 16.5).

Proponent Response

a) WKR acknowledges that the Total Allowable Harvest (TAH) of Bathurst Caribou Herd (BCH) caribou is set at zero in the Northwest Territories (GNWT 2019). This factual position is documented in Volume 6, Section 16.1.6.4:

> "*The TAH of BCH caribou in NU is currently set to 10 bulls/year from the herd (GN 2020a), which comprises 0.28% of the herd's most recent (2025), preliminary population size estimate (3,609 caribou) (GNWT 2025a). The TAH of BCH caribou is zero in NT (GNWT 2019). In contrast, the TAH of DUH caribou in NU is currently set to 105 caribou from the herd (GN 2021), which comprises 2.01% of the herd's most recent (2023) published population size estimate (5,229 ± 635 caribou) (Leclerc et al. 2025). Given the Critical Low status of the BCH and the Endangered status of the DUH, the lower annual harvest rate (0.28%) is set as the threshold to identify the highest magnitude of annual change in mortality risk*". (Volume 6, Section 16.1.6.4, document page 16-24)

However, as identified in Volume 6, Section 16.1.6.4 of the Impact Statement, the magnitude threshold for change in caribou mortality risk is anchored to the Nunavut TAH (10 bulls per year, 0.28%) rather than the Northwest Territories TAH (zero). The Nunavut TAH is the enforceable regulatory harvest limit within the Project jurisdiction — the Grays Bay Road and Port Project is located wholly within Nunavut, and the Project's direct and indirect mortality contributions occur under Nunavut regulatory authority.

WKR does not agree that recalibrating the threshold to zero would materially change the assessment of mortality risk because the proposed mitigations are designed to prevent Project-related and Project-facilitated mortality events regardless of the threshold used to characterize magnitude. For discussion on mitigating caribou mortality risk, please refer to the responses to Information Requests Requests KIA-IR-39 (IR-109), GN IR 11 (IR-291), and GN IR 09 (IR-289).

b) Please see response (a) above.

c) Please see response (a) above.

d) WKR acknowledges that the BCH TAH of 10 bulls, as mentioned in response (a), does not include females and calves. The caribou assessment does not identify thresholds for different ages or sexes. These magnitude thresholds, which are defined in the absence of clear ecological thresholds, are intended to provide reasonable limits that may be associated with direct mortality (i.e., caribou–vehicle collisions) and indirect mortality (i.e., excess hunting or predation). Furthermore, the proposed mitigations are the key contributors to the assessment conclusions:

> "*When accounting for the Project mitigation, management, and enhancement measures, which add wildlife protocols beyond what is observed on public roads, the risk of collisions is substantially reduced. For example, the caribou TARP includes MCCM-based adaptive road closures during the periods of greatest interaction between the BCH and the Project (i.e., spring migration through post-calving)*". (Volume 6, Section 16.4.4.4, document page 16-112)
>
> *"Indirect mortality from harvesting is expected to occur in a controlled manner consistent with territorial legislation and co-management objectives. Harvesting will not contribute to excess mortality because it will occur within TAH limits. Access control is a key Project mitigation, management, and enhancement measure that could act to limit illegal harvesting and poaching. Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and an Inuit Wildlife Organization (HTA), and these permits are expected to align with the current tagging system and TAH.*" (Volume 6, Section 16.4.4.4, document page 16-113)

For additional discussion on mitigating caribou mortality risk, please refer to the responses to Information Requests KIA-IR-39 (IR-109), GN IR 11 (IR-291), and GN IR 09 (IR-289).

e) Please see response (d) above.

f) Please see response (d) above.

YKDFN IR #32 (IR-443)

Subject

Caribou mortality risks – overharvesting and illegal hunting

Issue / Concern

See YKDFN IR #23.

The Proponent does not account for increased risk of caribou mortality arising from overharvesting and illegal hunting.

The Proponent acknowledges that "[i]ncreased access to a landscape from roads can lead to legal overharvesting and illegal hunting and poaching" (p. 16-109).

Yet, the Proponent states that "[t]he contribution of hunting to excess mortality risk will be negligible due to the TAH [Total Allowable Harvest] limit for the BCH (i.e. 10 bulls in NU, zero caribou in NT)." This implicitly and incorrectly assumes that the imposition of a TAH will prevent all overharvesting and illegal hunting. As a result, the increased risk to caribou mortality from overharvesting and illegal hunting arising from the Project has not been taken into account properly or at all.

Concerns regarding overharvesting and illegal hunting are amplified as the Proponent states that the "principal purpose" of the Project is "to create a multi-use infrastructure that will connect the Kitikmeot Region by land and sea".

Information Request

a) *What are the rates of overharvesting and illegal hunting, respectively, on the BCH in Nunavut and the NWT? If unknown, provide a best estimate or range of estimates of same, the basis for the estimates, and any sources relied on.*
b) *If the above estimated or actual rates were factored into the assessment of the Project's effects on caribou mortality risk, what aspects of that assessment would change? Please list all changes, but specifically discuss any changes to:*
    i. *what constitutes a "negligible", "low", "moderate" and "high" impact to herd size (see, e.g. p 16-24);*
    ii. *the magnitude of the combined direct and indirect sources of mortality risk from the Project to caribou (see, e.g., p. 16-112);*
    iii. *change in mortality risk resulting from the Project (see, e.g., p. 16-116, 16-118).*
c) *Please answer the same questions with respect to the cumulative effects of the Project. In doing so, please discuss the three (3) reasonably foreseeable induced (RFI) access roads resulting from the Project identified by the Proponent (i.e.: Izok Lake Mine Access Road, Hacket River Project and Back River Access Road, and Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border (p. 16-125)).*

Proponent Response

a) Annual rates of illegal hunting are unknown for the Bathurst Caribou Herd (BCH) in Nunavut and the Northwest Territories (NT). However, there have been incidents reported in the NT's Mobile Core Bathurst Caribou Management Zone. Incidents from Nunavut are not often reported. Therefore, illegal hunting is a risk and threat to the BCH.

b) Despite incidences of illegal hunting, the outcomes of the assessment on caribou mortality risk would not change because the Grays Bay Road is not an open public road. Access will be controlled by WKR, and third-party users will have to adhere to Project mitigation measures. WKR will be facilitating road and port access for Hunters and Trappers Organizations (HTOs), but the HTOs are expected to manage the permissions granted to community members and to align with legal total allowable harvest limits.

   Please refer to the response to Information Request GN IR 20 (IR-300) for additional discussion on mitigating the effects of indirect mortality risk from hunting access.

c) The outcomes of the cumulative effects assessment on caribou mortality risk from the Project in combination with the reasonably foreseeable induced (RFI) activities would not change. The RFI access roads are unlikely to contribute indirect mortality risk from hunting access. "*RFI roads are typically prohibited from public access and will primarily be used for hauling materials and products*" (Volume 6, Section 16.5.5.3). Though WKR cannot speak to specific commitments by RFI proponents, it is WKR's expectation that any future projects undergoing review by the Nunavut Impact Review Board will be subject to equal or more stringent measures as those proposed for the Grays Bay Road and Port. Access management is expected to be a requirement for RFI access roads.

YKDFN IR #33 (IR-444)

Subject

Caribou mortality risks – overharvesting and illegal hunting; further mitigation measures available

Issue / Concern

See YKDFN IRs #23 and 24.

Information Request

a) Please confirm that the Proponent has not committed to the following measures with respect to overharvesting and illegal hunting of the BCH:

- *i. an Indigenous-run guardianship program to: monitor hunting activity; educate individuals using the Road; and/or assist with enforcement;*
- *ii. one or more gated and manned check points along the Road to monitor hunting and caribou activity;*
- *iii. cameras, intermittent drone surveillance, and other monitoring devices;*
- *iv. vehicle checking at access points to confirm compliance with hunting restrictions and, other enforcement mechanisms; and,*
- *v. hunter education programs; signs; and other educational measures.*

b) For each of the measures described above, does the Proponent agree that implementing the measure could reduce overharvesting and illegal hunting of BCH associated with the Project? If not, why not?

c) Please answer the same questions with respect to the cumulative effects of the Project. In doing so, please discuss the three (3) reasonably foreseeable induced (RFI) access roads resulting from the Project identified by the Proponent (i.e.: Izok Lake Mine Access Road, Hacket River Project and Back River Access Road, and Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border (p. 16-125)).

Proponent Response

a) The Impact Statement's mitigation framework for reducing the potential for Project-facilitated overharvesting and illegal hunting on the BCH is anchored at Volume 6, Section 16.4.4.4 (Project Residual Effect):

> "*Indirect mortality from harvesting is expected to occur in a controlled manner consistent with territorial legislation and co-management objectives. Harvesting will not contribute to excess mortality because it will occur within TAH limits. Access control is a key Project mitigation, management, and enhancement measure that could act to limit illegal harvesting and poaching. Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and an Inuit Wildlife Organization (HTA), and these permits are expected to align with the current tagging system and TAH. This measure addresses a key*

access management issue identified as critical during the five-year review of the Bathurst Caribou Range Plan (Compass Resource Management Ltd. 2025)" (Volume 6, Section 16.4.4.4).

Prior approval (permits) from the Kitikmeot Inuit Association and Hunters and Trappers Organization (HTO) to access the road for harvesting purposes, issued jointly by the two organizations, operates in coordination with WKR's controlled access at the northern and southern terminus of the Grays Bay Road.

Enforcement of TAH limits and the terms of Kitikmeot Inuit Association / HTO permits remains within the authority of the co-management partners identified in Volume 6, Section 16.6.4 and Volume 9, Section 29. Cross-reference to the WKR responses to YKDFN IR #22 (IR-473) [measures WKR has committed to], YKDFN IR #23 (IR-474) [measures not committed — compilation navigation], YKDFN IR #29 (IR-440) [caribou recovery / co-management framework], and YKDFN IR #32 (IR-443) [rates of overharvesting and illegal hunting] for further detail.

b) WKR does not agree that implementing each of these specific measures, in addition to the IS-committed access control framework, is necessary to prevent Project-facilitated overharvesting and illegal hunting on the BCH at a level that would materially strengthen the Impact Statement's mitigation approach.

c) The Impact Statement's cumulative effects mortality risk framework applies the same mitigation approach identified above to the RFI cumulative characterization in Volume 6, Section 16.5.5 and Section 16.5.6.1. As stated in Volume 6, Section 16.5.5 (Change in Mortality Risk under cumulative conditions).

WKR remains open to further discussion of the specific measures identified in YKDFN IR #33 through the Final WMMP consultation process identified in Volume 11, Appendix 37B, Section 3.

YKDFN IR 34 (IR-445)

Subject

Cumulative effects on the BCH

Issue / Concern

The following analysis regarding the cumulative effects on the BCH is unclear and appears internally contradictory:

"Under RFI conditions, the combined effects of direct and indirect mortality risks are expected to be low in magnitude for the BCH (1 to 5 excess caribou mortalities). Direct mortality from vehicle collisions, and indirect mortality from predation and hunting, are not expected to change between Project conditions and RFI conditions." (p. 16-141, emphasis added)

The Proponent has identified three (3) reasonably foreseeable induced (RFI) access roads resulting from the Project: Izok Lake Mine Access Road, Hacket River Project and Back River Access Road, and Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border (p. 16-125).

Information Request

a) *Does the Proponent expect there to be additional caribou mortalities between Project conditions and RFI conditions? If so, how many and from what causes? If not, why not?*
b) *In answering the above questions, please specifically address the three RFI access roads noted above (Izok Lake Mine Access Road, Hacket River Project and Back River Access Road, and Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border (p. 16-125)).*

Proponent Response

a) and b) WKR does not expect there to be a change in magnitude of mortality risk between Project conditions and reasonably foreseeable induced (RFI) conditions, i.e., total excess mortalities are expected to stay within the range of 1 to 5 caribou even with the additional three RFI access roads.

Direct sources of mortality (e.g., caribou–collisions) are exceedingly rare, as stated in the Impact Statement (IS):

> "*Direct mortality from caribou-vehicle collisions is typically limited, even on major highway systems (EDI Environmental Dynamics Inc. 2015; GNWT 2017; McLean 2025). The risk of caribou-vehicle collisions will marginally increase from Project conditions to RFI conditions. Caribou are expected to interact with new traffic on RFI roads and with increased traffic on the Project Road due to the RFI mines. However, RFI mines and related roads are unlikely to result in higher mortality rates than those seen at other NU and NT mines, i.e., a few individuals over many years (e.g., Dominion Diamond 2014; Agnico Eagle Mines Ltd. 2024; ERM Consultants Canada Ltd. 2025b).*" (Volume 6, Section 16.5.5.3, document page 16-141)

Indirect sources of mortality (i.e., ambush predation and facilitated hunting) are expected to be limited and/or mitigated:

> "*Indirect mortality from predation is unlikely (but not impossible) because predators like wolves tend to avoid human-used roads (Muhly et al. 2011; Muhly 2010) unless activity is low (Ehlers et al. 2014). RFI mines are likely to contribute frequent traffic along RFI roads. Assuming these RFI projects implement mitigation, management, and enhancement measures similar to the Project's, caribou would be able to move freely and cross roads, but predators would be dissuaded from using them to travel the landscape. Therefore, it is unlikely that facilitated predation will contribute to caribou mortality under RFI conditions. It is also unlikely that RFI projects will contribute to indirect mortality from harvesting. RFI roads are typically prohibited from public access and will primarily be used for hauling materials and products. Therefore, RFI roads will not increase hunter access and hunting pressure on caribou.*" (Volume 6, Section 16.5.5.3, document page 16-142)

Please refer to the responses to Information Requests GN IR 09 (IR-289) and GN IR 20 (IR-300) for additional discussion on mitigating mortality risk effects.

YKDFN IR #35 (IR-446)

Subject

Grays Bay Road and Port: Road Traffic – Cumulative Effects on Caribou

Issue / Concern

At Table 16.16, the Proponent lists "Grays Bay Road and Port: Road Traffic" as a "Reasonably Foreseeable Induced" physical activity with residual effects on mainland (BCH) caribou and island (DUH) caribou that are likely to interact cumulatively with the residual effects of the Project (p. 16-128).

Clarification on this assessment, and the basis and underlying information for it, is sought.

Information Request

a) Please describe the "Grays Bay Road and Port: Road Traffic" referenced at Table 16.16. In addition, please explain:

- *i. Why is Grays Bay Road and Port: Road Traffic a reasonably foreseeable induced activity of the proposed Project and not part of the Project?*
- *ii. What are its expected residual effects on BCH and DUH?*
- *iii. How do these expected residual effects interact cumulatively with the residual effects of the Project?*
- *iv. What are the proposed estimates in traffic based upon?*

Please provide the basis and underlying information for each of the questions above.

Proponent Response

The reasonably foreseeable induced (RFI) activity Grays Bay Road and Port: Road Traffic refers to non-Project vehicle use of the road (e.g., public, commercial, security [including Canadian Coast Guard and military]); please refer to Table 9A1.1 in Volume 4, Appendix 9A, Attachment 9A1, document page 9A1-4. Use of the road by Project vehicles is part of the Project and assessed in the Project's residual effects. The RFI road use by non-Project vehicles is included in the cumulative effects assessment.

- Residual cumulative effects are not assessed on an activity-by-activity basis but instead assessed for all RFI physical activities combined.
- Discussion of the combined residual cumulative effects from Project-related and RFI-related traffic is assessed in Volume 6, Section 16.5.4 of the IS.
- Proposed estimates of traffic for the combined cumulative effects case during the Operations phase are identified in Table 9A2.16 in Volume 4, Appendix 9A, Attachment 9A2, document page 9A2-8.

The basis for the traffic estimates for the cumulative effects case is discussed in Section A.4.4 (RFI Scenario in Comparison) in the Appendix A, Cumulative Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package.

YKDFN IR #36 (IR-447)

Subject

Cumulative Impacts of the Project on Caribou

Issue / Concern

The Proponent states that "[f]uture possible infrastructure south of the Project, notably the reasonably foreseeable all-season road from Yellowknife to the territorial border, combined with the RFI project of Phase 2, would provide all-season road access between the southern road network and the central Arctic coast. The implications of this are likely substantial to human use, although highly uncertain on specific details. The term "Arctic Economic and Security Corridor" (GNWT n.d.a) has recently been recognized as reflecting such access to provide "…a generational opportunity to foster long-term economic resiliency and sustainable development…" (p. 23-12, emphasis added)

Yet, the Proponent notes that with respect to cumulative effects on caribou, including the BCH, "interactions between the residual effects of [the AESC] and the residual effects of the Project are not expected" (p. 16-128, emphasis added).

Further clarity is needed on these assertions.

Information Request

On what basis and information does the Proponent state that it does not expect interactions between the residual effects of the Arctic Economic and Security Corridor and the Project (p. 16-127 and 16-128)?

Proponent Response

Interactions between residual Project effects and cumulative land disturbances are assessed within the regional assessment areas for the Bathurst Caribou Herd (BCH; BCH-RAA1) and Dolphin and Union Caribou Herd (DUH; DUH-RAA). Reasonably foreseeable physical activities like the Arctic Economic and Security Corridor do not occur within these regional assessment areas. Please refer to the response to Information Request NTI-6 (IR-403) for discussion and rationale on why these regional assessment areas (and the physical activities occurring within them) are sufficient for addressing regional cumulative effects.

YKDFN IR #37 (IR-448)

Subject

Alternatives Analysis

Issue / Concern

The NIRB process requires the assessment of alternatives for the Project. The Impact Statement states that "a considerable number of studies regarding alternative means of carrying out various components of the Project have been conducted"(p. MD-13). The studies referenced have not been included with the materials.

Information Request

YKDFN requests that the Proponent provide the studies that have assessed alternatives for the Project.

Proponent Response

Please refer to NTI-12 (IR-409) for a discussion on alternative road alignments.

YKDFN IR #38 (IR-449)

Subject

Alternatives for the Road to Avoid Caribou Calving Grounds

Issue / Concern

The Impact Statement states that:

> *In 2016, an alternate road alignment was evaluated to avoid overlap of the published mapping of core calving grounds from the Government of Nunavut, which have subsequently been used in the Nunavut Planning Commission's Draft Nunavut Land Use Plan. This alignment was not carried forward based on the additional 50% length added to the road, two bridge crossings that would be greater than 100 m in length, the more rugged topography with a higher number of valleys and hills that would increase the road footprint and require additional fill areas; all of these resulted in additional design and construction costs for the road and less desirable vehicle operation and safety considerations. Therefore, this route option was not carried forward. (p. 2-12)*

The analysis carried out in 2016 is not provided with the materials submitted by the Proponent. No further analysis is undertaken of alternative routes for the GBR, including in light of the significant decline of the BCH in the last ten years.

Information Request

YKDFN requests that the Proponent provide the following information:

a) Any study or analysis undertaken of alternative routes for the road in 2016.

b) Maps and analysis of any other routes that have been considered for the road prior to or after 2016.

c) Is the Proponent open to considering alternate routes for the road that avoid caribou calving areas?

Proponent Response

Please see response to NTI-12 (IR-409), YKDFN IR #37 (IR-448) and ADNLC IR 05 (IR-321) for how alternative routes were assessed. For caribou specific considerations in alternative routes, and design trade-off, see BQCMB-IR-016 (IR-349) and YKDFN IR #37 (IR-448).

Additional assessments of alternative routes are not planned or being considered at this time.

YKDFN IR #39 (IR-450)

Subject

Alternatives for the Road to Connection to the Northwest Territories

Issue / Concern

The Impact Statement sets out that the approximately 230 km all-season road from Grays Bay to Jericho Station will connect to an approximate 3 km winter road, connecting to the seasonal TCWR.

The current TCWR does not connect to the Nunavut border. The Impact Statement notes that "[a]nnual construction of the TCWR from the Contwoyto Lake shoreline to the Nunavut (NU)/Northwest Territories (NT) border is not considered part of the project scope, as the activity has been previously screened for these works and activities" (p. ES6).

Further, the Arctic Economic and Security Corridor is currently in development and would be an all-season road through the Slave Geological Province to the Nunavut border. The route for the Arctic Economic and Security Corridor is still being determined. The Arctic Economic and Security Corridor expressly contemplates connecting to the GBR and establishing the first all-season road linking Nunavut to the national highway system.

Finally, the Impact Statement notes that:

> *Future development of a permanent all-season road from the southern terminus of the Grays Bay Road at Jericho Station to the NU/NT border has been considered. This extension would be pursued as a separate project or as a future expansion of the Project. (p. ES-13)*

Information Request

YKDFN requests that the Proponent provide the following information:

a) *As the current TCWR does not connect to Nunavut, why are the effects of that expansion not considered as part of this Project?*
b) *As the current TCWR will need to be expanded to connect to the Project, how will the effects of that expansion, including the contribution to cumulative effects, be assessed and considered?*
c) *How, if at all, has the expansion of the current TCWR been factored into the effects assessment, including the cumulative effects assessment, for the Project?*
d) *Given that the Project is proposed to connect to the Arctic Economic and Security Corridor, how has the routing for the Arctic Economic and Security Corridor been considered in setting the route for the all-season and winter Road for the Project?*
e) *Has the Proponent recently engaged with the proponents for the Arctic Economic and Security Corridor on routing? If not, why not?*

f) Has the Proponent engaged with Indigenous governments, including those in the NWT, about the location for the GBR? If not, why not?

g) Is the Proponent open to considering alternate routes for the GBR to align with the Arctic Economic and Security Corridor?

h) Why has the development of a permanent all-season road from Jericho Station to the Nunavut/ NWT border not been considered as part of this Project?

Proponent Response

The TCWR is not part of the Project scope. As stated in Volume 2, Section 1.5:

> "*The Project does not include the annual construction of the TCWR from the shoreline of Contwoyto Lake to the Nunavut/Northwest Territories (NU/NT) border, as the NIRB has previously screened these works and activities. While such possible future uses and facilities, along with the construction of the TCWR, are not components of the Project, they will be addressed in the assessment of cumulative effects*" (Volume 2, Section 1.5).

The TCWR is an existing physical activity that has been previously screened by the Nunavut Impact Review Board and is administered by the Joint Venture Tibbitt to Contwoyto Winter Road (JVTC) operator. The TCWR is treated in the Impact Statement as a baseline physical activity contributing to baseline conditions, not as a Project component.

The Project as proposed is not planned to be connected to the Arctic Economic and Security Corridor (AESC). As identified in the Future expansion (Volume 2, Section 2.3), Phase 2 of the Grays Bay Road will be assessed as a separate submission to NIRB, as alignment of this expansion is currently not determined. It is the Phase 2 Grays Bay Road that will provide the connection in the future to the AESC.

YKDFN IR #40 (IR-451)

Subject

Benefits to Indigenous Groups

Issue / Concern

The Impact Statement notes that "WKR's procurement and training strategies are designed to prioritize local and Inuit participation in Project employment and business opportunities, further reinforcing strong social ties" (p. MD-14).

The Impact Statement goes on to note the opportunities for Inuit owned businesses, but is silent on the opportunities for other Indigenous groups.

The Project has the potential to impact Indigenous groups that have constitutionally protected rights in the Project area.

Information Request

YKDFN requests that the Proponent provide the following information:

a) As an Indigenous group with rights in the Project area that stand to be impacted, will YKDFN members and their businesses be prioritized for training, employment and procurement opportunities for the Project?

b) Has the Proponent engaged directly with YKDFN with respect to training, procurement and employment opportunities for the Project? If not, why not?

Proponent Response

a) The Procurement Strategy described in IS Volume 9, Section 27.3.3.2 (p. 27-55) is intended to focus on the Kitikmeot Region and encourage Kitikmeot Inuit participation first.

   Beyond that preference layer, procurement will focus on other Nunavut and NWT businesses, including YKDFN businesses, and finally Canadian businesses.

b) WKR would like to engage with YKDFN and Det'on Cho on how to better coordinate prioritization of training, employment, and procurement opportunities across the full NWT to Grays Bay Road corridor including both the Project and the Arctic Economic and Security Corridor.

   Specific engagement events involving WKR, YKDFN, and Det'on Cho are documented in Volume 3. Discussions with YKDFN focused on concerns surrounding funding, increased access, and the importance of caribou and fish, as well as the project's potential future connection to the Arctic Economic and Security Corridor (formerly known as the Slave Geological Province Corridor). Discussions with Det'on Cho —YKDFN's development corporation—centered on business

opportunities and future outlook, which touched on training, procurement, and employment in a broad sense. These engagements are recorded in Volume 3.

Ongoing engagement with YKDFN and other Indigenous groups on training, procurement, and employment opportunities will occur through the continued engagement pathway identified in Volume 9, Section 27.1.1.

YKDFN IR #41 (IR-452)

Subject

Impacts to section 35 rights

Issue / Concern

The Impact Statement notes that "[a]s outlined in the NIRB IS Guidelines (NIRB 2026), WKR is required to assess potential effects on Indigenous groups asserting section 35 rights (of the Canadian Constitution Act, 1982) within the Project Development Area" (p. 4-2).

The summary of key issues raised by Indigenous groups during engagement highlights the concerns about caribou movement and the protection of caribou calving areas.

Information Request

YKDFN requests that the Proponent provide the following information:

a) What is the Proponent's assessment of the significance of the impacts of the Project on Indigenous groups asserting section 35 rights within the Project area?

b) Please indicate what information the assessment in (a) is based upon and provide that information.

c) Will the Proponent take into account the concerns about caribou movement and the protection of calving areas from Indigenous groups and consider alternate routes for the Project?

Proponent Response

a) **WKR's assessment of the significance of impacts on Indigenous groups asserting section 35 rights**

The Impact Statement assesses potential effects on Indigenous groups asserting section 35 rights through the Traditional Land, Marine, and Resource Use (TLMRU) Valued Component (VC) documented in Volume 9, Section 24. As discussed in Volume 9, Section 24.5, with the implementation of mitigation, management, and enhancement measures, the Project residual effects on TLMRU are predicted to be not significant and cumulative effects on TLMRU are predicted to be not significant.

b) **Information basis for the assessment**

The information basis for the Impact Statement's assessment of effects on Indigenous groups asserting section 35 rights is set out in Volume 3 (Inuit Knowledge, Indigenous Knowledge, Community Knowledge and Perspectives) and Volume 9, Section 24 (TLMRU). The significance definition for TLMRU is provided in Volume 9, Section 24.1.6, and considered feedback from Inuit Advisory Group (IAG) members with respect to changes to TLMRU that would be considered unacceptable. The determination of the significance of TLMRU Project residual effects and

cumulative effects in Volume 9, Section 24.5 discusses the reasoning for the determination of non-significance.

The specific information sources considered and integrated in the TLMRU VC assessment include: Project-specific engagement events documented in Volume 3, Section 6 (Public Engagement); the Naonaiyaotit Traditional Knowledge Project (NTKP) report; IAG workshops (IAG 2025a; IAG 2025b); community-based primary research; and publicly available literature review of past concerns and recommendations raised by Kitikmiut and other potentially affected Indigenous groups for past projects (Volume 9, Section 24).

c) **Whether WKR will take into account concerns about caribou movement and protection of calving areas from Indigenous groups and consider alternate routes for the Project**

Consistent with the position identified in the WKR response to YKDFN IR #38 (IR-449), the current Grays Bay Road alignment reflects the preferred route selected by the Kitikmeot Inuit Association and the Government of Nunavut in 2017 and is located west of the observed Bathurst caribou core calving area (Volume 2, Section 2.4). WKR does not currently propose to reconsider the road alignment.

Concerns about caribou movement and protection of calving areas from Indigenous groups have been taken into account through:

- The alternatives assessment documented in Volume 2, Section 2.4 (which evaluated an alternate road alignment in 2016 to avoid overlap with the published mapping of core calving grounds from the Government of Nunavut) — see WKR response to YKDFN IR #38 (IR-449) for the substantive rationale;
- The design considerations for caribou documented in Volume 2, Section 1 (embankments constructed at 3H:1V or flatter slope; baseline studies and monitoring of caribou movement; embankment slope surface at high potential crossing locations finished with finer material; Road Management Plan procedures; restricted road use during sensitive periods);
- The IS-committed caribou mitigation framework identified in Volume 1, Appendix B (Commitments 290 through 300) and Volume 6, Section 16.4.3.3 (caribou Trigger Action Response Plan (TARP); Mobile Caribou Conservation Measures (MCCMs); traffic management measures), applied at the road level for the current alignment to reduce Project-related contributions to the Bathurst Caribou Herd (BCH);
- The Inuit Knowledge, Indigenous Knowledge, and Community Knowledge integration documented in Volume 3 and Volume 6, Section 16.1.1.6 (Influence of Inuit, Indigenous, and Community Knowledge on the Development of Mitigation, Management, and Enhancement Measures) — informing the design and mitigation framework.

WKR remains open to further discussion of specific design-level considerations to reduce or avoid potential effects on caribou through the WMMP consultation process identified in Volume 11, Appendix 37B, Section 3, through the annual road use plans developed under the Road Management Plan (Volume 2, Section 2.6.3.3), through the Inuit Environmental Advisory Committee (IEAC) review mechanism identified in Volume 3, Section 6.3.6, Table 6.4, and through the ongoing design process (Volume 1, Section MD 2.4).

YKDFN IR #42 (IR-453)

Subject

Transboundary Impacts

Issue / Concern

The Traditional Land, Marine, and Resource Use (TLMRU) of Indigenous groups stands to be impacted by the trans boundary effects of the Project. The Impact Statement highlights that concerns have been raised with respect to the adverse transboundary effects on the BCH and their migratory patterns.

The Impact Statement notes that "adverse transboundary effects on TLMRU may occur as the availability, accessibility, and stability of harvested resources and TLMRU activities may be affected by Project-related activities" and that "[t]here is potential for transboundary effects on the stability of the traditional food system as a result of changes to wildlife distribution and wildlife habitat, which could affect harvesting success for individuals in NT" (pp. 33-24, 33-25). However, the Impact Statement does not assess the significance of these adverse effects.

Information Request

YKDFN requests that the Proponent provide the following information:

a) *In the Proponent's view, what is the significance assessment of the adverse transboundary effects on TLMRU and food security of Indigenous groups?*
b) *Please confirm that the Proponent's assessment of trans boundary effects on TLMRU considered Indigenous groups collectively.*
c) *Has the significance assessment for trans boundary effects on TLMRU and food security considered the potential for caribou to change their migration route?*
d) *Has the significance assessment for trans boundary effects on TLMRU considered the potential for the Bathurst Caribou Herd to not recover and continue to decline?*
e) *What is the anticipated increase in traffic on the TCWR as a result of the Project in the construction and operation phases?*
f) *What are the specific mitigation measures and management/monitoring plans that will be in place for trans boundary effects on TLMRU and food security? Please provide copies of any trans boundary effect management/monitoring plans?*

Proponent Response

a) **Significance assessment of adverse transboundary effects on TLMRU and food security**

Transboundary effects, by their nature, and specifically in the case of this Project, are often experienced at a significant distance from the original source of the interaction. This leads to the requirement for a pragmatic approach to effect analysis, recognizing that certain levels of information are required to predict effects with any degree of confidence.

The methodology used to assess potential transboundary effects does not follow the same methodology used for potential Project residual or cumulative effects. While the identification of potential transboundary effects is linked to the results of the residual and cumulative effects, i.e., via a cause-effect pathway, the subsequent analysis and description of said transboundary effects, is required pragmatically to be qualitative.

The methodology used for the evaluation of transboundary effects differs from the residual and cumulative effects in the following ways:

- Transboundary effects are not defined/constrained within a specific study area
- Transboundary effects are evaluated qualitatively and are not characterized using the same definitions as residual effects i.e., direction, magnitude, duration, frequency, geographic extent, reversibility, timing, likelihood or significance

Characterizing potential transboundary effects with the same categories as residual effects (e.g., magnitude, duration, frequency, significance) is neither practical nor defensible. If a transboundary effect is experienced by a mobile VC (e.g., migratory species), it has often left the area of direct influence of the Project (e.g., a migratory bird), and therefore the categories of effect are either no longer applicable (e.g., duration, frequency) or not possible to measure with any level of confidence.

It should be noted that while the qualitative transboundary assessment presented in the IS (Volume 10, Sections 33.4 - 33.5) does not use the same definition categories as the residual and cumulative effects assessment, it does draw upon the conclusions presented in those sections to inform the transboundary discussion.

The transboundary discussion is also informed by the mitigation and management measures presented in the residual effects assessment. These measures are design to reduce and manage residual effects and as such will reduce the potential for transboundary effects.

No significance determination for potential transboundary effects is provided for any VC.

b) **Whether Indigenous groups were considered collectively in the transboundary effects assessment on TLMRU**

The Volume 10, Section 33.5 transboundary effects assessment applies to Indigenous groups outside the Kitikmeot Region collectively.

c) **Has the significance assessment for transboundary effects on TLMRU and food security considered the potential for caribou to change their migration route?**

The assessment for transboundary effects on TLMRU and food security (Volume 10, Sections 33.5.1 and 33.5.2) draws upon the conclusions from other relevant VC assessments, including caribou that includes consideration of caribou movement (Volume 10, Section 33.4.3).

As noted in response Part A, no significance determination for potential transboundary effects is provided for any VC.

d) **Has the significance assessment for transboundary effects on TLMRU considered the potential for the Bathurst Caribou Herd to not recover and continue to decline?**

The Volume 10, Section 33.4.3 transboundary effects assessment considers the Caribou Herd Vulnerability Model (CHVM) framework, which examines changes in body condition and subsequent herd dynamics based on assumptions about caribou space use, energy-protein allocation, and vital rates (see Volume 6, Appendix 16B). The CHVM simulates herd dynamics under different hypothetical scenarios of climate, human development, and mitigation. The CHVM is useful for evaluating relative potential changes in herd dynamics, including rates of decline, across different hypothetical scenarios.

As noted in response Part A, no significance determination for potential transboundary effects is provided for any VC.

e) **What is the anticipated increase in traffic on the TCWR as a result of the Project in the construction and operation phases?**

During Construction, approximately 1000 truckloads/year will utilize the TCWR, reducing to 30 truckloads/year during Operations and Maintenance, Volume 2, Section 2.6.2.4.

f) **Specific mitigation measures and management/monitoring plans for transboundary effects on TLMRU and food security**

The Project's mitigation and management / monitoring plans to avoid or reduce effects on TLMRU and food security, that will also avoid or reduce transboundary effects on TLMRU and food security, are identified in Volume 9, Section 24 and 25, and summarized in Volume 9, Section 24.5.3 and Section 25.5.3.

Tłı̨chǫ Government

West Kitikmeot Resources Corp. (WKR), thanks the Tłı̨chǫ Government (TG) for its Information Requests (IRs) dated Month X, 2026 (NIRB Document 260703-24XN038-TG IRs Re Impact Statement-IR3E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of the TG's IRs are provided below.

WKR looks forward to continuing to work with TG, Kitikmiut, other Indigenous groups, and other potentially affected communities on matters relevant to the Project.

TG #1 (IR-454)

Subject

Habitat Connectivity and Alternative Routes

Issue / Concern

In TG's July 16, 2025 comments, TG requested 'habitat connectivity' as part of the baseline information to determine potential impacts on migratory caribou.

In Volume 6, section 16, WKR states that "habitat connectivity is not explicitly considered in the assessment of change in habitat. Studies that have addressed habitat connectivity in Arctic tundra ecosystems are limited (e.g., Fullman eta al. 2021). Movement filters created by human disturbances can alter the location and timing of local-scale and broad-scale movements, but these filters are likely insufficient in quantity and extent in the BCH-RAA1 or DUH-RAA (see Section 16.2.2.6), even with the Project, to alter connectivity between seasonal ranges or seasonal habitat."

Part of the migration route the Tłı̨chǫ have seen the caribou use follows a valley between Carrot Lake and Contwoyto Lake. Construction of the proposed road to Jericho mine will pose a significant threat to the migration pattern for the caribou, particularly any construction in the valleys between the lakes that serve as a key migration corridor.



Figure 1. Ekwǫ waiting at the end of the valley north of Jericho Mine (photo taken by Petter Jacobsen, Tłı̨chǫ Government Ekwǫ Nàxoèhdee K'è monitoring program July 2017)

Tłı̨chǫ Elders and scientists are concerned about the current proposal and would like the road to stay further away from Contwoyto Lake.

TG has initiated discussions with WKR directly regarding potential changes to the south end of the Grays Bay Road route and understands that WKR is open to changing its south terminus location to avoid potential impacts to caribou and caribou habitat in this sensitive migration corridor.

Information Request

IR regarding Alternatives: *Can WKR confirm that it is open to changing its terminus location at Jericho mine? Can WKR comment on or provide an update on its analysis for an alternative route that stays further away from Contwoyto Lake, to avoid obstructing this important caribou migration corridor?*

If these details are already described in the Impact Statement, please provide the reference.

Proponent Response

Jericho station Terminus Location

The terminus of the Project road next to Contwoyto Lake was selected to make the project functional as a (seasonal) transportation corridor between the national highway network and the Coronation Gulf. As TG, YKDFN, and their partners advance an all-season road connection that does not rely on Contwoyto Lake, this opens up new routing alternatives for the full corridor, such as connecting to an all-season route from the NWT north of Carrot Lake. WKR would like to continue these routing discussions as additional detail becomes available on the NWT portion of the corridor.

Should an all-season route from the NWT be constructed to a point further from Contwoyto Lake and connect with the Grays Bay Road farther north of Jericho Station, WKR would still need to construct a connection to Contwoyto Lake to gain access to the NWT winter road network during construction and during operations until the all-season connection is completed.

However, the road segment from Jericho to the NWT all-season road connection would have far fewer uses after this connection is built, since it would not carry any traffic heading to or from the NWT, only traffic to Jericho e.g. to access the existing airstrip and federally-managed Jericho mine site, or to facilitate community access to Contwoyto Lake.

WKR welcomes discussions with TG and other stakeholders on how the Jericho ‘stub’ road in this scenario should be used, or alternatively if it should be reclaimed entirely.

TG #2 (IR-455)

Subject

Mitigating Impacts on Caribou (general) - TARP

Issue / Concern

WKR has concluded that "based on predicted magnitude and spatial extent of residual effects, the expected mitigation, management and enhancement measures for the Project (i.e., a TARP and MCCMMs), and the context of baseline conditions, the residual cumulative effects on the BCH [Bathurst Caribou Herd] are determined to not be significant."

Proposed mitigation for impacts to caribou: *WKR proposes that mitigations to impacts on caribou will be done through a caribou trigger action response plan (TARP). It is not clear if the TARP has already been prepared or is planned to be developed in the future.*

Information Request

IR regarding TARP: *This is a hugely important issue and the adequacy of planned mitigations will be essential for project success. Can WKR please confirm whether the TARP – or a framework of the TARP - has already been prepared. If yes, please provide a copy (or reference if already included in the Impact Statement). If not yet developed, can WKR describe what the proposed mitigations are that would be included in the TARP, when it will be developed and how they will be seeking input on it.*

Proponent Response

Please refer to the response to Information Request KIA-IR39 (IR-109) for a discussion on the current early design stage of the Trigger Action Response Plan (TARP) and the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B) and WKR's commitments to developing the details of measures to mitigate Project effects on caribou through engagement with co-management parties.

TG #3 (IR-456)

Subject

Monitoring and Enforcement: Access (including road closures) and illegal harvesting

Issue / Concern

In TG's July 16, 2025 comments, TG wanted to better understand the mitigation measures of the project to address access and illegal harvesting of caribou.

Proposed mitigation for illegal harvesting (Permits): *Section 16 talks about "users seeking access to the road for harvesting purposes will require approval (permit) from KIA and an Inuit Wildlife Organization (HTA)".*

Information Request

IR regarding Permits: *Can WKR/KIA/HTA elaborate on and clarify if and how these permits will be monitored (and how often?), and who is responsible for enforcing these permits? What existing or future structures (legal or otherwise) will WKR/KIA/HTA be relying on to ensure that those who commit illegal harvesting will be held accountable?*

IR regarding Permits: *Can WKR/KIA/HTA provide examples where this approach has successfully reduced illegal harvesting?*

If these details are already described in the Impact Statement, please provide the reference.

Proponent Response

Permit issuance and administrative framework

Volume 11, Appendix 37A, Section 5.1.1 states:

"Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA). Permits will be issued jointly by the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA). WKR will be responsible for ensuring that permits and licences are in place before granting access to the road. The processes for access application and permit issuance for harvesting will be established through discussions with the Kitikmeot Inuit Association and the HTA. Harvest licences and species authorization tag(s) will be managed through the existing Nunavut Hunting Regulations."

Volume 3, Section 6.3.6 Table 6.4 further confirms: "Harvesting is managed through government policies and based on the commitments made under the Nunavut Agreement, as carried out by Nunavut Tunngavik Incorporated and the Regional Inuit Associations (i.e., Kitikmeot Inuit Association) and Inuit wildlife organizations (HTOs)."

Monitoring and enforcement mechanisms

Volume 11, Appendix 37A, Section 5.1.1 documents the WKR-administered access-control mechanism: "Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station on the IOL. These access points will manage and monitor road use through sign-in procedures and radio check-ins… WKR will maintain logs recording the entry and exit of all vehicles using the road." The Section 5.1.1 further states: "Unauthorized use may lead to security alerts and reports to local authorities."

Volume 6, Section 16 Table 16.7 documents the harvest-management support commitment: "To support territorial harvest management, WKR will control access to the Project to limit illegal harvesting and poaching."

Enforcement of harvest licences and species authorization tags is administered under the existing Nunavut Hunting Regulations by the Government of Nunavut and — where road access issues arise — by local law enforcement authorities through the Section 5.1.1 "reports to local authorities" pathway.

Development timeline

Further details on permit-monitoring frequency, enforcement pathways (as distinct from the Nunavut Hunting Regulations enforcement framework), and comparable-project examples will be built out as WKR progresses engagement with the KIA and HTO(s) and as road design advances. As stated in Volume 11, Appendix 37A, Section 5.1.1: "The processes for access application and permit issuance for harvesting will be established through discussions with the Kitikmeot Inuit Association and the HTA."

The joint KIA–HTO(s) harvesting access permit process, including WKR's role in confirming permits and licences are in place before granting access, is further addressed in the response to NTI-10 (IR-407).

TG #4 (IR-457)

Subject

Controlled Access

Issue / Concern

Proposed mitigation for access (private/controlled access): *Grays Bay Road Management Plan explains that the Grays Bay Road will be a multi-user, multi-use road, that will be of private/contracted user benefit in perpetuity as the road is anticipated to operate permanently. This road will be operated and maintained by WKR. TG also understands that this road will be on both Inuit Owned Land (IOL) and Crown Land.*

Information Request

IR regarding controlled access: *Can WKR please expand on how controlled access will be administered on both IOL and Crown Land? Is the intention to restrict access on Crown-managed land or only on IOL private land?*

IR regarding controlled access: *If there is a change in ownership or if the road becomes a public road how will that affect access and control over access – and any associated mitigations that rely on controlled access? Will these details be outlined in the leases WKR will have with KIA and the federal government – or is some other mechanism anticipated? It is important to understand the extent to which any mitigations are reliant on the private, access-controlled nature of the road in case the road is managed differently in the future and, as a result, such mitigations become less effective or irrelevant.*

If these details are already described in the Impact Statement, please provide the reference.

Proponent Response

Administration of controlled access on IOL and Crown Land

Volume 11, Appendix 37A, Section 2.1 (Permits, Licences and Authorizations, Page 3) states: "The Project involves activities on both Inuit Owned Land (IOL) and Crown land, requiring land use permits and leases from two distinct authorities: the Kitikmeot Inuit Association for IOL, and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) for Crown land. Of the approximately 230 km all-season road, approximately 116 km is located within IOL. The remainder of Grays Bay Road (114 km) is on Crown land."

Volume 11, Appendix 37A, Section 5.1.1 states: "Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station on the IOL. These access points will manage and monitor road use through sign-in procedures and radio check-ins, helping to track users and ensure the safety of users. WKR will maintain logs recording the entry and exit of all vehicles using the road."

The security gates are located on IOL at both terminals (Grays Bay Port and Jericho Station), and the Section 5.1.1 access-control mechanism applies to road entry through these gates.

Change in ownership or governance

Provisions governing change of ownership will be contained the terms of the KIA land use licence (with respect to IOL) and the CIRNAC land use permit (with respect to Crown land), as well as other regulatory authorizations and permits, such as the NIRB Project Certificate. Mitigation conditions required under a NIRB Project Certificate are applicable to any new owner.

Mackenzie Valley Environmental Impact Review Board

West Kitikmeot Resources Corp. (WKR), thanks the Mackenzie Valley Environmental Impact Review Board (MVEIRB) for its Information Requests (IRs) dated July 8, 2026 (NIRB Document 260707-24XN038-MVEIRB IRs Re Impact Statement-IR1E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038). WKR's responses to each of MVEIRB's IRs are provided below.

MVEIRB 1 (IR-458)

Subject

Induced Development

Issue / Concern

In the Impact Statement, WKR presents a ***foreseeable development scenario*** *(including the Arctic Security and Economic Corridor, the NICO mine, and the Courageous Lake Mine), and a* ***reasonably foreseeable induced development scenario*** *including three mines (Izok, Hackett, and High Lake), the extension of the Grays Bay road from Jericho Station to the Northwest Territories border, and the expansion of the Grays Bay airstrip and fuel storage facilities.*

The IS does not provide much detail about the reasonably foreseeable induced scenario, making it difficult to understand how it contributes to cumulative and transboundary impacts.

Information Request

- *Please describe the foreseeable and reasonably foreseeable induced development scenarios in more detail. Provide a table that includes:*
    - *Each foreseeable and reasonably foreseeable induced activity*
    - *Conceptual design or activity envelope, including the development's footprint (area disturbed, pits, waste rock, tailings), and associated infrastructure (airstrips, camps, roads, power generation, etc.)*
    - *shipping and supply routes*
    - *road alignments (new access roads, upgrades, connections to Grays Bay Road and Port or Tibbit to Contwoyto Winter Road)*
    - *corridor widths and right-of-way clearing*
    - *workforce assumptions*
    - *disturbance assumptions*
    - *affected transboundary VCs (including VCs not predicted to experience transboundary effects in the IS)*
    - *receptor jurisdictions and Indigenous groups*
    - *project-only versus cumulative effects*
    - *sensitivity analysis for low, base, and high development cases*

Proponent Response

The CEA identified reasonably foreseeable (RF) and reasonably foreseeable induced (RFI) physical activities. These are described in Volume 10, Section 32 Cumulative Effects Assessment Overview with details in Volume 4, Section 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List (PIL), including Attachment 9A1 Description of Physical Activities, Table 9A1.1 Description of Physical Activities, and, Attachment 9A2 Spatial Metrics and Descriptive Information for RFI Physical Activities. Section 32 Cumulative Effects Assessment Overview provides key information in summary to assist navigation through the many Impact Statement (IS) sections and in interpretation of the CEA, notably Table 32.1 Cumulative Effects Assessment Information in the Impact Statement, which of many IS references includes mention of the PIL. The level of detail in description of physical activities is based on available information and to the extent relevant and appropriate in support of the CEA.

Further information associated with the assessment of potential cumulative effects on VCs, such as disturbance assumptions, are provided in the VC assessment Volumes 5-9, Sections 11-30, Section X.4 Assessment of Cumulative Effects ("X" being VC chapter). One RFI scenario was assessed reflective of what WKR views as a reasonable representation of at least initial possible induced such development as mines, largely based on their current recognized potential and degrees of advancement in exploration and regulatory application, and, potential benefit of the Project providing road based access. Please also see Addendum Appendix A, Cumulative Effects Assessment Supplement, which summarizes the scenarios assessed in the IS, from the Project alone to the possible future scenarios considered in the CEA. It also describes the RFI scenario and where it is documented in the IS (Volume 10, Section 32; Volume 4, Section 9). Section 33 Transboundary Effects Assessment provides further information on potential transboundary effects, and Addendum Appendix B, Transboundary Effects Assessment Supplement, provides a summary of the three primary pathways by which the Project could cause transboundary effects, and the methodology used to assess transboundary effects, including how the assessment is informed by the conclusions of the residual and cumulative effects assessments (Sections B.2 and B.3).

MVEIRB 2 (IR-459)

Subject

Induced Development Vehicle Traffic

Issue / Concern

On page 32-12, there is a reference to an addition of 1000 vehicles due to induced development (RFI operations). But in other places (for example, pages 33-13, 33-29), the 1000 vehicles on the Tibbitt to Contwoyto Winter Road are referred to as project traffic during construction (reducing to 30/year in operations). It is unclear why WKR is predicting the same number of vehicles on the Tibbitt to Contwoyto Winter Road during construction and in the induced development scenario.

Information Request

- *Clarify how many additional vehicles are predicted to use the Tibbitt to Contwoyto Winter Road during construction, and in the assessed induced development scenario (RFI scenario of Izok, Hackett, High Lake mines). Please describe how this number was reached and what percentage increase it represents compared to today.*
- How does WKR predict that the Arctic Economic Security Corridor would affect traffic if constructed? Would more traffic travel in from the NWT rather than barging to NU?

Proponent Response

The statement alluded to in the request is in Volume 10, Section 32 Cumulative Effects Assessment Overview, Section 32.3 Regional and Future Perspectives, p. 32-12 as follows: "An estimated 1000 vehicles could use the Tibbitt to Contwoyto Winter Road (TCWR) to and from the Project road during the TCWR's winter operational period (December-March on average)." As clarification, that number of vehicles is an assumed annual average associated with ongoing Project operations and maintenance and various support vehicles associated with operations of the Reasonably Foreseeable Induced (RFI) mines. That number does not include transport of mined product (i.e., the "60 concentrate trucks") as all such transport is along the Grays Bay Road to the Port for shipping. WKR recognizes that the number coincides with that stated for construction support of the Project. As summarized in Addendum Appendix A – Cumulative Effects Assessment Supplement (Sections A.3 and A.4.4), under the RFI scenario concentrate is hauled on the Grays Bay Road to the Port, and use of the TCWR is limited to winter travel by support vehicles between the RFI mines and Yellowknife.

Addendum Appendix B, Transboundary Effects Assessment Supplement, identifies the use of existing public infrastructure, including the TCWR, as one of three primary pathways by which the Project presents the potential for transboundary effects (Section B.2). Project traffic on the TCWR is estimated at approximately 1,000 trucks per year during Construction and 30 during Operations and Maintenance. That is approximately 15% and 0.4%, respectively, of the 2002–2012 average of 6,605 northbound truckloads per year (Section B.2.1; Volume 9, Section 28.2.2.3). Given the uncertainties with predicting

such traffic use, and in consideration of the current winter road use (as stated in the footnote associated with the aforementioned text) and decreased traffic given closure of diamond mines, a more definitive basis of operational traffic of the TCWR is not apparent.

Section 28 Assessment of Potential Effects on Infrastructure and Services, Section 28.4.4 Change in Transportation Infrastructure discusses potential changes to traffic associated with the TCWR and the Arctic Economic and Security Corridor (AESC). Such predictions are highly uncertain given the evolving nature of use of the TCWR due to diminishing diamond mine operations and evolving routing of the AESC.

Directionally, upgrading access to the NWT from a winter road (TCWR) to an all-season road (AESC plus a connection from Jericho to the NU/NT border) would make that route more attractive to shippers, and therefore would divert some shipments that would otherwise arrive by barge/ship at Grays Bay, to arriving by truck via the NWT.

MVEIRB 3 (IR-460)

Subject

NWT winter roads

Issue / Concern

The IS highlights that in the future, NU and the NWT will be linked via the Arctic Economic and Security Corridor (all-season road from Yellowknife to the NU/NT border) and Grays Bay Road and Port Phase 2 (all-season road from Jericho Station to the NU/NT border) (Vol 9, p.29-59). However, the IS is unclear on how the Grays Bay Road and Port will be linked to Yellowknife before these two all-season roads (which are considered as induced developments) may be built.

First, the Tibbitt to Contwoyto Winter Road is currently built and operated as a joint venture between mining companies, but these mines are planning to close in the next few years (before 2030 for Diavik and before 2040 for Ekati). The licence of occupation expires in 2033, and the land use permit expires in 2031. Yet, the IS shows that the Grays Bay Road and Port depends on the Tibbitt to Contwoy to Winter Road and the 'new winter road' for the transport of materials from Yellowknife ***during*** *construction (Vol 10, p.33-29). Construction of the Grays Bay Road is expected to begin from Jericho Station in 2030, with resupply coming from the Tibbitt to Contwoyto Winter Road in 2031, continuing through 2035 (Vol 2, p.2-37). The Tibbitt to Contwoyto Winter Road may no longer exist before the Grays Bay Road is constructed.*

Second, the current end of the Tibbitt to Contwoyto Winter Road is at the North end of Contwoyto Lake. However, the joint venture does not annually construct the road all the way to Contwoyto, but rather to the Diavik and Ekati diamond mines (Tibbit to Contwoyto Winter Road).

Third, the IS indicates that WKR plans to construct and operate a three kilometer road between Jericho Station and the end of the Tibbitt to Contwoyto Winter Road on Contwoyto Lake, which has two possible alignments. (Vol 2, p.2-42). There is no map showing the two alignments. There is also little information on how the NWT parties have been engaged regarding this new road segment, and how their comments have been integrated into the winter road's design and location.

Information Request

What does WKR plan to do if the licence of occupation is not renewed beyond 2033, and mining companies stop building and operating this road before the Grays Bay Road is finalized?

Please clarify who will be responsible for building and operating the Tibbitt to Contwoyto Winter Road between the mines and Contwoyto Lake, considering that the joint venture is not currently building it.

Please provide more information on all segments of the all-season and winter roads required for project materials to travel from the NWT. This includes alignments, alignment alternatives, maps, and construction timelines, and how NWT parties' comments were considered for:

- *Jericho Station to Contwoyto Lake*
- *Contwoyto Lake to the NU/NT border*
- *NU/NT to the current end of the TCWR*

Please clarify how the construction and operation of the road segment between the NU/NT border and the current end of the Tibbitt to Contwoyto Winter Road (at the diamond mines) may cumulatively affect all VECs considered in the transboundary impact assessment. These impacts may be more substantial than impacts from the current Tibbitt to Contwoyto Winter Road.

Proponent Response

1. WKR's first preference is to work collaboratively with the current licence holders — the Tibbitt to Contwoyto Winter Road Joint Venture (TCWR JV) — to support extending the existing licence of occupation beyond its term, and to work with the TCWR JV to support their construction and operation of a winter road to the shoreline of Contwoyto Lake along the existing approved route, consistent with the previously screened works and activities referenced at IS Volume 2, Section 1.5. While mining activities have now ceased at Ekati and Diavik, care and maintenance and closure activities are likely to continue for years to come, and there is a reasonable probability that there will be other uses for the TCWR during the construction period for the Project.

   If the TCWR JV is unwilling or unable to renew the existing licence of occupation and continue construction and operating the TCWR, WKR will have to pursue new licencing for this corridor on its own initiative.

2. WKR confirms that the TCJV — consisting of the Ekati and Diavik diamond mines — is the party that currently holds the licence of occupation and has historically operated the TCWR. WKR's first preference is to work with the TCJV to support their extension and operation of the winter road from the diamond mines northward to the shoreline of Contwoyto Lake along the existing approved alignment.

   If the TCWR JV is unwilling or unable to construct the TCWR to its full extent to Contwoyto Lake, WKR will have to pursue new licencing for the Lac de Gras to Contwoyto Lake portion of the road on its own initiative. The operators of Lupin Mine have taken this approach to connect to Contwoyto Lake, as currently being screened by NIRB (19RN005).

A) Jericho Station to Contwoyto Lake (approximately 3 km — WKR responsibility)

This segment is described in IS Volume 2 (p. 2-33). A 3 km winter road will be constructed annually. It connects Jericho Station to the previously approved TCWR alignment at the shoreline of Contwoyto Lake. Maps of the Jericho Station PDA and winter road connection are provided in IS Volume 2, Figure 1.2 and associated Project maps. Construction and operations of the segment will align with the current construction and operations of the TCWR, which typically begin in December/January and operate until the end of March or the beginning of April, based on ice conditions.

B) Contwoyto Lake to the NU/NT border (approximately 150 km — TCJV / LOC holder responsibility)

This segment is authorized under LOC 02RN037 and falls entirely within Nunavut under NIRB jurisdiction. It has been open sporadically since the Lupin Mine closed. This segment is outside the scope of the GBRP as the activity has been previously screened for these works and activities.

C) NU/NT border to the current end of the TCWR at the diamond mines — TCJV responsibility
This segment is authorized under LOC 075M/11-01 and falls entirely within Northwest Territories under MVEIRB jurisdiction. It also has been open sporadically since the Lupin Mine closed. This segment is also outside the scope of the GBRP as the activity has been previously screened for these works and activities.

WKR will work with the TCJV, GNWT, GN, NIRB, and MVEIRB to support the reinstatement and regular operation of these segments concurrent with Project construction.

IS Volume 9, Section 28.2.2.3 (p. 28-26) confirms the full TCWR route from Tibbitt Lake to the shoreline of Contwoyto Lake is approved to transport 12,000 trucks annually, with an average of 6,605 northbound trucks per year historically (2002–2012). The Project will add approximately 1,000 trucks during each construction winter road season (IS Volume 9, Section 28.4.4.3, p. 28-78), which, combined with other reasonably foreseeable project demands, remains within the TCWR's approved capacity.

Regarding the engagement of Northwest Territories (NWT) parties on these segments, the road route has already undergone extensive engagement prior to being assessed and approved for a 30-year License of Occupation (LOC). WKR will continue to engage with NWT groups regarding sustainable road use throughout the NIRB review process, into construction, operations and maintenance.The cumulative effects assessment in IS Volume 9, Section 28.4.6 (p. 28-82 to 28-83) addresses cumulative demand on the TCWR. The IS concludes that adverse cumulative effects on the TCWR are anticipated to be moderate in magnitude, as "cumulative demand may approach, but is not expected to exceed, capacity of the TCWR" (IS Volume 9, Section 28.4.6, p. 28-83). The IS further notes that "cumulative effects of the Project, current, and reasonably foreseeable projects will be limited to the winter road season."

MVEIRB 4 (IR-461)

Subject

Cumulative impacts of the use of infrastructure and services in the Mackenzie Valley

Issue / Concern

The transboundary effects assessment in section 33 is very high level. It does not always clearly describe the predicted impacts and is inconsistent in how it considers cumulative impacts. It identifies potential pressures on infrastructure and services outside Nunavut (e.g., Yellowknife) but provides limited detail on specific capacity limitations.

Information Request

- *Provide detailed estimates of project-related demand on:*
  - *transportation systems (e.g., winter road, air transport)*
  - *health and emergency services*
  - *Yellowknife's landfill (compare the project-related demand to: a) the current disposal rate, b) the current capacity of the facility, and c) the future capacity of the facility, for the duration of the project)*
  - *worker movement and service use outside Nunavut. Estimate temporary accommodation demands during work rotation.*
  - *expected increase in aircraft use of NWT air infrastructure during project construction and operations. Compare estimates to the airports' current and future capacity.*
- *Describe how these demands on infrastructure and services were considered in assessing transboundary significance.*
- *Describe how any predicted impacts related to the above could interact with cumulative impacts from induced projects.*
- *Identify which parts of, or groups in, the Mackenzie Valley are more likely to experience transboundary effects (e.g., specific communities, regions, or user groups).*

Proponent Response

WKR appreciates MVEIRB's request for more detailed information on potential Project-related demand on infrastructure and services outside Nunavut. The approach to assessing transboundary effects is described in Volume 10, Section 33.3. As stated in Volume 9, Section 28.1.4.1, "The RAA for the Infrastructure and Services VC is the Kitikmeot Region, including the five Kitikmeot communities: Kugluktuk, Cambridge Bay, Kugaaruk, Taloyoak and Gjoa Haven; as well as the primarily seasonal settlements of Bathurst Inlet and Bay Chimo in the Kitikmeot Region; and part of the NT, focusing on Yellowknife (Figure 28.1)." (pg. 28-9). Therefore, the RAA has also been considered in the cumulative effects assessment (Volume 28.4), and the Transboundary Effects Assessment (Volume 11, Section 33).

Transboundary effects, which are not specific to the Mackenzie Valley, are described below for transportation systems, including winter road and air transport; health and emergency services; Yellowknife's landfill; worker movement; and temporary accommodation.

Transportation systems — air transport

Aircraft movements at the Yellowknife Airport (total itinerant and local) were 50,146 in 2019 (pre-pandemic), fell to 35,348 in 2020, recovered to 53,519 in 2023, and were 51,251 in 2024 (Volume 9, Section 28.2.2, citing Statistics Canada 2025). The IS concludes that Project mobilization of personnel and goods *"will increase the number of aircraft that use air transportation infrastructure in Yellowknife beyond current conditions; however, increased demand is expected to be within the current capacity of the Yellowknife Airport as the airport previously operated at a higher volume in 2023 and based on aircraft movements and planned expansion of its infrastructure"* (Volume 9, Section 28; Volume 10, Section 33.5.5). The airport is developing a new terminal building and considering further infrastructure expansion (Volume 9, Section 28.2.2).

Health and emergency services

Health infrastructure and services in the Kitikmeot Region have limited capacity, and people seeking more comprehensive medical services currently often travel to Yellowknife and, in some instances, to southern Canada (e.g., Edmonton) (Volume 9, Section 26.2.2.2). Project workers requiring medical attention beyond that which can be provided on-site would most likely be transferred to Stanton Territorial Hospital in Yellowknife or hospitals in southern Canada (Volume 9, Section 26). As a comparator, socio-economic monitoring of B2Gold's Back River project recorded that between 2018–2025 the project required GN emergency health services **thirty six times** for project personnel, all for medevac to Yellowknife (Volume 9, Section 26). WKR will develop and implement a Health and Medical Services Plan (HMSP) intended to reduce unnecessary use of local and transboundary health and medical services and outline procedures to be followed when their use is required (Volume 9, Section 26). Additional information on potential medevac and healthcare system demand in the NWT has also been provided by WKR in response to GNWT 18 (IR-389).

For emergency services, it has been concluded the Project workforce *"could increase demand on emergency services, including ambulance and police services"* in the event of medevac or during transit, and could incrementally increase demand on police services in Yellowknife; increased demand is *"anticipated to be negligible compared to current use"* (Volume 9, Section 28; Volume 10, Section 33.5.5).

Yellowknife's landfill

The IS states: *"In 2018, it was estimated that Yellowknife's landfill had the capacity to accept waste for 10 more years at the current disposal rate and the City of Yellowknife is currently expanding the facility to extend its lifespan to 2034 (Lamberink 2024). The Project may therefore increase demand on the Yellowknife landfill; however, it is not anticipated to exceed available capacity for waste disposal"* (Volume 10, Section 33.5.5). Project solid waste will be stored, incinerated, and/or transferred to waste-management facilities in Yellowknife and/or Quebec (Volume 10, Section 33.5.5).

Worker movement and temporary accommodation

The Project will rely on a fly-in/fly-out (FIFO) rotational workforce, with chartered flights from Cambridge Bay, Kugluktuk, and Yellowknife to the Project site (Volume 2, Workforce Mobilization). Approximately 15% of the Construction workforce is expected to be Nunavut residents, with the remainder from outside the region; for Operations and Maintenance, approximately 50–100% is expected to be Nunavut residents over time (Volume 9, Section 25). Out-of-region workers will transit through Yellowknife and may stay short-term (e.g., one night) before/after charter transit to/from site (Volume 9, Section 25). Temporary accommodation in Yellowknife (approximately six hotels, two motels, six apartment hotels, and several dozen bed and breakfasts) may see heightened demand during scheduled shift rotations and weather delays; the IS states it is not anticipated that out-of-region workers will relocate to Yellowknife, so Project-related population growth and permanent-accommodation demand are not anticipated (Volume 9, Section 28; Volume 10, Section 33.5.5).

Consideration in transboundary effects, and interaction with induced projects

The transboundary effects assessment does not include a separate significance determination for transboundary effects. Instead, it relies on the significance determinations completed for the relevant VCs and provides cross-references to those assessments. As described in Section 33.3.2, “As per the NIRB Impact Statement Guidelines (NIRB 2026), the transboundary assessment discusses the pathways, affected VCs, mitigation, and residual effects, and provides cross-references to the relevant sections of the Impact Statement where more information can be found” (Volume 10, Section 33.3.2, pg. 33-13). Yellowknife is considered in the Infrastructure and Services VC significance determination because it is included in the Infrastructure and Services LAA. Section 28.5.1 states that, “with the implementation of mitigation, enhancement, and management measures, residual effects on infrastructure and services in the LAA and RAA are predicted to be not significant because they are not expected to exceed available infrastructure and service capacity or result in a substantial, persistent, and ongoing decrease in service quality that cannot be mitigated through current or anticipated programs, policies, or mitigation measures” (Volume 9, Section 28.5.1, pg. 28-84).

This information request was also considered in the transboundary assessment for Infrastructure and Services (Volume 10, Section 33.5.5) and Community Health and Well-being (Section 33.5.3) VCs. Potential cumulative effects on infrastructure and services are described in Volume 9, Section 28.4 and include reasonably foreseeable induced projects as listed in Table 28.9. Cumulative effects on changes in access to health infrastructure and services are described in Volume 9, Section 26.4.2 and also includes reasonably foreseeable induced projects as described in Table 26.9.

Groups in the Mackenzie Valley who may be more likely to experience transboundary effects

The GBA+ analysis used for the Infrastructure and Services VC applies to the assessment areas for that VC, including the LAA and RAA, which include the five Kitikmeot communities and the portion of the Northwest Territories focused on Yellowknife. As a result, the subpopulations that may be more likely to experience disproportionate effects within the Mackenzie Valley are identified through the Infrastructure and Services GBA+ analysis. Volume 9, Section 28.2.1.7 describes the GBA+ approach for Infrastructure and Services, and Section 28.2.3 summarizes baseline information for GBA+ subpopulations.

The assessment then considers residual effects on subpopulations for each Infrastructure and Services effect pathway, including change in community infrastructure and access to public services (Section 28.3.3.4), change in accommodation and housing availability (Section 28.3.4.4), change in transportation infrastructure (Section 28.3.5.4), and change in community resupply (Section 28.3.6.4). These sections provide the basis for identifying groups within the assessment areas, including the portion of the Northwest Territories focused on Yellowknife, that may be more likely to experience transboundary effects.

MVEIRB 5 (IR-462)

Subject

Transboundary Impact Assessment

Issue / Concern

- *The Transboundary section of volume 10 does not consistently describe impact characteristics (such as duration, magnitude, direction) or how cumulative impacts may contribute to existing impacts. MVEIRB requires additional information to fully understand how WKR predicts its project and cumulative impacts could contribute to transboundary impacts in the Mackenzie Valley.*

Information Request

- *For transboundary impacts, please provide tables that outline the potential impact pathways and characterize any residual effects (including direction, magnitude, geographic extent, timing, duration, frequency, and reversibility).*
- *Describe any of these impacts that may add to cumulative impacts.*

This IR can be answered in conjunction with NIRB's first IR regarding transboundary effect pathways.

Proponent Response

The IS assesses transboundary effects qualitatively in Volume 10, Section 33, and does not use the same characterizations (direction, magnitude, geographic extent, timing, duration, frequency, and reversibility) as the residual and cumulative effects assessments. As a result, tables that outline the potential impact pathways and characterize any potential transboundary residual effects (including direction, magnitude, geographic extent, timing, duration, frequency, and reversibility) have not been developed.

Please see Appendix B, Transboundary Effects Assessment Supplement, to the Addendum to the Information Request Proponent Response Package for further details.

MVEIRB 6 (IR-463)

Subject

Transboundary Caribou Impacts in the Mackenzie Valley

Issue / Concern

The Impact Statement describes potential short-term effects on Bathurst caribou herd movement and cumulative pressures, but provides little explanation of long-term changes in light of these cumulative pressures.

For instance, WKR provides a population trajectory over a hypothetical ten-year period with an initial population size of 10,000 animals. However, the current population sits at just over 6,000 individuals, and the project and its induced projects will exist for many more years, not just ten years. (Vol 6, p.16-155).

In addition, the IS predicts that the impacts of climate change and developments (including the Grays Bay Road and Port and Slave Geological Province Corridor, but not the three induced (RFI) mines in Nunavut) will lead to an annual 12% population decline. Considering that the Bathurst herd already is at a 98% decline since 1986, reviewers need more information on what this 12% decline means for the survival of the herd.

Information Request

- *Include an assessment of cumulative effects of transboundary impacts on caribou that includes not only foreseeable and reasonably foreseeable induced projects but also hypothetical projects (as defined in Vol 10, p.32-5). How does that change affect WKR's conclusion about transboundary impacts on caribou?*
    - *Based on this cumulative effects assessment, does WKR predict a possible change in migration routes for the Bathurst herd?*
- *Evaluate the different population trajectory (mentioned on p.16-155) over 50 years instead of 10 years. Include reasonably foreseeable induced developments and hypothetical projects in the evaluation.*
- *Provide evidence demonstrating the effectiveness of proposed mitigation measures specifically for migratory caribou under population stress. Additionally, clarify how measures are protecting the calving grounds during the calving season, and the post-calving range in the post-calving season.*
- *How were significance thresholds and levels of acceptable uncertainties adjusted (if at all) to reflect a herd that has already experienced extreme population decline? WKR should use a precautionary approach to predicting significance: when the risk of serious harm to the VC is clear from the evidence, even with uncertainties, a low significance threshold should be applied.*
- *The IS mentions that under the predicted future climate combined with development, population would decline by 12% annually, with calf mortality reaching 73% annually. How do these numbers add to the existing 98% decline of the herd?*

Proponent Response

Clarifying Purpose of the Caribou Herd Vulnerability Model

The purpose of the Caribou Cumulative Effects (CCE) model—referred to as the Caribou Herd Vulnerability Model (CHVM) in Volume 6, Section 16—is to identify the main drivers of change of caribou herds (e.g., climate, development-related disturbance), particularly the Bathurst Caribou Herd (BCH), in order to make inferences about potential Project-related and cumulative effects and to identify the potential effectiveness of mitigations in reducing those effects. The intent of the CHVM is not to quantify and predict the exact outcomes of every possibility or scenario. The CHVM is a hypothetical model, which is why hypothetical initial population sizes and trajectories/timelines are used.

Responses to Each MVEIRB Bullet

1. Hypothetical modelling of future conditions (projects) beyond what is known does not increase the certainty of the caribou assessment, nor does it change the necessity of the mitigations being proposed for the Project or those expected for any future activities. Furthermore, based on the proposed mitigations that are intended to facilitate caribou movement across the Grays Bay Road (e.g., adaptive road closures, strict traffic protocols), WKR does not predict a possible change in migration routes for the BCH.

2. The purpose of the CHVM is to assess the relative contribution of different drivers of change in caribou herds (e.g., climate, development-related disturbance). The CHVM is not intended to make accurate forecasts of population trajectory. For this reason, WKR contends that additional assessment of longer time scales is unwarranted.

3. Please refer to the response to Information Request IR-291 (GN-IR-11) for discussion on key caribou mitigations, including the Mobile Caribou Conservation Measures, and the validity of proposed mitigations. As described in that response, similar mitigations have been used at projects throughout northern Canada, including those interacting with caribou herds that have experienced declines. As mentioned throughout the Impact Statement but summarized well in Table 16.7: "*The Project has limited overlap with the calving/ post-calving range and habitat, and even less overlap with peak calving areas [which are the closest approximation to the BCH's calving grounds]. A key adaptive management tool for the Project includes a caribou TARP. MCCMs will be implemented as part of the TARP framework to initiate adaptive road closures when needed during migration, calving, and post-calving. Additional traffic management protocols (e.g., convoying, speed limits, wildlife right-of-way) will minimize disturbance and movement filters*" (Volume 6, Section 16.2.2.1, Table 16.7, document page 16-31).

4. WKR contends that the significance definition used in the caribou assessment considers the potential for serious harm to caribou:

   "*Significant: The Project's effect on a caribou herd causes or exceeds conservation-based thresholds or threatens the long-term persistence and viability of the population despite the application of mitigation, management, and enhancement measures."* (Volume 6, Section 16.1.7, document page 16-26)

5. As mentioned previously, the CHVM is a hypothetical model and is not intended to make accurate forecasts of population decline. Please also refer to the response to IR-402 (NTI-5) for a discussion of how the CHVM drastically overestimates exposure, changes to body condition, and population vital rates in all the scenarios assessed in Volume 6, Appendix 16B. The more accurate exposure levels calculated in the caribou assessment (Volume 6, Section 16), though still overestimates, are considerably lower and are unlikely to result in levels that would result in population changes that would be deemed significant, as per the definition used in the assessment.

MVEIRB 7 (IR-464)

Subject

Indigenous Knowledge across borders

Issue / Concern

Although the Project is in Nunavut, there is clear potential for transboundary and cumulative impacts in the Mackenzie Valley.

The Impact Statement provides detailed records of engagement and in each section describes the influence of engagement and Inuit, Indigenous, and community knowledge on the assessment.

However, for Indigenous Governments and Organizations outside of Nunavut, much of this information is vague and non-specific.

Reviewing Appendix 6C shows that much of the engagement with these groups was limited to recent notification letters, introductory meetings, or general discussions about the project.

Table 33.1 summarizes Inuit, Indigenous, and Community Knowledge and Engagement feedback, but much of the information in it is concerns raised by community members. It is not entirely clear to MVEIRB how WKR sought Traditional and Community Knowledge from Mackenzie Valley groups, or how knowledge from Mackenzie Valley groups specifically informed WKR's transboundary effects assessment.

Information Request

- *Describe in more detail the types, frequency and timing of opportunities that were provided for Mackenzie Valley Indigenous Governments and Organizations to provide Indigenous Knowledge (beyond general community concerns) to inform both project development and impact assessment.*
- *Describe in more detail any Indigenous or Community information from these groups that was incorporated into the effects assessment, or that influenced how the transboundary assessment was completed.*

Proponent Response

Types and timing of engagement opportunities provided:

The IS engagement record (IS Volume 3, Appendix 6C — Current Engagement Meetings 2024 to 2025; and Appendix 6E — Historical Engagement Activities) documents specific interactions with Mackenzie Valley Indigenous governments and organizations.

- Tłı̨chǫ Government: Project overview presentation, November 16, 2016 (Yellowknife). Tłı̨chǫ expressed concern regarding effects on the Bathurst caribou calving grounds, increased harvesting resulting from the Project, job opportunities for Tłı̨chǫ Investment Corporation businesses, and the absence of a land use plan (IS Volume 3, Appendix 6E). Project overview presentation, September 13th, 2024 (Virtual). The Tłı̨ chǫ Government Resource Management Working Group inquired about seasonal road closures to enable caribou migration.
- North Slave Métis Alliance: Project overview presentation, June 22, 2017 (Yellowknife). The Alliance expressed concern regarding caribou habitat (IS Volume 3, Appendix 6E).
- Yellowknives Dene First Nation: Project overview presentation, June 23, 2017 (Yellowknife). YKDFN inquired about funding and increased access, and raised concerns about effects on the Bathurst caribou calving grounds (IS Volume 3, Appendix 6E). Project overview presentation, October 15, 2024 (Virtual), provided an overview presentation to Yellowknives Dene First Nation and a discussion on the transboundary connection in the Slave Geological Province (SGP) and Nunavut. Two further virtual meetings on January 21st, 2025 (Vancouver) and February 5, 2025 (Yellowknife) to discuss the Grays Bay Road and Port Project and potential connections to the Slave Geological Province Corridor, now referred to as the Arctic Economic and Security Corridor.
- Bathurst Caribou Range Plan Working Group (including Wek'èezhìi Renewable Resources Board, Tłı̨chǫ Government, YKDFN, Łutsël K'é Dene First Nation, Beverly and Qamanirjuaq Caribou Management Board, Fort Smith Métis Alliance, North Slave Métis Alliance, Kitikmeot Regional Wildlife Board, Government of Nunavut, and Caribou Guardian Coalition): Workshop participation, June 25–26, 2025. Participants discussed the Bathurst Caribou Range Plan Review, short- and medium-term opportunities to improve Range Plan implementation, offsetting and compensation mechanisms, and wildfire management (IS Volume 3, Appendix 6C).
- Mackenzie Valley Environmental Impact Review Board (MVEIRB): Two formal engagements — November 5, 2025 (WKR presented its caribou effects assessment and migration video); and December 8, 2025 (WKR attended MVEIRB's Transboundary Engagement Workshop, listened to community feedback, and answered questions). Engagement opportunities on the Project are ongoing and WKR continues to welcome stakeholder perspectives being shared on its plans and activities. The NIRB process, itself, also provides meaningful opportunities for stakeholders to share their perspectives on the Project throughout a comprehensive review process.

How Indigenous and Community Knowledge from these groups was incorporated:

IS Volume 3, Section 5 describes the framework for how NWT Indigenous Knowledge was used. The IS further explains that Indigenous Knowledge from potentially affected groups was incorporated through two streams: (a) engagement feedback, and (b) over 65 publicly available sources containing Inuit, Indigenous, or Community Knowledge from groups exercising their Section 35 rights within Nunavut (IS Volume 3, Section 4.1.2 p. 4-2).

Specific examples of IK contributions from Mackenzie Valley groups that are documented in the IS as having informed the effects assessment include:

- Tłı̨chǫ Government observations that caribou travel to other areas to feed as their feeding areas close to mining projects are of poor quality — incorporated into IS Volume 6, Section 16.4.2 (Change in Habitat) to contextualize sensory disturbance effects on habitat use (IS Volume 6, p. 16-52, citing MVRB 2016).
- Tłı̨chǫ Government observations that woodland caribou and barren-ground caribou differ in size and colour — acknowledged in IS Volume 6, p. 16-52 (TG 2014).
- Yellowknives Dene First Nation concern that increased access from previous projects reduced YKDFN use of traditional areas — incorporated into IS Volume 9, Section 24 (TLMRU) to inform the assessment of Project-related access effects on Indigenous traditional land use, citing YKDFN 2017a (IS Volume 9, Section 24, p. 24-131).
- Yellowknives Dene First Nation observation that climate change and other projects have put increased pressure on caribou — incorporated into IS Volume 9, Section 25 (Food Security and Sovereignty) climate change effects analysis, citing YKDFN 2016 (IS Volume 9, p. 25-51).
- Tłı̨chǫ Government report the Tłı̨chǫ All-Season Road would improve access for Tłı̨chǫ citizens supporting cultural practice and way of life — used to inform the transboundary TLMRU assessment in IS Volume 9, Section 24, citing TG 2017c (p. 24.69)
- NIRB public scoping meeting participants in Yellowknife (reflecting NWT community perspectives) — observations that caribou populations are at a critical low and the Contwoyto Lake area is an important caribou calving and summer range — both acknowledged and incorporated into IS Volume 6, Section 16 (IS Volume 6, p. 16-56 to 16-65, citing NIRB 2025a).

Transboundary assessment:

Details regarding how Indigenous or Community Information influenced the completion of the Transboundary assessment are outlined in Volume 10, Section 33, Table 33.1 (p. 33-2), which references the specific content, citations, and the relevant VC chapters where they are addressed.

WKR commits to continued engagement with Kitikmiut, other Indigenous groups, and other potentially affected parties during the advancement of Project design, planning, and monitoring, throughout the life of the Project, including receiving other existing, additional sources of NWT Indigenous knowledge if shared.

Oceans North

West Kitikmeot Resources Corp. (WKR), thanks the Oceans North (ON) for its Information Requests (IRs) dated July 3, 2026 (NIRB Document 260713-24XN038-ON IRs Re Impact Statement- IR1E), submitted to the Nunavut Impact Review Board (NIRB) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038), and for sharing its concerns about the Project. WKR's responses to each of ON's IRs are provided below.

ON-01 (IR-465)

Subject

Marine Environment – Characterization, prediction, verification and adaptive management of underwater sound effects on marine mammals

Issue / Concern

The Impact Statement identifies underwater sound generated during marine construction and vessel operations as Project activities that may affect marine mammals. The assessment presents source levels for several construction activities and applies marine mammal auditory injury criteria in evaluating potential effects. However, the Impact Statement provides limited information describing how predicted underwater sound exposure has been translated into expected behavioural responses of marine mammals under Project-specific conditions, how uncertainty associated with those predictions has been characterized, and how that uncertainty has been incorporated into the significance determination.

Behavioural responses of marine mammals to anthropogenic underwater sound are influenced by multiple interacting factors, including species, behavioural state, season, habitat use, source characteristics, and environmental conditions. Consequently, generalized acoustic thresholds and received sound level metrics may not fully represent biologically relevant responses under Project specific conditions. Without species- and region-specific information to characterize those responses, conclusions regarding residual effects and the effectiveness of proposed mitigation measures may be subject to greater uncertainty.

Information Request

Please provide:

(a) higher-resolution spatial information describing the anticipated Project access corridors, including expected Project-related vessel approach and departure routes through the Coronation Gulf region, sufficient to support evaluation of the potential spatial extent of underwater sound exposure for marine fish and marine mammals;

(b) to the extent not already filed publicly on the NIRB record, the technical reports, data summaries and supporting documentation describing the marine mammal baseline studies relied upon in the Impact Statement, including the Nunami Stantec 2025 marine mammal survey report, the LGL 2012 marine mammal survey report, and any additional technical reports supporting the characterization of marine mammal occurrence, underwater sound or baseline environmental conditions within the Project area; and

(c) a description of the approach used, or proposed to be used, to characterize and evaluate behavioural responses of marine mammals to Project-related underwater sound during construction and operations, including how Project-specific behavioural context and uncertainty are incorporated into the assessment, and how monitoring and adaptive management will be used to evaluate and respond to those predictions.

Proponent Response

Project Vessel Routes and Access Corridors

The access corridor connecting the Grays Bay Port to the Northwest Passage shipping route is preliminary and reflects the current conceptual stage of Project design. Detailed navigation procedures, operational requirements, and traffic management measures will continue to be refined as Project planning advances. However, the preliminary corridor is considered sufficient for the purposes of the assessment because it captures the anticipated area of marine vessel activity and therefore provides an appropriate basis for evaluating potential Project-related effects, including underwater sound exposure, sensory disturbance, vessel interactions, and cumulative effects on marine mammals and other marine resources. Future refinements to the Project access corridor, if required, will consider navigational safety requirements, operational considerations, environmental protection measures, and opportunities to avoid or reduce interactions with marine mammals, marine fish, harvesting activities, and other marine users.

Marine Mammal Baseline Information

The marine mammal baseline characterization presented in Volume 8, Section 23 and Appendix 23A was developed using a weight-of-evidence approach integrating Project-specific field studies, Inuit, Indigenous, and Community Knowledge, regional scientific literature, historical observations, and available government datasets. Project-specific marine mammal studies included aerial surveys, vessel-based observations, and acoustic monitoring completed during 2025. Historical information, including the 2012 marine mammal survey program and other regional information sources, was also incorporated into the assessment.

The information relied upon in the assessment includes marine mammal occurrence records, habitat use information, seasonal distribution patterns, species ecology, Inuit Knowledge, acoustic monitoring results, and available regional environmental information relevant to the Marine Mammal LAA and RAA.
The principal information sources relied upon in the marine mammal assessment are summarized in Volume 8, Section 23 and Appendix 23A, including Project-specific field studies completed in 2025, marine mammal surveys completed in 2012, Inuit, Indigenous, and Community Knowledge, published scientific literature, historical records, government datasets, and regional environmental information. These information sources were synthesized to characterize marine mammal occurrence, distribution, habitat use, seasonal movement patterns, and likelihood of occurrence within the Marine Mammal LAA and RAA.

WKR's marine mammal baseline study incorporating the 2025 aerial, vessel-based, and acoustic monitoring programs is provided as Appendix 23A (Marine Mammal Baseline Report) to the Impact Statement. The LGL Limited report documenting the 2012 marine mammal aerial survey (Elliott et al. 2013), which was used as a historical information source and for comparison with the 2025 survey results, will be submitted to the NIRB public record, or provided separately through the WKR website.

Additional supporting records, observations, and information from these sources were used to inform professional judgment and the weight-of-evidence assessment approach but do not necessarily exist as stand-alone datasets or tabular products. Accordingly, the assessment relied on the broader body of available information rather than solely on Project-specific survey observations.

Behavioural Response Assessment, Monitoring, and Adaptive Management

Behavioural responses to underwater sound were assessed using a conservative, effects-based approach that considered Inuit, Indigenous, and Community Knowledge, species ecology, available scientific literature, Project-specific baseline information, underwater sound characteristics, and the potential for overlap between marine mammals and Project activities. The assessment recognized that behavioural responses can vary among species, individuals, activity states, environmental conditions, and sound characteristics. The assessment therefore focused on evaluating the potential for behavioural disturbance through pathways such as underwater noise generated by vessel traffic, impact pile-driving, blasting, dredging, and other in-water Project activities. Behavioural responses considered in the assessment included avoidance behaviour, temporary displacement, changes in movement patterns, changes in dive behaviour, and other responses that may occur because of underwater sound exposure.

Available acoustic criteria and information from comparable noise sources were used as screening-level tools to estimate the potential spatial extent of underwater sound exposure and behavioural disturbance. The assessment used the 160 dB re 1 µPa (rms) criterion for impulsive sources and the 120 dB re 1 µPa (rms) criterion for non-impulsive sources, together with available proxy-source information, to qualitatively estimate the distances over which behavioural responses could occur. These screening-level estimates were not interpreted as fixed boundaries within which all marine mammals would respond, nor were they used in isolation to determine effects significance. Rather, they were considered together with Inuit, Indigenous, and Community Knowledge, species ecology, habitat use, seasonal occurrence, available scientific information, Project-specific baseline information, expected activity duration and frequency, and the availability of alternative habitat to characterize the likely nature, spatial extent, duration, and reversibility of behavioural disturbance.

Uncertainty was incorporated into the assessment through conservative assumptions regarding marine mammal occurrence, habitat use, potential overlap with Project activities, and predicted behavioural responses to underwater sound. Species known to occur or otherwise identified for consideration within the Marine Mammal RAA were considered even where Project-specific observations were limited or absent, and the assessment assumed marine mammals could be present within areas influenced by Project activities. The assessment also recognized uncertainty in translating generalized acoustic criteria and proxy-source information into species- and context-specific behavioural responses. Accordingly, predicted behavioural disturbance was evaluated as a range of possible responses rather than as a uniform response occurring at a fixed received sound level or distance. This uncertainty was considered in characterizing residual effects and in the overall determination of effects significance, as well as when identifying mitigation, monitoring, and follow-up requirements.

Monitoring and follow-up programs will be further developed and documented in the Wildlife Mitigation and Monitoring Plan and other associated environmental management plans. WKR also intends to collect additional underwater acoustic baseline data prior to Construction to further characterize the existing soundscape and support the refinement of Project-specific monitoring, mitigation, and adaptive management measures. Currently, marine mammal monitoring is expected to include visual monitoring and, where appropriate, hydroacoustic monitoring during applicable in-water activities. Behavioural observations are anticipated to be recorded as supporting information during marine mammal monitoring activities and will be used, together with other available monitoring information where applicable, to evaluate mitigation effectiveness, verify effects predictions, and inform adaptive management where warranted.

Monitoring results will be reviewed throughout Project implementation to determine whether mitigation measures are functioning as predicted and whether observed marine mammal responses are consistent with the effects assessment. If monitoring identifies greater-than-predicted effects or unanticipated behavioural responses, mitigation measures and monitoring approaches may be refined through the Project's adaptive management framework in consultation with regulators and Inuit, Indigenous, and Community groups.

ON-02 (IR-466)

Subject

Human Environment: Economic and Employment Information - Disclosure of total capital cost, closure cost, and revenue projections

Issue / Concern

Section 6.5 of the Final IS Guidelines requires the Impact Statement to provide "capital costs, estimated operating costs, including closure costs and the total expected revenues (current market values)." The Impact Statement discloses a total capital expenditure of $1.2 billion for the five-year Construction phase and an estimated annual operating expenditure of $38.2 million during Operations and Maintenance (Section 27.3.6.3), and provides Statistics Canada Inter-Provincial Input-Output Model (SCIPIOM) outputs for GDP, employment, and government revenue contributions resulting from Project expenditures. However, the $1.2 billion capital estimate is not broken down by major Project component (e.g., road, port marine infrastructure, port landside infrastructure, aerodrome, Jericho Station), the Impact Statement does not disclose any closure or decommissioning cost estimate – consistent with its description of the Project elsewhere as intended to operate "in perpetuity" with "no plan to decommission or abandon the Project" (Section 24.1.4.2) – and it does not disclose the Project's revenue model, including the basis for the port and road use fees that Section 29 indicates are still "to be established through agreements between WKR and mining/exploration companies."

Without a component-level cost breakdown, a closure/decommissioning cost estimate, and revenue model information, the Board and the public cannot independently assess the economic feasibility of the Project, verify the SCIPIOM model's capital and operating expenditure inputs against the figures disclosed in Section 27.3.6.3, or evaluate the adequacy of any future financial security requirements for closure and decommissioning.

Information Request

Please provide:

(a) a breakdown of the disclosed $1.2 billion total capital expenditure (Section 27.3.6.3) by major Project component (e.g., road, port marine infrastructure, port landside infrastructure, aerodrome, Jericho Station);

(b) confirmation of whether the $1.2 billion capital expenditure and $38.2 million annual operating expenditure figures disclosed in Section 27.3.6.3 are the same capital and operating expenditure estimates used as inputs to the SCIPIOM model (Section 27.3.1.1), and if not, an explanation of the difference;

(c) a description of the anticipated revenue model for the Project, including the proposed basis, rate setting methodology, or timeline for the port and road use fees referenced in Sections 27 and 29 as to be established through agreements between WKR and mining/exploration companies, and whether such fees will also apply to other third-party or public users;

(d) a closure or decommissioning cost estimate, and a description of who would bear cost overruns, operating deficits, maintenance liabilities, closure costs, abandonment risk and long-term care-and-maintenance obligations;

(e) any current business case, feasibility study, cost-benefit analysis, financing plan, public-funding analysis, private-financing analysis or net-benefit analysis prepared for, by or on behalf of WKR;

(f) a sources-and-uses table for construction, commissioning and early operations, identifying public grants/contributions, public loans, private equity, private debt, shareholder contributions, contingent funding and any remaining funding gap;

(g) any funding conditions tied to induced developments, public/security uses, traffic volumes, tolls, tariffs or minimum revenue levels; and

(h) if WKR considers any information provided in response to paragraphs (e) through (g) to be confidential, a non-confidential summary and an indication of whether the information can be provided to NIRB through an appropriate confidentiality process.

Proponent Response

The IS identifies a construction capital cost of approximately $1.2 billion over the five-year construction period and annual operating expenditures of approximately $38.2 million during operations and maintenance (Volume 9, Section 27.3.6.3). These expenditures form the basis of the economic effects assessment, with GDP, employment, labour income, and government revenue effects estimated using the Statistics Canada Interprovincial Input-Output Model (SCIPIOM) (Volume 9, Sections 27.3.1.1 and 27.3.3.3).

The current construction cost estimate reflects the Project at approximately 10% (conceptual) engineering design and underpins the economic assessment presented in Volume 9, Section 27. At a high level, the estimate comprises approximately $800 million for road construction and $400 million for port construction. The estimate was developed using a first-principles costing approach by a national construction firm with extensive Nunavut heavy civil construction experience and was subsequently reviewed by WKR's financial and engineering advisors to account for uncertainty, inflation, and contingencies.

Consistent with its characterization as permanent infrastructure, the IS states that the road and port are intended to remain in operation indefinitely, with no planned closure or reclamation. Areas used temporarily during construction will be reclaimed in accordance with permit requirements (Volume 2, Section 2.6.4; Volume 9, Section 24.1.4.2).

The IS also notes that road and port user fees will be established through future agreements between WKR and mining or exploration companies (Volume 9, Sections 27 and 29). Community users are anticipated to have no-cost access to the road, while industrial users are expected to pay tolls (Volume 2, Section 2.6.3). Specific fee structures, rate-setting methodologies, implementation timing, and applicability to other users have not yet been determined.

To date, the Project has secured funding with respect to the development period only, including grants from Transport Canada's National Trade Corridors Fund, Natural Resources Canada's First and Last Mile Fund, and the Government of Nunavut, a loan from the Canada Infrastructure Bank, and equity investment from ATCO Ltd. Detailed cost estimates remain commercially confidential because WKR is currently undertaking a public Request for Proposals process to select a construction contractor using a Progressive Design-Build delivery model. Following contractor selection, WKR and its advisors will advance the Project to approximately 60% (feasibility-level) design and prepare a definitive feasibility study outlining capital costs, operating costs, and the Project financing plan.

The feasibility study will inform a Final Investment Decision (FID) by WKR and public and private funding partners with respect to the major construction and operations phases of the project.

ON-03 (IR-467)

Subject

Human Environment: Economic and Employment Information – Clarifications on GDP estimates inconsistencies

Issue / Concern

The Project Fact Sheet states that the Project is expected to generate approximately $750 million in additional annual GDP growth by 2040. However, the SCIPIOM-based assessment in Section 27.3.3.3 estimates total Project-related GDP effects (direct, indirect, and induced) in Nunavut of approximately $74.8 million annually during the five-year Construction phase, declining to a lower figure during Operations and Maintenance. These two figures differ by an order of magnitude, and the Impact Statement does not explain the relationship between them (e.g., whether the $750 million figure includes GDP attributable to reasonably foreseeable induced mining projects such as Hackett River and the Izok Corridor Project, rather than the Grays Bay Road and Port Project alone).

This inconsistency, if unresolved, creates a material risk that decision-makers, Inuit organizations, and the public will rely on an economic benefit figure that substantially overstates the direct contribution of the Project under review.

Information Request

Please provide a reconciliation of the $750 million annual GDP figure presented in the Project Fact Sheet with the SCIPIOM-based GDP estimates in Section 27.3.3.3, including:

(a) An explanation of what activities, time periods, and geographic scope are included in the $750 million figure (e.g., does it include induced mining projects, and if so, which ones and on what assumptions regarding their development timelines and production levels?);

(b) A breakdown showing the relative contribution of the Grays Bay Road and Port Project itself versus reasonably foreseeable induced projects to the $750 million figure; and

(c) Confirmation of which figure (the Fact Sheet figure or the SCIPIOM Section 27.3.3.3 figures) should be relied upon by the Board in assessing the economic justification for the Project under review.

Proponent Response

The two GDP figures presented in the Impact Statement relate to different aspects of the Project's economic context and therefore measure different outcomes.

The $74.8 million annual GDP contribution, shown in Volume 9, Section 27.3.3.3 and Tables 27.14–27.17, represents the estimated economic effects of the Grays Bay Road and Port Project itself, as calculated using the Statistics Canada Interprovincial Input-Output Model (SCIPIOM). This estimate reflects the Project's construction-phase economic activity, with GDP contributions expected to be lower during operations and maintenance.

The approximately $750 million annual GDP figure, shown in Volume 9, Section 27.4.2.3 and Table 27.27, by contrast, represents the estimated operating-phase GDP contribution associated with the three reasonably foreseeable induced (RFI) mining projects included in the assessment: the Izok Lake Mine, High Lake Mine, and Hackett River Project. This estimate reflects the economic activity associated with those mining projects once they become operational in 2040 and does not represent the GDP contribution of the Grays Bay Road and Port Project itself.

The Impact Statement presents both estimates to illustrate two distinct but related economic outcomes: the direct economic effects of constructing and operating the Grays Bay Road and Port Project, and the potential longer-term economic activity associated with future resource development that could be enabled by the Project. As such, the two estimates are complementary and reflect different components of the overall economic assessment.

ON-04 (IR-468)

Subject

Human Environment / Cumulative Effects - Economic Dependency on Induced Projects

Issue / Concern

The Impact Statement relies on reasonably foreseeable induced projects — the Hackett River Project and the Izok Corridor Project (High Lake and Izok Lake) — for the Project's estimated economic benefits, traffic assumptions, and cumulative-effects assessment, yet the status, probability, timing, financing, and permitting assumptions for each are not presented in sufficient detail to test the Project's benefits and impacts. The SCIPIOM model incorporates these projects' capital and operating expenditures (Section 27.2.1), but the Impact Statement does not disclose how much of the Project's estimated GDP, employment, revenue, and resupply benefits depend on them proceeding as assumed, nor does it provide a sensitivity analysis of how those benefits would change if one or more were delayed, scaled back, or not developed.

Final IS Guidelines Section 6.4 requires sufficient information on foreseeable future development so the Project is not assessed in a way that overstates independent benefits (i.e., "project splitting" in reverse - attributing benefits of other projects to this one). A sensitivity analysis is necessary for the Board to understand how much the Project's economic case depends on other proposals not before it for decision.

Information Request

For each reasonably foreseeable induced project included in the Impact Statement, economic model, traffic forecast, marine assessment or cumulative-effects assessment (including the Hackett River Project and the Izok Corridor Project), please provide:

(a) project name, owner/proponent, commodity, location and relationship to the road/port corridor;

(b) current exploration, licensing, assessment, financing and permitting status;

(c) assumed construction date, operating date, production volume, mine life, closure date and development probability;

(d) assumed trucking volumes, shipping volumes, fuel/resupply volumes and port use; and

(e) the basis for including the project as reasonably foreseeable or reasonably foreseeable induced.

Using the information provided in response to (a) through (e), please also provide:

(f) a breakdown of the SCIPIOM-modelled economic benefits (GDP, direct/indirect/induced employment, and government revenue) attributable to (i) the Grays Bay Road and Port Project alone (i.e., construction and operation of the road, port, aerodrome, and Jericho Station, absent any induced mine traffic) and (ii) each reasonably foreseeable induced project included in the model;

(g) a sensitivity analysis or scenario comparison illustrating how the Project's economic benefit estimates would change under at least two alternative scenarios: (i) no reasonably foreseeable induced projects proceed within the Project's operating life, and (ii) only a subset of the induced projects proceed (e.g., Izok Corridor but not Hackett River, or vice versa); and

(h) a table separating adverse ecosystemic and socio-economic effects attributable to the Grays Bay Road and Port Project alone from those attributable to each reasonably foreseeable induced project, consistent with the cumulative effects assessment in Volume 10.

Proponent Response

The Impact Statement (IS) identifies three reasonably foreseeable induced (RFI) mining projects as the basis of the RFI development scenario: the Izok Lake Mine and High Lake Mine (both components of MMG's Izok Corridor Project), and the Hackett River Project (Glencore) (Volume 2, Section 1.6.2, Table 1.6; Volume 10, Section 32). These projects were selected because they have previously advanced through the NIRB regulatory review process and therefore have sufficient publicly available information to support assessment. The IS also notes that these projects are considered reasonably foreseeable because they are expected to depend, at least in part, on the availability of the proposed road and port infrastructure (Volume 10, Section 32.2.1).

Consistent with this approach, the Employment and Economy assessment incorporated economic effect estimates for RFI projects where sufficient information was available to support a robust analysis. The economic estimates were developed using available project information, including construction and operating cost estimates, development schedules, and other publicly available project characteristics. Where information was not available at a level of detail necessary to develop reliable estimates, project-specific economic effects were not quantified.

For the three RFI mining projects included in the assessment, the IS provides information on the project proponents, commodities, in-situ mineral resource values, and their relationship to the proposed transportation corridor. Specifically, the Hackett River Project is identified as a zinc, silver, lead, and copper project owned by Glencore, while the Izok Lake and High Lake projects are identified as copper, zinc, and lead projects owned by MMG (Volume 2, Section 1.6.2, Table 1.6).

The IS further documents the development assumptions applied in the economic and cumulative effects analyses. These assumptions include construction of the Izok Lake and High Lake projects between 2031 and 2035, construction of the Hackett River Project between 2037 and 2040, and operation of all three projects by 2040 (Volume 9, Section 27.3.3.3). Supporting spatial information, including mine spatial extents, access road information, and traffic assumptions, is provided in Volume 4, Appendix 9A, Attachment 9A2. As noted in the IS, information used to characterize the RFI projects, including available cost and development assumptions used in the economic assessment, was obtained primarily from regulatory filings available through the NIRB public registry (Volume 10, Section 32.2.1; Volume 4, Appendix 9A).

Information regarding the current exploration, licensing, environmental assessment, permitting, financing, and development status of the RFI projects, as well as project-specific details such as production volumes, mine life, closure timing, and development likelihood, is largely controlled by the respective project proponents. Consequently, the assessment relies on information available through the NIRB public registry and other publicly available sources and reflects the level of detail available at the time the IS was prepared.

ON-05 (IR-469)

Subject

Human Environment: Closure and Reclamation - Socio-economic effects and dependency risks

Issue / Concern

The Impact Statement describes the Project as consisting primarily of permanent infrastructure intended to operate "in perpetuity," and on this basis does not provide a conceptual closure and reclamation plan addressing the requirements of Final IS Guidelines Section 11.4 (e.g., demonstration that closure has been considered at early stages of design; description of how environmental effects would be reduced if the Project ceased operations; re-establishing pre-Project land use where applicable). A preliminary Care and Maintenance Plan is referenced but not developed.

From a socio-economic perspective, the "in perpetuity" framing does not address the risk that communities, having become economically engaged with and potentially dependent on Project-related employment, training, and procurement opportunities (and on induced mining activity facilitated by the Project), could experience significant adverse effects if Project operations were to be reduced, suspended, or wound down in the future (whether due to market conditions affecting induced mines, or other causes).

A socio-economic transition/dependency risk assessment is necessary to ensure that the benefits described in Section 27 are evaluated alongside the risks associated with the economic relationships the Project will create, particularly given the dependence of the Project's own economic case on reasonably foreseeable induced mining projects.

Information Request

Please provide:

(a) An assessment of the potential socio-economic effects on Kitikmeot communities if Project operations were delayed, significantly reduced, temporarily suspended (e.g., consistent with the Care and Maintenance Plan referenced in Section 11.4.1), or permanently ceased, including effects on employment, training investments, and businesses that have become reliant on Project-related contracts; and

(b) A description of any measures proposed to mitigate this economic dependency risk (e.g., diversification support, transition planning, or financial mechanisms), and how these measures would be developed in consultation with the Kitikmeot Inuit Association and affected communities.

Proponent Response

The Impact Statement (IS) assesses the Project's potential socio-economic effects in Volume 9, Section 27, including effects on economic development, employment, education and training, and contracting and business opportunities (Sections 27.3 and 27.4). The IS also establishes a Socio-economic Monitoring Plan (SEMP) to track indicators related to training, employment, and procurement and to support adaptive management where unanticipated socio-economic pressures may arise (Volume 9, Section 27.7; Volume 11, Appendix 37K, Draft).

For a temporary or unplanned reduction or suspension of Project operations, the draft Progressive Reclamation Plan provides the physical care-and-maintenance framework, consistent with Section 11.4 of the NIRB Guidelines (Volume 11, Appendix 37F). The Road and Port Management Plans will guide the safe management and maintenance of Project infrastructure during circumstances such as reduced operations, a pandemic, or a labour disruption.

The SEMP provides the mechanism for identifying and responding to related socio-economic effects. For clarity, unanticipated pressures monitored through the SEMP could include material changes arising from a significant reduction or temporary suspension of Project activities, such as changes in employment, training participation, Inuit and local procurement, and reliance of businesses on Project contracts. Monitoring results and engagement with the Kitikmeot Inuit Association and affected communities would inform whether adaptive measures are required. Depending on the circumstances, responses could include adjusting training or procurement initiatives, coordinating workforce-support measures, communicating anticipated changes and timelines, and working with affected businesses and communities to reduce disruption.

The IS also identifies broader measures supporting local and Inuit participation and community resilience, including the Labour Relations Strategy, Procurement Strategy, and training programs under the draft Inuit Human Resources and Business Development Plan (Volume 9, Sections 27.3.3.2, 27.3.4.2, and 27.3.6.2; Volume 11, Appendix 37J). These measures, together with the SEMP, provide a framework that could be adapted to the nature, scale, and duration of an operational disruption.

ON-06 (IR-470)

Subject

Marine Habitat & Cumulative Effects – Ice fragmentation analysis and modelling of icebreaking-related impacts

Issue / Concern

The Impact Statement commits that "no icebreaking will occur during normal port operations" and that the Port will operate only during the open-water season (late June to October), with the exception of Canadian Coast Guard (CCG) vessels accessing the Port for crew changes during the shoulder season. On this basis, the Impact Statement does not include a sea ice fragmentation analysis, an ice-vessel interaction model, or any quantitative assessment of icebreaking-related environmental, operational, or ecological effects.

However, this approach leaves at least two pathways unassessed. First, the Inclusion List for the cumulative effects assessment (Section 32) and the Project's own traffic projections of third-party and induced vessels (e.g., CCG, Arctic Offshore Patrol Ships, and vessels associated with the Hackett River and Izok Corridor Projects) that may seek to access the Port during shoulder-season periods when residual sea ice could be present, regardless of the Proponent's own "no icebreaking" commitment for Project vessels. Second, the Impact Statement's sea ice baseline (Section 23.2.2.2) is derived from historical or regional data sources rather than from a Project-specific characterization of shoulder-season ice conditions, ice thickness, or break-up/freeze-up timing at the Port site and along the access corridor.

Without an assessment of icebreaking-related effects for "non-Project" vessels, the Board cannot evaluate the adequacy of the "open-water season only" commitment as a mitigation measure for the full range of vessels reasonably expected to use the Port over its operating life, nor can it assess potential effects on ice-dependent species (e.g., ringed seal pupping habitat) from any icebreaking that may occur outside the Proponent's own operations.

Information Request

Please provide:

(a) A Project-specific characterization of sea ice conditions at the Port site and along the marine access corridor during the shoulder seasons (approximately late May to early July, and October to December), including typical ice thickness, timing of break-up and freeze-up, and inter-annual variability, sufficient to define the practical boundaries of the "open-water season only" operating window;

(b) An assessment of whether, and under what circumstances, third-party or induced vessels identified in the Cumulative Effects Assessment Inclusion List (Section 32) – including CCG vessels and vessels associated with reasonably foreseeable induced projects such as Hackett River and Izok Corridor – might require icebreaking to access the Port outside the open-water season, and if so, an analysis of the potential environmental and ecological effects of such icebreaking (including on icedependent species such as ringed seal); and

(c) A description of any monitoring, reporting, or approval/enforcement protocol that would apply if a vessel (Project-related or third-party) requested or required icebreaking support to access the Port outside the committed open-water season, including how such a request would be evaluated against the Project's environmental commitments.

Proponent Response

The IS states that the Port's marine-based infrastructure will be operated during ice-free conditions (generally late June through October) and will not be available for commercial use between November and June annually (Volume 2, Section 2.6.1.1 / 2.6.3; Volume 11, Port Management Plan). Consistent with this, WKR commits that no icebreaking will occur during normal port operations (Commitment 314). This commitment applies to the Project's own commercial operations; it does not preclude Canadian Coast Guard (CCG) access. As set out in Volume 2, Section 2.6.3, Grays Bay Port will be made available to the CCG during the shoulder season (early June into November) to support its icebreaking services, including search and rescue, environmental response, community resupply, ship escorts, and marine communications and traffic services. To clarify WKR's position: WKR will not itself conduct icebreaking during normal operations; however, where the CCG is required to break ice in accordance with its Levels of Service, WKR can support those operations as needed.

The process WKR will use to manage open-water use of the marine-based Port infrastructure will be detailed in the Port Management Plan. This will include a notification and moorage-booking system through which vessels book their arrival and departure at Grays Bay Port, with commercial vessel arrival/departure dates limited to maintain movement of commercial traffic within the open-water season. Coast Guard vessels requiring shoulder-season access for the services noted above will be accommodated as an exception to this commercial booking process.

ON-07 (IR-471)

Subject

Project Operations / Human Environment - Road and port access, tolls, tariffs, user agreements and capacity allocation

Issue / Concern

The Project is presented as multi-user infrastructure. However, the Impact Statement does not provide sufficient information on who may use the road and port, how access will be granted or refused, what users will pay, how capacity will be allocated, and how user rules will be enforced.

Information Request

Please provide:

(a) the proposed road and port access policy;

(b) all user classes, including mine users, exploration users, community users, harvesters, commercial users, public users, emergency users, Coast Guard, Canadian military and other security users;

(c) whether access is discretionary, contractual, common-carrier-like, priority-based or subject to WKR approval;

(d) draft access agreements, term sheets, tariff schedules or standard conditions of use;

(e) proposed tolls, tariffs, wharfage, handling charges, port fees, fuel fees, road fees and exemptions;

(f) whether rates will be regulated, negotiated or set unilaterally by WKR;

(g) how capacity will be allocated among competing users;

(h) whether safety, security, lender, revenue, capacity or priority-user considerations may restrict public or community access; and

(i) how access rules and fee assumptions were incorporated into the Project's economic model, traffic forecasts, community-benefit claims and cumulative-effects assessment.

Proponent Response

The IS identifies the following user categories and access mechanisms:

- Mining/exploration (industrial) users — access on a tolled basis, with port and road use fees to be established through agreements between WKR and mining/exploration companies;
- Security and other public government users — access through agreements to be established between WKR and the relevant government department or agency; and
- Community users — no-cost access to the road for travel and transportation purposes, subject to agreeing to abide by safe operating procedures.

For the port, the draft Port Management Plan describes marine-based and landside operations, cargo handling, third-party staging, a public-use area, and a Small Craft Harbour, and identifies roles for cargo/fuel vessel operators, the Canadian Coast Guard, and other users and third parties (Volume 11, Port Management Plan). Access is therefore characterized in the IS as controlled/contractual and subject to safe-operating-procedure conditions.

Draft access agreements, term sheets, tariff schedules, standard conditions of use, and prioritization criteria are commercial details which have not yet been developed. Some of these details will be commercially sensitive and will not be publicly disclosed.

Specific toll/wharfage/handling/fuel/road-fee levels and exemptions will be negotiated between mining users and WKR. Security and community users will have access to the port and road at no cost.

Community users have no-cost road access subject to safe operating procedures. Road closures due to safety and security considerations (e.g., storms) will occur. Road use is expected to be far below the theoretical design capacity of the road, therefore access restrictions due to prioritization between user groups are not anticipated.

Community users will also have no-cost Small Craft Harbour access. Mining and security vessels will be too large to use this facility, therefore prioritization between user groups will not be necessary.

The Project's economic model (SCIPIOM) is based on Project capital and operating expenditures (Volume 9, Section 27); the IS does not indicate that specific toll/fee revenue assumptions were incorporated as inputs, and the revenue model is not presented (Volume 9, Sections 27, 29). Traffic forecasts are presented in the Project description (Volume 2) and the cumulative effects assessment (Volume 10, Section 32) on the basis of anticipated Project and reasonably foreseeable induced activity rather than fee-driven demand modelling.

ON-08 (IR-472)

Subject

Project Governance / Benefit Distribution – Benefit allocation and commercial assumptions

Issue / Concern

The Project is presented as public-purpose, multi-user infrastructure with anticipated benefits relating to access, resupply, employment, procurement, induced development, public or security uses, and regional economic activity. The Impact Statement does not include a consolidated description of the ownership, governance, financing, commercial-interest and benefit-allocation arrangements that are relevant to understanding how the Project would be developed, funded, used, operated and monetized over time.

A consolidated description of these arrangements would assist NIRB and parties in understanding the assumptions underlying the Project's purpose and need, public/private benefit distribution, user access, tolls and tariffs, induced-development assumptions, procurement, monitoring, mitigation and long-term operations.

Information Request

Please provide a consolidated description of the ownership, governance, financing, commercial interest, user-access and benefit-allocation arrangements relevant to the Project. The response should identify arrangements, interests or relationships involving WKR, its affiliates, shareholders, directors, officers, lenders, major contractors, consultants, advisors, prospective users, public funders or other participating entities that relate to:

(a) Project ownership, control, governance, financing or public funding;

(b) land, water, mineral, transportation, port, road, access, procurement or other commercial interests that may be affected by the Project;

(c) user access, tolls, tariffs, leases, wharfage, road-use fees, security requirements, priority-use arrangements or other Project revenues;

(d) reasonably foreseeable induced projects, prospective users or other projects whose benefits, traffic, shipping, trucking, revenues or cumulative effects are considered in the Impact Statement;

(e) procurement, construction, operation, maintenance, monitoring, mitigation or adaptive-management arrangements; and

(f) preparation or review of baseline studies, economic modelling, traffic forecasts, cumulative-effects assessment, management plans or monitoring plans.

For each arrangement, interest or relationship identified, please describe the parties involved, the nature of the arrangement or interest, the aspect of the Project or Impact Statement to which it relates, and how it has been reflected in the Impact Statement's assumptions, analysis, mitigation, monitoring, access rules, procurement approach or benefit-distribution discussion. Please also identify any other actual, potential or perceived conflict of interest or related-party interest relevant to the Board's assessment of the Project.

Proponent Response

Ownership, control, governance, financing

Project ownership, control, and governance are as set out in Volume 2, Section 1.1 (WKR, Inuit-owned/Inuit-led; largest shareholder a wholly owned KIA subsidiary; Kitikmeot Inuit leadership on the Board).

Public funding secured was described in the IS — including from Transport Canada, the Canada Infrastructure Bank, and the Government of Nunavut. Subsequent to the IS filing, WKR announced a grant from Natural Resources Canada's First and Last Mile Fund, and an equity investment from ATCO Ltd. Detailed cost estimates and the plan for construction funding are being developed concurrently with the environmental assessment (Volume 2, Section 1.1.2).

User access and benefit-allocation arrangements

The IS identifies the controlled-access, multi-user framework and user categories (mining/industrial users on a tolled basis under agreements; government/security users under agreements; community users no-cost road access; harvesting by KIA/HTA permit) through the draft Road Management Plan and draft Port Management Plan (Volume 11) and Volume 9, Section 29. Port and road use fees are "to be established through agreements between WKR and mining/exploration companies" (Volume 9, Section 29). The detailed commercial-interest, lease, wharfage, road-use-fee, and priority-use arrangements are commercial details which have not yet been developed, some of which will be commercially sensitive matters not for public disclosure. Further discussion is provided in ON-07 (access/tolls) and ON-02 (revenue model).

Related-party interests

The IS documents the related-party structure inherent in the Project: WKR is Inuit-owned and Inuit-led, established by the Kitikmeot Inuit Association (KIA), with a wholly owned KIA subsidiary as its largest shareholder, and co-located with Kitikmeot Corporation, the KIA's economic development arm (Volume 2, Section 1.1; Volume 9, Appendix 25A). This structure reflects the Project's purpose of delivering Inuit-owned shared-use infrastructure and directing the benefits to Kitikmeot Inuit.

The KIA's shareholding does not displace independent oversight. As administrator of Inuit Owned Lands and a Designated Inuit Organization under the Nunavut Agreement, the KIA applies its land-tenure, access, and stewardship standards to WKR on the same basis as any other proponent; WKR gains no relief by virtue of its ownership. The Project also remains subject to arm's-length review by the NIRB, the Nunavut Water Board, and federal authorities that neither the KIA nor WKR controls.

Further detail requested

Given the commercial sensitivity of the information, WKR cannot provide all “arrangements, interests or relationships involving WKR, its affiliates, shareholders, directors, officers, lenders, major contractors, consultants, advisors, prospective users, public funders or other participating entities that relate to: - Project ownership, control, governance, financing or public funding; - land, water, mineral, transportation, port, road, access, procurement or other commercial interests that may be affected by the Project; - user access, tolls, tariffs, leases, wharfage, road-use fees, security requirements, priority-use arrangements or other Project revenues; - reasonably foreseeable induced projects, prospective users or other projects whose benefits, traffic, shipping, trucking, revenues or cumulative effects are considered in the Impact Statement; - procurement, construction, operation, maintenance, monitoring, mitigation or adaptive-management arrangements; and - preparation or review of baseline studies, economic modelling, traffic forecasts, cumulative-effects assessment, management plans or monitoring plans.”

ON-09 (IR-473)

Subject

Human Environment / Food Security - Community resupply, cost of living and pass-through assumptions

Issue / Concern

The Impact Statement identifies improved community resupply, supply-chain resilience, food security and reduced transport costs as potential Project benefits. However, the Impact Statement does not provide sufficient evidence showing how those savings would occur, which communities would benefit, or whether any savings would be passed through to residents.

Information Request

Please provide:

(a) which communities are expected to experience reduced freight, food, fuel, construction or resupply costs;

(b) whether goods would move through Grays Bay rather than existing marine or air routes;

(c) last-mile transportation assumptions;

(d) expected tolls, tariffs, port fees, handling charges and other costs affecting community resupply;

(e) whether access for community resupply is guaranteed, discretionary or subject to user agreements; and

(f) any quantitative estimate of expected cost savings by community and commodity type.

Proponent Response

(a) **Which communities are expected to experience reduced costs**

The community-resupply assessment considers the five Kitikmeot communities: Kugluktuk, Cambridge Bay, Kugaaruk, Taloyoak, and Gjoa Haven (Volume 9, Section 28). The IS frames the potential resupply benefit as providing an alternative supply chain, improving supply chain resiliency, to the western Arctic, rather than identifying specific communities that would experience quantified reduced freight, food, fuel, or resupply costs. On store-bought (market) food costs specifically, the IS states the Project will not change communities' eligibility for the Nutrition North Canada (NNC) retail subsidy (Volume 9, Section 25.3.4).

(b) **Whether goods would move through Grays Bay rather than existing routes**

Goods and materials may be transported using different methods depending on the type of good, seasonal conditions, and the intended destination. The IS discusses air freight, sealift, ground-based transportation, and warehousing, and characterizes the Grays Bay Port as an additional access point and resupply option rather than a replacement for existing routes (Volume 9, Section 27.3.7, pg. 27-92). Marine-based infrastructure could extend the sealift resupply period from approximately September only to approximately three months, for example from July to September, with additional sealifts limited to the open-water season (Volume 9, Section 28.4.5, pg. 28-58). Ground-based transportation from Yellowknife to the Grays Bay Port using the TCWR and Grays Bay Road would be limited to the winter-road season; however, port landside facilities would allow goods and materials to be warehoused at the Grays Bay Port year-round. During 2024–2025 EIS engagement in Gjoa Haven, participants noted that the Project could allow goods to be transported from Yellowknife to the Grays Bay Port for use as a stockpile location, including heavy equipment and machinery appropriate for Arctic use, such as water and sewage trucks (GBRP 2025; Volume 9, Section 28.3.6.3, pg. 28-58). Certain goods, such as fresh and other perishable food items, would continue to require air transport. The IS states that construction and operations camps will require air freight for consumables and perishable food items, and that Project-specific supply planes would deliver goods staged from Yellowknife directly to the Project site. The IS also notes that goods used to resupply Co-op and Northern grocery stores are flown into the Kitikmeot Region from Manitoba; therefore, the Project is not anticipated to decrease the capacity of existing air freight providers to deliver fresh and perishable goods to Kitikmeot communities (Volume 9, Section 28.3.6.3, pg. 28-57). Marine-based infrastructure would increase the infrastructure available in the RAA for community resupply using sealift and could also support delivery of building materials for housing construction (Volume 9, Section 28.3.6.3, pg. 28-58; Volume 9, Section 28.3.4.3, pg. 28-49). The IS notes that increased resupply using sealift, ground-based transportation, and warehousing would improve the timing, reliability, and frequency of community resupply where means are available to transport goods and materials from the Grays Bay Port to the Kitikmeot communities (Volume 9, Section 28.3.6.3, pg. 28-59).

(c) **Last-mile transportation assumptions**

The IS does not define specific last-mile transportation arrangements; these are anticipated to be developed as the opportunity is taken up. The road and port are not physically connected to any Kitikmeot community, and realization of the resupply benefit depends on the availability of means to move goods onward from the Grays Bay Port (Volume 9, Section 27.3.7, pg. 27-118). The IS anticipates that transport of goods from the Port to the communities "may be accomplished on an individual basis or through the establishment of new businesses to transport or haul goods and materials" (Volume 9, Section 28.3.7, pg. 28-64), which is itself identified as a potential local business and employment opportunity.

(d) **Expected tolls, tariffs, port fees, and handling charges affecting community resupply**

The IS does not present specific tolls, tariffs, port fees, or handling charges that would apply to community resupply; these are commercial arrangements addressed in ON-07 [IR-471] (access/tolls). Any such arrangements would be developed at a future stage a community resupply opportunities are brought forth by communities or organizations.

(e) **Whether access for community resupply is guaranteed, discretionary, or subject to user agreements**

Community resupply is one of the Project's intended benefits. As described in Volume 2, Section 1.6.3, the Project is designed to meet three interrelated objectives — economic, community and social, and sovereignty and security — with the road and port together intended to deliver these purposes, including:

> "*Providing an alternative supply chain, improving supply chain resiliency, to the western Arctic, independent of barging on the Mackenzie River or sealifts from eastern Canada.*" (Volume 2, Section 1.6.3)
>
> "*Enabling marine transport to deliver supplies and goods to the communities immediately after ice out, improving timing, reliability, and frequency of community re-supply.*" (Volume 2, Section 1.6.3).

Access for community resupply purposes is provided for within the controlled-access framework set out in the Road Management Plan (Appendix 37A) and Port Management Plan (Appendix 37I). The IS therefore presents community resupply as an enabled and supported opportunity — the infrastructure, access provisions, and extended resupply window are in place — with realization dependent on community and business uptake of onward transport from the Grays Bay Port (Volume 9, Section 27.3.7).

(f) **Quantitative estimate of expected cost savings by community and commodity type**

Cost savings for community resupply have not been quantified. The Project is not the supplier or carrier of community goods, and any savings would depend on future commercial arrangements, shipping volumes, and onward transport options that are not yet established. The benefit is therefore described qualitatively in the IS as improved timing, reliability, and frequency of community resupply (Volume 9, Sections 27.3.7, 28.3.6.3).

ON-10 (IR-474)

Subject

Project Purpose and Need / Cumulative Effects - Defence, Coast Guard, search-and-rescue, security and dual-use assumptions

Issue / Concern

The Impact Statement and Fact Sheet identify operations for the purposes of asserting sovereignty and security, Coast Guard activities, public use, and military uses as potential benefits or anticipated users, but the Impact Statement does not quantify those uses or explain how they were incorporated into the design of the project, nor how they were assessed, including potential impacts from vessel traffic, noise, spill-risk, safety, security and cumulative-effects analyses.

Information Request

Please identify whether uses by the Department of Defence, including the Canadian Coast Guard's operations, or other public-agency uses form part of the Project's purpose, need, design basis, traffic forecast, business case, or financing case. Please identify its inclusion within the cumulative-effects assessment. Please also provide:

(a) expected vessel, aircraft and vehicle movements associated with those uses;

(b) any required design changes, including airstrip, berthing, fuel, security, communications, warehousing or emergency-response infrastructure;

(c) whether those users would pay fees or receive priority access;

(d) whether security-related restrictions would affect public, community, harvester or commercial access; and

(e) how these uses were included in effects predictions and mitigation.

Proponent Response

Sovereignty and security is one of the three stated Project purposes (Volume 2, Section 1.6.1). Public-agency/security use is therefore part of the Project's stated purpose and need, as a potential benefit and anticipated user of the multi-user, multi-use infrastructure.

The IS characterizes the Project as capable of accommodating naval/Coast Guard vessels (e.g., providing wharfage, resupply, and crew accommodations, and a medium vessel wharf designed, as feasible, to accommodate smaller Coast Guard and naval vessels) (Volume 2, Section 1.6.1.2; Volume 11, Port Management Plan).

For the traffic forecast, security vessels are included in Table 23.16 among reasonably foreseeable induced/cumulative vessel traffic (Volume 8, Table 23.16; Volume 4, Appendix 9A, Attachment 9A2, Table 9A2.21).

The Project business and financing case anticipates that project construction will be significantly funded by the federal government, consistent with project development, which is supported by grants from Transport Canada and Natural Resources Canada, among other sources. WKR expects that decisions to fund Project construction will be determined by the extent to which the Project meets a broad range of public purposes and objectives, including Canadian security and sovereignty, community travel and transportation, and economic development.

Security-vessel traffic (AOPS/CCG) is included in the cumulative effects marine vessel-traffic assumptions (Volume 8, Table 23.16; Volume 4, Appendix 9A, Attachment 9A2) as non-Project use of the Port, and the marine effects (underwater noise, sensory disturbance) of the combined Project and reasonably foreseeable induced vessel traffic are assessed on that basis (Volume 8, Section 23.3.3 / 23.4). Given unknown vessel specifications, sensory-disturbance effects of non-Project vessels were estimated from maximum modelled disturbance distances for similar vessels (Mary River Project; Sabina Back River) rather than vessel-specific modelling (Volume 8, Section 23.3.3.2).

WKR notes that further details on public-agency/defence uses, requirements, and plans are within the remit of the Department of National Defence, the Canadian Coast Guard, and Transport Canada, to whom this Information Request is also directed.

ON-11 (IR-475)

Subject

Project Purpose and Need / Alternatives - Public corridor model versus mine-user infrastructure model

Issue / Concern

The Project is presented as public-benefit, multi-user infrastructure, but its economic case appears to depend substantially on reasonably foreseeable induced mineral developments. The Impact Statement does not provide a transparent comparison between GBRP and alternatives under which mine proponents or industrial users finance infrastructure required for their own projects.

Information Request

Please provide an alternatives analysis comparing the proposed Project against:

(a) mine-specific private roads and/or port facilities financed by mine proponents or industrial users;

(b) a jointly financed private industrial-access corridor funded by reasonably foreseeable induced project proponents;

(c) a staged or modular version of the Project tied to confirmed user commitments, financing commitments and permitting status of induced developments;

(d) continued seasonal marine resupply and/or winter-road access without construction of a permanent all-season road to Grays Bay;

(e) a public-infrastructure model with regulated or capped access charges;

(f) a private toll-road/port concession model; and

(g) the no-project alternative.

For each alternative, please provide capital cost, operating cost, maintenance cost, closure/decommissioning cost, revenue assumptions, public/private funding assumptions, traffic assumptions, user-fee assumptions, economic benefits, adverse ecosystemic and socio-economic effects, cumulative effects and reasons for rejection.

Proponent Response

WKR acknowledges Oceans North's request for an alternatives analysis comparing the Project against seven alternative financing and delivery models. The scope of the Project, and the scope of the assessment, have been defined in accordance with the NIRB Scope and Guidelines issued for the Project, as described in Volume 1 and Volume 2 of the Impact Statement. All required Project assessments, including those relating to financing and delivery, have been completed within that scope.

ON-12 (IR-476)

Subject

Project Purpose and Need - Reconciliation of prior public-sector financing concerns

Issue / Concern

Public records indicate that the Government of Nunavut withdrew from its prior role in the Grays Bay Road and Port Project after identifying concerns regarding the financing commitment required of the GN, implications for the GN's ability to pursue other needed infrastructure, debt-cap implications, and advice that mining companies benefitting from the Project could finance road construction themselves without negatively affecting mine profitability.

The current Impact Statement presents the Project as public-benefit, multi-user infrastructure and relies on public-benefit claims, induced-development assumptions and user-pay access. However, the Impact Statement does not appear to reconcile the prior public-sector financing concerns with the Project's current public-benefit rationale, public-funding assumptions or risk-allocation model.

Information Request

To WKR:

(a) Please explain how the current Project financing model, business case and public-benefit rationale address the public-sector financing concerns identified in the public record, including concerns about public funding, opportunity cost, debt-cap implications, public risk, and whether mining companies or other industrial users could finance some or all of the infrastructure themselves.

(b) Please identify and summarize any analysis WKR has prepared, received or relied upon that addresses those prior concerns, including the Government of Nunavut's 2018 withdrawal from its prior proponent role.

To the Government of Canada, CIRNAC, Canada Infrastructure Bank and any other responsible public authority:

(c) Please identify and summarize any analysis prepared, received or relied upon in relation to the current Project that addresses public funding, public loans, guarantees, concessional financing, public-risk allocation, user-pay revenues, induced mineral development, private-user financing, public/security uses, or the allocation of costs, benefits and risks among public, Inuit and private interests.

(d) Please identify and summarize any analysis that addresses or revisits the Government of Nunavut's 2018 withdrawal from its prior proponent role or the public-sector financing concerns identified in the public record.

(e) Please explain whether the authority has considered whether public funding, public loans, guarantees or concessional financing would subsidize private mineral development, create a precedent for public funding of future mine-access infrastructure in Nunavut, or could be replaced in whole or in part by financing from mining companies, exploration companies, prospective road or port users, or other industrial users benefitting from the Project.

If WKR or a responsible public authority has not prepared, received, reviewed or relied upon information responsive to one or more of these requests, please state so expressly.

Proponent Response

WKR's business and financing case anticipates that the Project will be significantly funded by the federal government, with the balance from the private sector (on the order of 75% public / 25% private). WKR's position is that decisions to fund Project construction will be determined by the extent to which the Project delivers a broad range of public purposes — Canadian security and sovereignty, community travel, transportation and resupply, and economic development — rather than by any single industrial beneficiary. This reflects the Project's characterization in the Impact Statement as "multi-user, multi-use infrastructure" and a "transformational nation-building" undertaking with benefits to Inuit, Nunavummiut, and all Canadians (Volume 1, Section MD.1.6; Volume 2, Section 1.6).

The current Project is advanced based on three distinct benefit pillars set out in the Project Purpose and Need (Volume 1, Section MD.1.6): (1) Economic — unlocking the critical mineral wealth of the Kitikmeot; (2) Community and Social — a year-round transportation route strengthening supply-chain resilience and safer marine and land travel for Kitikmeot communities; and (3) Sovereignty and Security — the first deepwater port in the western Arctic, capable of berthing and resupplying Canadian Coast Guard, Royal Canadian Navy Arctic and Offshore Patrol Ships, submarines, and icebreakers. Only the first pillar is industrial. The community-resupply and sovereignty/security benefits are public goods that accrue to Nunavummiut and to Canada as a whole and cannot be captured or funded by mining proponents — which is why federal public investment is appropriate, consistent with how Canada funds other nation-building and defence-enabling infrastructure. Industrial users are expected to contribute through the private-sector share of the capital cost, mine-site development, and road/port user fees established through commercial agreements; but the public-benefit pillars justify the public contribution.

The opportunity-cost and debt-cap concerns raised in 2018 related specifically to the GN's own fiscal capacity as a co-funder of project construction. The current financing model does not rely on GN capital funding: it is premised on federal infrastructure funding and a private-sector contribution, with WKR as proponent. This structurally removes the opportunity-cost and debt-cap burden on the GN that contributed to the 2018 withdrawal.

On public risk, WKR is advancing detailed cost estimates and a project business case concurrent with the environmental assessment (Volume 2, Section 1). Federal funding decisions rest with the funding bodies assessing the Project's public value against these deliverables, and Project development is phased so that construction funding follows completion of the assessment, permitting, and business-case work.

ON-13 (IR-477)

Subject

Integration of additional marine environmental information during the Environmental Impact Statement review

Issue / Concern

The Final EIS Guidelines require the Proponent to characterize marine wildlife, underwater marine acoustics, Project-related shipping effects, mitigation measures, monitoring programs, and adaptive management. These assessments are based on the information available at the time the Impact Statement is prepared. However, additional information relevant to marine wildlife and underwater sound may become available during the course of the review through government research programs, Inuit organizations, community-based monitoring initiatives, independent scientific research, and other technical submissions.

Given the evolving nature of Arctic marine science and long-term monitoring programs, additional information may assist NIRB in evaluating Project effects, uncertainty, mitigation effectiveness, and adaptive management measures.

Information Request

Please describe how NIRB will consider additional marine environmental information that is submitted or otherwise becomes available during the Impact Statement review process, including information not generated directly by the Proponent but relevant to the assessment of Project effects, mitigation measures, monitoring or adaptive management.

Proponent Response

Question is directed to NIRB, not WKR.

ON-14 (IR-478)

Subject

Marine Environment – Information required to improve confidence in predictions of marine mammal responses to Project-related underwater sound

Issue / Concern

The Impact Statement identifies underwater sound generated during marine construction and vessel operations as a potential pathway through which Project activities may affect marine mammals. The assessment relies on acoustic modelling, source characterization, and generalized marine mammal hearing criteria to evaluate potential effects. DFO's scientific advice would assist NIRB in determining whether additional information should be developed during the Environmental Impact Statement process to improve confidence in predictions of marine mammal behavioural responses under Project-specific conditions.

Information Request

Please identify any additional information that DFO considers important to improve confidence in predictions of marine mammal behavioural responses to Project-related underwater sound during the Impact Statement review process.

Proponent Response

Question directed to DFO, not WKR.

Nunavut Impact Review Board

West Kitikmeot Resources Corp. (WKR), thanks the Nunavut Impact Review Board (NIRB) for its Information Requests (IRs) dated July 20th, 2026 (NIRB Document 260720-24XN038-NIRB Ltr to Proponent Parties Re IRs Received-OMAE.pdf) regarding the public technical review of the Grays Bay Road and Port Project Impact Statement (NIRB 24XN038).

WKR has heard several requests from NIRB to pull the Impact Statement (IS) together into numerous tables and summaries so it is easier to use, and WKR understands why that might be considered helpful in some cases. At the same time, WKR has worked very hard to prepare a comprehensive IS that addresses the Guidelines NIRB issued to WKR. In many cases, it wouldn't be possible to summarize the depth of knowledge shared or technical matter described in the IS without losing important meaning or creating unnecessary repetition. The IS, while lengthy, is meant to be read and understood as fully as possible. With this in mind, WKR has endeavoured in the IR responses to clearly identify where particular requested information is already found in the IS.

WKR has also learned from Elders, knowledge holders, and other community members that the most important parts of knowledge can often be lost when it is shortened this way. The knowledge shared with WKR is not a single answer to a single question at a single point-in-time — it is part of a larger story. It carries with it a lifetime of watching and learning from the land, the water, the ice and the animals, and the teachings passed down from those who came before. Understanding comes from following and building on that story over time, because the path matters as much as where it ends. WKR has tried to write the IS in that same spirit, so that it honours how Inuit, Indigenous and community knowledge are meant to be shared. This reflects the Inuit Qaujimajatuqangit principles described in Volume 3 — among them Aajiiqatigiinniq, that understanding is reached through discussion and time together; Pilimmaksarniq, that knowledge grows through watching, learning and experience; Inuuqatigiitsiarniq and Tunnganarniq, that knowledge is shared through respect and with openness to different ways of knowing; and Avatittinnik Kamatsiarniq, that the land, water and animals are understood as one connected whole, not as separate pieces.

For these reasons, WKR has kept the fuller story largely in place rather than reducing it to a series of tables (which in themselves would be very lengthy and complex). WKR's approach reflects the IS Guidelines provided to WKR and is consistent with previous NIRB reviews that have been conducted. It ensures sufficient details are provided on the Project for all reviewers. WKR asks the reader to walk this path with us, so that the meaning behind each conclusion — the how and the why, not only the what — is not lost along the way.

WKR's responses to each of the NIRB's IRs are provided below.

NIRB 1. (IR-479)

Subject

Effects assessment / positive effects / traceability

Issue / Concern

Reviewer Comments / Reasoning:
The IS contains a broad project description and discipline specific summaries of predicted effects. However, the treatment of positive effects is not equivalent to adverse effects in several human environment sections. Some benefits are stated as expected or beneficial but are not consistently characterized using the same residual-effects criteria used for adverse effects.

Missing Information / Gap:
No consolidated project-wide table links each project component/activity to both positive and negative biophysical and socioeconomic consequences, affected receptors, residual effects criteria, mitigation/enhancement, monitoring, and significance.

Information Request

Provide a consolidated project-effects register that lists each project component and activity; identifies positive and negative biophysical, socioeconomic, cultural, health, well-being and Inuit rights-related consequences; characterizes each effect using magnitude, duration, geographic extent, reversibility, frequency, likelihood/certainty and significance; and identifies the mitigation, enhancement, monitoring and follow-up measure supporting each conclusion.

Proponent Response

A consolidated project-effects register is not provided in the Impact Statement (IS), as the IS characterizes both positive and adverse effects within the valued component (VC) assessments. Each VC assessment includes a table that compares the Project Activities by project phase to the potential effects and then proceeds through the effects assessment process to evaluate the residual effects, cumulative effects, and significance determination. Consistent with Volume 4, Section 9.4.1.4 (p. 9-13), "[r]esidual positive effects are not carried forward to a significance determination," This is a commonly used impact assessment methodology in Canada, under which the significance determination is applied to adverse residual effects while positive effects are described qualitatively and inform the overall assessment. This approach is applied transparently at the VC level. For example, the Food Security assessment, having described positive effects of Project employment and income on harvesting accessibility, states that "[p]ositive effects associated with employment and increased income are not characterized further" (Volume 9, Section 25); and the Non-traditional Land, Marine and Resource Use assessment identifies positive effects of improved mining access but notes that "[p]ositive residual effects are not characterized further" (Volume 9, Section 29, Table 29.8). The IS therefore characterizes positive effects descriptively within the VC assessments but, by the stated methodology, does not apply the residual-effects significance criteria to them.

The IS includes the information requested in the following locations:

- **Project components and activities** — Volume 2, Section 2 Project Components and Activities; the project-activity list by phase is set out in the assessment-methodology interaction template (Volume 4, Table 9.1).
- **Positive and negative biophysical and socio-economic consequences by component/activity** — the discipline-specific effects summaries in the Main Document (Volume 1) and the VC assessments (Volumes 5–10).
- **Affected receptors and residual-effects criteria** — each VC assessment applies the standardized residual-effects characterization criteria, in which "[d]irection of change" is defined as "positive, neutral, adverse or a combination of positive and adverse," alongside magnitude, duration, frequency, geographic extent, reversibility, timing, and likelihood (Volume 4, Section 9.4.1).
- **Mitigation / enhancement** — Volume 1, Appendix B Mitigations and Commitments; VC-level mitigation, management, and enhancement sections in Volumes 5–10.
- **Monitoring** — Volume 11 management and monitoring plans.
- **Significance** — the significance sections of each VC assessment (Volumes 5–9) and the Volume 10 conclusions, noting the methodology position above that significance applies to adverse residual effects. Systems-level interconnections among VCs are consolidated in the Holistic Assessment (Volume 10, Section 31).

NIRB 2. (IR-480)

Subject

Systems assessment / methodology

Issue / Concern

Reviewer Comments / Reasoning: The IS is organized by discipline and includes a separate holistic assessment. This helps reviewers locate technical material, but the record does not consistently show how system interactions changed VC-level predictions, mitigation, or significance conclusions. Missing Information / Gap: Cross-VC pathways are described at a high level but are not consistently carried through to residual effects and significance determinations.

Information Request

Provide a cross-VC interaction matrix that identifies each interaction pathway among atmospheric, terrestrial, freshwater, marine, human health, TLMRU, food security, infrastructure, economy, and cultural components; explains whether the interaction was carried into residual-effects characterization; identifies where interactions changed mitigation, monitoring or significance conclusions; and explains why any documented interaction was not carried forward.

Proponent Response

The interaction pathways among the components identified in the IR are identified in the Holistic Assessment in Table 31.1, Valued Component Summary and Relationships, Table 31.2, Matrix of VC Interconnections, and Figure 31.1, Organization of Holistic VCs (Volume 10, Section 31.2). Residual effects are characterized in each VC assessment using the criteria established in Volume 4 (Volume 4, Section 9.4.1), consistent with the NIRB IS Guidelines. With respect to cross-VC interconnections, the IS states that “Linkages among VCs are recognized, although for most VCs, these interconnections are not factored into the VC assessment conclusions” (Volume 10, Section 31.2). Assessing each Valued Component individually — against its own boundaries, indicators, and significance criteria — keeps each determination clear and avoids double-counting effects that are better evaluated at a systems level, consistent with the methodology in Volume 4 and Section 7.1 of the NIRB IS Guidelines. The interconnections among VCs are not disregarded but are carried forward and assessed where they can be evaluated meaningfully — in the Holistic Assessment (Volume 10, Section 31; summarized in Volume 1, Section MD.10.1) and the Cumulative Effects Assessment, which expressly acknowledge the interconnectedness of the individual VCs. The Holistic Assessment (Volume 10, Section 31) is the mechanism through which these cross-VC and systems-level interactions are examined. Table 31.1 identifies, for each primary VC, the effect pathway(s), the predicted residual effect(s), and the linked VC(s). The IS states that "Predicted residual effects are characterized as either adverse ("A"), positive ("P"), or neutral ("N")," with directional arrows used "where a primary VC may affect a linked VC," "where a linked VC may affect a primary VC," and "where the primary VC and linked

VC have the potential to affect each other" (Volume 10, Section 31.2). Table 31.2 presents the same interconnections in matrix form (Volume 10, Section 31.2).

Significance is determined at the individual VC level. The IS states that "threshold criteria or standards are defined within the VC assessments beyond which a residual adverse effect would be considered undesirable and/or unacceptable (i.e. 'significant')" (Volume 4, Section 9.4.1.4). On that basis, "residual project and cumulative adverse effects were found to be not significant for each VC" (Volume 10, Section 31.2). Importantly, the Holistic Assessment "is not intended to replace the individual VC assessments (Volumes 5 to 9) and should not be considered a stand-alone assessment, as it aims to present a complementary perspective of Project effects from a systems perspective" (Volume 10, Section 31.1).

Three circumstances in the IS methodology explain why a documented interaction is not carried forward: "Residual positive effects are not carried forward to a significance determination" (Volume 4, Section 9.4.1.4); "Residual positive effects are not carried forward to a cumulative effects assessment" (Volume 4, Section 9.4.3); and, where scoping identified no valid pathway, the IS provides "Rationale … where an examination of potential effects pathways (or concerns identified by Inuit) that were identified during the scoping process revealed there was no valid effects pathway with project activities, and further assessment was not carried out" (Volume 4, Section 9.4.1). Please see NIRB 1. (IR-479) for further discussion on the treatment of positive effects.

The Holistic Assessment (Volume 10, Section 31) took the individually assessed VCs and evaluated them together as systems — through three Holistic VCs (Land and Freshwater, Ocean/Marine, and Social/Cultural/Health) — to test whether cross-VC interactions change the overall picture. It confirmed that with the implementation of mitigation, management, and enhancement measures, residual project and cumulative effects are not predicted to affect the capability of terrestrial, freshwater, and ocean systems to maintain their structure and functions and to support biological and ecological diversity and health.

The key insight is that, given the high degree of interdependencies among VCs and variability in spatial/temporal scaling, there is potential for combined effects on a system to be greater than the effects predicted for any single VC, and that climate change adds uncertainty to how systems will respond over time — which reduces confidence in systems-level predictions.

The holistic assessment’s influence on mitigation/management was indirect but meaningful. Rather than generating new standalone mitigations, the Holistic Assessment reinforced the need for comprehensive follow-up, monitoring, and adaptive management to verify systems-level predictions and detect and respond to change, pointing specifically to the Air Quality Management Plan, Water Management Plan, and Wildlife Mitigation and Monitoring Plan (and marine monitoring programs) as the mechanisms for doing so (Volume 10, Section 31). In short, it validated the individual-VC conclusions at a systems level and strengthened the case for the Project’s monitoring and adaptive-management commitments, which are where residual systems-level uncertainty is managed.

NIRB 3. (IR-481)

Subject

Inuit Knowledge / traceability

Issue / Concern

Reviewer Comments / Reasoning: The IS states that Inuit, Indigenous and Community Knowledge was reviewed, considered and integrated where appropriate. The record demonstrates use of knowledge in baseline descriptions and some mitigation, but it does not provide a traceable account showing how each major knowledge input affected design, operations, monitoring, closure, baseline or final conclusions.

Missing Information / Gap: No complete knowledge-integration matrix links knowledge inputs to specific changes in design, effects analysis, mitigation, monitoring, significance or closure/post-closure planning.

Information Request

Provide an Inuit, Indigenous and Community Knowledge integration matrix that identifies the knowledge source or engagement source, respecting confidentiality; the issue or value raised; the project component or VC affected; how the information changed design, baseline, effects assessment, mitigation, monitoring, adaptive management or significance; where the information was not adopted and why; and how the information will continue to inform operations, monitoring, care and maintenance, closure and postclosure.

Proponent Response

WKR's consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Response Package. Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase.

NIRB 4. (IR-482)

Subject

Mitigation / monitoring / commitments

Issue / Concern

Reviewer Comments / Reasoning: The IS includes many mitigation commitments and management plans. However, several measures are embedded in narrative text or draft plans, and several management plans remain preliminary, with details such as thresholds, locations, responsibilities, monitoring design and adaptive actions not finalized.

Missing Information / Gap: Commitments are not fully consolidated into an auditable register with implementation timing, responsible party, measurable performance indicators, thresholds, reporting and adaptive management actions.

Information Request

Provide a consolidated mitigation, enhancement and commitments register that includes each measure; affected VC; project phase; implementation timing; responsible party; performance indicator; monitoring method; threshold/action level; reporting frequency; adaptive response if the measure is ineffective; and cross-reference to the plan or permit where the measure will be enforceable.

Proponent Response

The IS includes a consolidated register of the Project's mitigation measures and commitments: Volume 1, Appendix B, *Mitigations and Commitments*. For each entry, Appendix B gives:

- An ID number and the measure itself.
- Its type: design measure, mitigation measure or commitment.
- The valued component(s) (VCs) it applies to, plus Accidents and Malfunctions, Effects of the Environment on the Project, and Management Plans.
- The phase(s) it applies to: Construction, or Operations and Maintenance (Volume 1, Appendix B).

Where a measure is carried out through a management plan, Appendix B names that plan in the measure itself. For example: "Dust management and suppression measures will be outlined in the Air Quality Monitoring and Management Plan" (Volume 1, Appendix B, ID 70). Another example: "A Project-specific Environmental Protection Plan will be developed, wherein mitigation measures are stipulated for construction and operations and maintenance activities and apply adaptive management to update measures based on monitoring outcomes" (Volume 1, Appendix B, ID 82).

Volume 11 sets out responsibility for carrying out the measures. WKR will "[h]old overall responsibility and accountability for the implementation of the Project management and monitoring plans" and will "[m]aintain compliance with all relevant permits, licences, and regulatory requirements pertaining to the construction, operation and maintenance of the road and port" (Volume 11, Section 37.1.9). Section 37.1.9 also describes the day-to-day roles of the General Manager (or equivalent) and of site personnel. Table 37.1 (monitoring plans) and Table 37.2 (management plans) name who develops each plan: WKR, WKR together with the Construction Contractor, or the Construction Contractor (Volume 11, Table 37.1, Page 37-4; Table 37.2).

Performance indicators, monitoring, thresholds, reporting and adaptive response are set out plan by plan in Volume 11. Each management plan includes:

- objectives and scope
- applicable regulatory requirements
- roles and responsibilities
- mitigation measures
- monitoring and reporting, including how the results will be used to refine or change mitigation
- "[p]roposed criteria or thresholds to trigger mitigation measures if monitoring results warrant" (Volume 11, Section 37.1.3)

Where monitoring is proposed, "indicators will be selected to evaluate mitigation effectiveness and/or identify unanticipated effects to inform adaptive management and feed back into adjusting mitigation measures or activating backup mitigation measures" (Volume 11, Section 37.1.4). Monitoring results "will be reported to regulators and discussed with relevant regional socioeconomic monitoring committees, as required." Management and monitoring plans "will be reviewed internally on an annual basis to confirm the effectiveness of the management measures and update as appropriate" (Volume 11, Section 37.1.5).

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process. They will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11, WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and final version(s) after the final hearing is completed, if necessary.

Management and monitoring plans "will be reviewed internally on an annual basis to confirm the effectiveness of the management measures and update as appropriate" (Volume 11, Section 37.1.5).

The permits, licences and authorizations required for the Project, and the agencies responsible for each, are listed in Volume 2, Section 1.4, Table 1.3. Management plans "will form the basis for subsequent licensing / regulatory processes" (Volume 11, Section 37.1.6).

NIRB 5. (IR-483)

Subject

Data sufficiency / uncertainty

Issue / Concern

Reviewer Comments / Reasoning: The IS contains extensive baseline and effects material. Remaining technical-review limitations arise where conclusions depend on future detailed design, future permitting, draft management plans, incomplete monitoring thresholds, future development assumptions, or closure/post-closure arrangements. Missing Information / Gap: No consolidated data-gap and design-uncertainty register identifies which conclusions depend on future data, future design, or future management-plan completion.

Information Request

Provide a data-gap and design-uncertainty register by VC and project component that identifies missing baseline or design information; the effect conclusion potentially affected; the required additional study, survey, model update or plan completion; timing for completion; how results will be reviewed before construction; and whether the residual-effects or significance conclusion may change.

Proponent Response

The IS records data gaps, assumptions and uncertainties in each valued component (VC) assessment. The methodology requires that "[e]ach VC assessment includes a statement on any gaps, assumptions, or uncertainties encountered and assigns a level of confidence in the final effects conclusion" (Volume 4, Section 9.4.4, Page 9-18). Where quantitative methods are not feasible, uncertainty is discussed in terms of:

- assumptions made in the assessment;
- the quantity and quality of baseline data;
- confidence in measurements and analytical techniques, such as modelling;
- confidence in the success of mitigation measures;
- potential changes in future environmental conditions, such as climate change; and
- any conservative measures used to increase confidence (Volume 4, Section 9.4.4, Page 9-18).

These statements are in the Prediction Confidence and Uncertainty subsection of each VC assessment in Volumes 5 through 9. Volume 10 covers the cumulative effects, transboundary, and accidents and malfunctions assessments.

Where prediction confidence is low, "the precautionary approach is applied, and follow-up and monitoring are proposed," and "[a]daptive management plans are also proposed for implementation to provide a framework to act on follow-up and monitoring feedback and implement corrective management options as appropriate" (Volume 4, Section 9.4.4; Section 9.5). Where conservative measures were used to increase confidence in a prediction, the VC assessment indicates as such (Volume 4, Section 9.4.4). Using this approach, the residual effects and significance conclusions included in the IS are not anticipated to change.

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 6. (IR-484)

Subject

Holistic assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS includes a holistic assessment framework, but it remains partly separate from the VC-specific assessments. A senior review requires a clear line of sight from holistic system findings to revised VC conclusions, mitigation, monitoring and significance.

Missing Information / Gap: The holistic assessment is not supported by a decision record showing which system-level findings changed the assessment or why they did not.

Information Request

Provide a holistic-assessment decision table that identifies each system-level concern, the VCs affected, the evidence base, the resulting assessment conclusion, whether the VC-level conclusion changed, and the specific mitigation or monitoring response.

Proponent Response

The IS Guidelines require separate Valued Component (VC) assessments as well as a holistic discussion and analysis in order to meaningfully and effectively understand the full spectrum of potential project impacts on Kitkimiut, other Indigenous groups, and other potentially affected communities. For the holistic discussion, Section 7.4 of the IS Guidelines encourage consideration of: VCs that are interconnected; potential individual and collective impacts; potential impacts or changes to the function of key systems; potential impacts to community objectives and desired outcomes; and any associated mitigation measures or monitoring programs. The IS Guidelines also encourage the use of a systems analysis to identify potential collective impacts and impacts to overall ecological function and land use by people. While examples of systems thinking in impact assessment are provided (e.g., Erlich 2022; Meadows 2008), the IS Guidelines do not prescribe a specific format or template for the holistic assessment and precedence on holistic assessments in regulatory project-level impact assessment are limited.

WKR views Volume 10, Section 31 as an appropriate interpretation and delivery of IS Guideline requirements for a holistic discussion. Alternative formats as requested by NIRB in IR-484, NIRB-572, NIRB 598, NIRB IR-654 and NIRB IR-791 are redundant and hence not provided here. Further explanation of rationale and approach taken for the Holistic Assessment is found within Volume 10, Section 31.

The Holistic Assessment did not run parallel to the VC assessments but re-examined the mitigation, management and monitoring measures already proposed at the VC level “through a lens of mitigating potential systems-level effects,” using three Holistic VCs and a collective-system analysis. It yielded insight the individual VC assessments could not provide on their own: that interdependencies among VCs and climate-change uncertainty create the potential for combined effects to exceed single-VC predictions, and that residual effects on harvesting resources and areas can cascade into the human environment (Sections 31.3.3 and 31.4). This confirmed that with the implementation of mitigation, management, and enhancement measures, residual project and cumulative effects are not predicted to affect the capability of terrestrial, freshwater, and ocean systems to maintain their structure and functions and to support biological and ecological diversity and health”. In this way, the Holistic Assessment validated the adequacy of the VC-level measures at a systems scale and elevated monitoring and adaptive management as the deliberate mechanism for managing the potential for residual systems-level and cascading uncertainty.

NIRB 7. (IR-485)

Subject

Inuit Knowledge / conclusions

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 describes the sources and general integration approach, including the NTKP-derived knowledge source. The description is useful, but it does not fully show how knowledge was evaluated for applicability, how conflicting information was treated, or how conclusions changed as a result.

Missing Information / Gap: Insufficient traceability between knowledge inputs, interpretation/validation steps, and final technical conclusions.

Information Request

Provide a knowledge-evaluation and conclusion-traceability table identifying each key knowledge input; method of collection; validation or permission status; applicability to project component, VC, season or geography; whether the input supported, modified or conflicted with western-science evidence; and how the final conclusion was reached.

Proponent Response

The Impact Statement (IS) documents how Inuit Knowledge, Indigenous Knowledge, and Community Knowledge were gathered, what permission and confidentiality conditions apply (if relevant), how that knowledge was applied at each stage of each Valued Component (VC) assessment, and how differing perspectives were treated (where they existed). That information is presented in two complementary places: the methods and integration description in Volume 3, Sections 4 and 5, and the VC-level knowledge and engagement feedback tables presented within each VC assessment, which record individual comments, their source, WKR's response, and where the matter is addressed in the IS.

Volume 3, Section 4.1 identifies the knowledge sources relied on and the approach used to document information from them, distinguishing Inuit Knowledge (Section 4.1.1), Indigenous Knowledge (Section 4.1.2), and Community Knowledge (Section 4.1.3). As noted, the primary source of Project-specific Inuit Knowledge is the report *Kitikmiut Knowledge of the Proposed Kogloktoakyok (Grays Bay) Port and Road Project* (Banci and Spicker 2024), compiled by the Kitikmeot Inuit Association from the Naonaiyaotit Traditional Knowledge Project (NTKP).

Volume 4, Section 9.2.3 describes the wider body of work drawn on, including the NTKP report, prior baseline studies and effects assessments completed in the region between 2004 and 2018, wildlife data held by the Government of Nunavut and the Government of the Northwest Territories, and Project engagement conducted since 2016.

Regarding how this information was integrated into IS conclusions, Volume 3, Section 4.3 describes the handling of material received through the Project-specific engagement program, stating that received feedback was reviewed and consolidated into an internal knowledge tracking database. The database was categorized into VC-specific topics, streamlining integration into the IS where appropriate (Volume 3, Section 4.3). The same section records that feedback subsequently informed baseline understanding, potential project effects and effects pathways, mitigation and enhancement measures, cumulative effects assessment, significance of effects, project monitoring and management plans, and project design and planning overall. Volume 3, Section 5.4 then describes how that knowledge was applied within each VC assessment, specifically for:

- the scope of each VC assessment (Section 5.4.1)
- spatial boundaries (Section 5.4.2)
- baseline conditions (Section 5.4.3)
- the assessment of Project effects (Section 5.4.4)
- the assessment of cumulative effects (Section 5.4.5)
- significance of effects (Section 5.4.6)
- mitigation, management, and enhancement measures (Section 5.4.7)

Table 5.1 summarizes the application of Inuit Qaujimajatuqangit principles in Project engagement and within the Impact Statement. WKR's consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge is provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase.

Volume 3, Section 5.5 addresses how potential knowledge conflicts and divergent perspectives were reconciled, stating that WKR “recognizes that western knowledge and perspectives, which have been the foundation for current Canadian and provincial legislation, policy, regulation and institutions, have the potential to constrain how Inuit Knowledge, Indigenous Knowledge, and Community Knowledge are incorporated in project planning,” and that “WKR has a responsibility to bring forward and evaluate all views shared to inform project design and planning, and to acknowledge and strive to reconcile disparities or matters of disagreement between WKR and Kitikmiut, other Indigenous groups, or other potentially affected communities” (Volume 3, Section 5.5).

The IS also summarizes how this knowledge and input informed each VC assessment. Volume 3, Section 5.4.3 states that “[a] summary of this feedback along with WKR’s response to the feedback and whether and how it has been further integrated into the IS is included in each VC baseline conditions section.” Volume 4 reinforces this at several stages of each VC assessment: the VC assessments “include a summary of relevant input received from Inuit about these spatial boundaries and their appropriateness, and where Inuit have identified alternative spatial boundaries, provide a rationale if they were not adopted” (Volume 4, Section 9.2.4.1); the description of potential effects and effects pathways

includes concerns identified through Inuit Knowledge or engagement, with rationale provided where a pathway was not carried forward (Volume 4, Section 9.4.1.1); mitigation sections record “how Inuit, Indigenous, and Community Knowledge or engagement has informed the development of mitigation measures for the Project, and rationale for why some proposed measures were not selected” (Volume 4, Section 9.4.1.2); and the significance sections “include discussion on how Inuit Knowledge and scientific evidence were used to inform the significance determination, and highlight, where available, where culturally relevant thresholds have been identified and applied” (Volume 4, Section 9.4.1.4). Read together with Volume 3, Sections 4 and 5, these VC-level records link a specific knowledge input to its source, to WKR’s response, and to the location in the IS where it was applied.

NIRB 8. (IR-486)

Subject

Public engagement / transboundary

Issue / Concern

Reviewer Comments / Reasoning: The IS documents extensive Kitikmeot engagement and identifies transboundary considerations. However, the materials reviewed do not provide a complete, consolidated matrix showing all potentially affected communities and organizations, engagement status, issues raised, responses, and unresolved matters, including outside Nunavut.

Missing Information / Gap: Transboundary and adjacent-jurisdiction engagement is not as auditable as Kitikmeot engagement; unresolved concerns are not fully cross-walked to project design and mitigation.

Information Request

Provide a complete engagement coverage matrix for Nunavut and transboundary communities/organizations showing who was contacted; dates and methods; topics discussed; issues raised; commitments made; whether concerns remain unresolved; how each issue changed or did not change design, assessment, mitigation or monitoring; and the planned engagement during technical review and plan finalization.

Proponent Response

Volume 3, Section 6.1.1 identifies the parties engaged for the Project, including Kitikmeot communities, Hunters and Trappers Organizations, the Kitikmeot Inuit Association, Indigenous groups outside Nunavut, transboundary organizations, municipalities, schools, agencies, and service providers.

Volume 3, Section 6.2 describes the methods used in WKR's engagement program. Additionally, Table 6.1 summarizes WKR's 2024 to 2025 engagement activities, and Table 6.2 summarizes the key issues raised, the organizations that raised them, WKR's response, and where each issue is addressed in the Impact Statement (IS). The records are in Appendix 6B (Engagement Plan), Appendix 6C (current engagement meetings) and Appendix 6E (historical engagement activities).

Volume 3, Section 5.4 identifies the assessment stage at which engagement input was applied, and Section 5.4.3 states that "[a] summary of this feedback along with WKR's response to the feedback and whether and how it has been further integrated into the IS is included in each VC baseline conditions section."

Volume 4 describes corresponding decision points used when preparing the IS, including rationale for when an effect pathway raised through engagement was not carried forward (Section 9.4.1.1) and “rationale for why some proposed measures were not selected” (Section 9.4.1.2). Volume 3, Section 6.3.4 describes WKR’s response to community feedback received and whether that input was incorporated into the IS. Table 6.3 identifies ongoing and future engagement activities.

WKR commits to continued engagement with Kitikmiut, other Indigenous groups, and other potentially affected communities during the advancement of project design, planning, and monitoring, throughout the life of the Project, and identifies that continued engagement through the NIRB process "will also support on-going identification of issues and mitigation measures to address them" (Volume 3, Section 6.1; Volume 9, Section 27.1).

With the above in mind, WKR is confident the information contained in the IS presents a comprehensive accounting of its engagement program, in a manner that sufficiently addresses the NIRB IS Guidelines.

NIRB 9. (IR-487)

Subject

Engagement / accountability

Issue / Concern

Reviewer Comments / Reasoning: The IS includes summaries of engagement and key issues. For technical review, NIRB and parties need a more direct issue-response register that records the origin of each concern, the proponent response, whether the response changed the project or assessment, and how follow-up will occur.

Missing Information / Gap: The engagement record does not fully demonstrate issue closure, rationale where input was not adopted, or feedback loops back to the originating community or organization.

Information Request

Provide a consolidated issue-response register including issue ID; source/community/organization; date and method of engagement; issue description; affected VC or project component; proponent response; design, mitigation, monitoring or assessment change made; rationale where no change was made; status as open/closed; and planned follow-up.

Proponent Response

WKR's consolidated response regarding engagement issues, WKR's responses and where those matters are addressed in the Impact Statement is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package, which also explains WKR's approach to the requested standalone register.

NIRB 10. (IR-488)

Subject

Engagement / methods

Issue / Concern

Reviewer Comments / Reasoning: The IS states that engagement influenced project planning and assessment. However, the role of engagement in determining quantitative/qualitative thresholds, alternatives screening, significance criteria and monitoring design is not consistently documented.

Missing Information / Gap: No systematic table shows how public input affected alternatives scoring, VC indicators, significance criteria, monitoring indicators or thresholds.

Information Request

Provide a public-engagement influence table showing how engagement contributed to project scope, design, alternatives, baseline, VC selection, significance criteria, mitigation, monitoring, thresholds and management plans; identify where public input did not change the assessment and provide rationale.

Proponent Response

WKR's consolidated response regarding how Inuit, Indigenous, and Community knowledge influenced Project design and the assessment is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where the influence of engagement, and the rationale where input was not adopted, is documented in the Impact Statement.

NIRB 11. (IR-489)

Subject

Precautionary principle / risk

Issue / Concern

Reviewer Comments / Reasoning: The IS describes the precautionary principle and states that uncertainty, monitoring and adaptive management are addressed within VC sections. A senior review requires a consolidated record of irreversible or potentially serious effects and the specific precautionary measures applied.

Missing Information / Gap: There is no project-wide precautionary-risk register linking serious/irreversible risk pathways to assumptions, conservative design choices, mitigation, monitoring, and action thresholds.

Information Request

Provide a precautionary-risk register identifying all potential serious or irreversible effects; affected VC/receptor; uncertainty source; conservative assumption or design measure applied; mitigation; monitoring indicator; action threshold; adaptive management response; and residual risk after mitigation.

Proponent Response

The IS sets out the precautionary principle in Volume 2, Section 2.1.3. which adopts the NIRB's definition, from Principle 15 of the Rio Declaration on Environment and Development: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation" (Volume 2, Section 2.1.3). Drawing on International Union for Conservation of Nature guidance, the IS states that the principle "promotes pre-emptive action to reduce the risk of serious or irreversible harm to the environment resulting from situations where delaying action based on a lack of adequate evidence that harm will occur."

The elements NIRB requests in this Information Request are recorded for within each valued component (VC) assessment rather than in a single register. Each VC section presents "baseline information, the predicted potential effects, including assumptions made where uncertainty exists, proposed mitigation measures, the influence of engagement and Inuit Knowledge on the VC and assessment, residual Project effects, cumulative effects, and planned follow-up and monitoring activities" (Volume 2, Section 2.1.3).

The assessment methodology ties uncertainty to the precautionary response. Each VC assessment "includes a statement on any gaps, assumptions, or uncertainties encountered and assigns a level of confidence in the final effects conclusion," and identifies "any conservative measures used to increase confidence." Where prediction confidence is low, "the precautionary approach is applied, and follow-up and monitoring are proposed," and "[a]daptive management is also proposed for implementation to

provide a framework to act on follow-up and monitoring feedback and implement corrective management options as appropriate" (Volume 4, Section 9.4.4).

Residual adverse effects are characterized and evaluated within each VC assessment, where "threshold criteria or standards are defined within the VC assessments beyond which a residual adverse effect would be considered undesirable and/or unacceptable (i.e. 'significant')" (Volume 4, Section 9.4.1.4). Potential accidents and malfunctions are assessed separately in Volume 10, Section 34.

Mitigation measures specific to each VC are presented throughout the IS and consolidated in Volume 1, Appendix B (Mitigations and Commitments). The Environmental Management System (EMS) "includes precautionary avoidance and/or mitigation measures and describes how WKR will continually improve environmental performance through systematic reviews of policies, practices, and systems related to environmental protection" (Volume 2, Section 2.1.3). The EMS is described in Volume 4, Section 9.5.2 and presented in Volume 11.

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 12. (IR-490)

Subject

Data gaps / uncertainty

Issue / Concern

Reviewer Comments / Reasoning: Uncertainty is addressed in many VC sections. However, data gaps are dispersed across volumes and not consolidated with actions, responsibilities and decision points. Several plan details are deferred to later design or permitting.

Missing Information / Gap: No single data-gap register identifies the implications of each gap for NIRB's ability to assess effects before a project recommendation.

Information Request

Provide a consolidated technical and Inuit Knowledge data-gap register with gap description; affected guideline requirement; affected VC or project component; significance of the gap for effects prediction; proposed action to close or manage the gap; timing; responsible party; and whether the gap must be closed before construction, before operation, or through follow-up.

Proponent Response

WKR's consolidated response regarding how Inuit, Indigenous, and Community knowledge influenced Project design and the assessment is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where the influence of engagement, and the rationale where input was not adopted, is documented in the Impact Statement.

For how technical data gaps and uncertainties were addressed in the IS, please see response to NIRB 5 (IR-483).

NIRB 13. (IR-491)

Subject

Sustainability / community-defined indicators

Issue / Concern

Reviewer Comments / Reasoning: The IS discusses sustainability themes and anticipated benefits. However, it does not provide a transparent sustainability framework that shows how affected people defined sustainability and how the Project is measured against those definitions over time.

Missing Information / Gap: No sustainability scorecard or matrix links community-defined sustainability values to indicators, trade-offs, intergenerational equity, ecosystem integrity, food security, cultural continuity and durable benefits.

Information Request

Provide a sustainability assessment matrix that identifies sustainability values expressed by affected communities, Inuit organizations, Indigenous groups and governments; maps those values to measurable indicators; evaluates Project contributions and trade-offs; identifies enhancement measures; and explains how progress will be monitored and reported through construction, operations, care and maintenance, closure and post-closure.

Proponent Response

WKR respectfully submits that sustainability is addressed throughout the Impact Statement (IS), consistent with the approach set out in the IS Guidelines. The Guidelines frame sustainability as progress toward four goals — preservation of ecosystem integrity; recognition and preservation of local hunting, harvesting, gathering, occupancy, and cultural connection; recognition and respect for intergenerational equity; and the attainment of durable social and economic benefits, particularly in Nunavut — and require the IS to demonstrate how the Project meets these goals, to characterize its contribution to sustainability as defined by affected communities, Inuit organizations, Indigenous groups, and governments, and to describe how sustainability principles have been applied to the Project's potential impacts. The IS does this directly. WKR applies the definition of sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (Volume 2, Section 2.1.2), which is used together with the precautionary principle (Volume 2, Section 2.1.3), and carries these principles through the assessment rather than treating sustainability as a separate exercise.

Each of the sustainability goals the IS Guidelines identify are addressed where they are assessed, in context. Community-defined sustainability values were gathered through engagement and through Inuit, Indigenous, and Community Knowledge, and are reflected in each Valued Component assessment — including the "Influence of Inuit, Indigenous, and Community Knowledge on the Assessment" subsections — and in the engagement record (Volume 3). Ecosystem integrity is evaluated through

the biophysical VC assessments (Volumes 5–8) and addressed further in the Holistic Assessment (Volume 10, Section 31), which considers whether natural systems can maintain their structure and function and continue to support biological and ecological diversity. Harvesting, food security, and cultural continuity are assessed in the human-environment VCs (Volume 9 — Traditional Land, Marine and Resource Use, Food Security and Food Sovereignty, Community Health and Well-being, and Heritage Resources). Intergenerational equity and durable benefits are addressed through the Employment and Economy assessment, the benefit-enhancement measures proposed by WKR, and the Project's Closure and Reclamation planning that provides for restoration of ecosystemic integrity. Potential trade-offs between adverse and positive effects (where they occur) are made explicit in the significance determinations, the alternatives analysis (Volume 2, Section 2.4), and the Holistic Assessment, and progress will be tracked and reported on across all Project phases through the management and monitoring plans and adaptive management framework (Volume 11), including the Socio-economic Monitoring Plan.

For these reasons, WKR respectfully submits that the IS already demonstrates the Project's contribution to sustainability in the manner the IS Guidelines require. Reorganizing this material into a standalone sustainability matrix or scorecard would re-package information that is already assessed, in context, across the IS, and would risk separating each value and indicator from the supporting analysis that gives it meaning — reducing rather than improving transparency. WKR is satisfied the current IS addresses the information requested, and that a separate sustainability assessment matrix is not required.

NIRB 14. (IR-492)

Subject

Engagement / review process

Issue / Concern

Reviewer Comments / Reasoning: Engagement is documented, but the technical review requires a clearer engagement completeness record, especially for transboundary organizations and for continuing engagement during review and plan finalization.

Missing Information / Gap: Engagement status, issue closure, and planned technical-review engagement are not consolidated by organization or jurisdiction.

Information Request

Provide a complete consultation and engagement status table listing all potentially affected communities, governments, Inuit organizations, Indigenous organizations, departments and agencies; engagement dates and topics; outstanding information needs; unresolved concerns; commitments made; and scheduled follow-up during technical review, management-plan finalization and pre-construction.

Proponent Response

WKR's consolidated response regarding the organizations engaged, engagement activities and topics, and WKR's ongoing engagement and follow-up commitments is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package.

NIRB 15. (IR-493)

Subject

Completeness / methodology

Issue / Concern

Reviewer Comments / Reasoning: Most required categories are present somewhere in the IS. Key adequacy limitations include future design uncertainty, incomplete closure/restoration planning for permanent infrastructure, incomplete compensation/offsetting detail where applicable, and incomplete final monitoring/management-plan details.

Missing Information / Gap: The IS does not provide a single completeness crosswalk demonstrating which Article 12/NuPPAA information elements are fully met, partially met, deferred, or not applicable.

Information Request

Provide an Article 12/NuPPAA completeness crosswalk that identifies each required information element; exact IS reference; adequacy status; deferred information; rationale for any not-applicable item; and the specific schedule and review mechanism for information to be provided after IS submission.

Proponent Response

The IS includes a concordance table in Volume 1, Appendix A (Page A-1). It was prepared in response to IS Guidelines Section 3.2, which requires the Proponent "to provide a table of concordance as part of the Impact Statement that references where the information is presented in the main document, various supporting documents and volumes (i.e., document, section, and page number) cross-referenced with the information requirements identified in these Impact Statement Guidelines" (Volume 1, Appendix A).

For each guideline requirement, the concordance table gives the IS volume, the section title, and the page number. Where a requirement applies across several volumes or VC assessments, the table gives a representative example and records that "[c]oncordance to this guideline component applies to multiple VC assessments within Volumes 5 to 9. To reduce repetition in the concordance table, a representative example is provided" (Volume 1, Appendix A). Where content sits in a place that may not be obvious, the table's comment column explains the location — for example, that the VC assessments in Volumes 5 to 9 "are organized using a consistent structure; however, subsection numbering may differ slightly" (Volume 1, Appendix A).

Article 12.5.2 and NuPPAA s. 101(3)

IS Guidelines Section 3.1 states that "[a]s discussed in Section 2.1, at a minimum the Impact Statement shall contain the information as outlined in Article 12, Section 12.5.2 of the Nunavut Agreement and s. 101(3) of the NuPPAA." The concordance table addresses that requirement as a single guideline line, cross-referenced to Volume 2, Section 1.4 (Regulatory Regime, Page 1-7) and Volume 4, Section 9.2.2 (Regulatory and Policy Setting, Page 9-4) (Volume 1, Appendix A).

The statutory requirements are addressed through the IS Guidelines requirements which form the basis of the concordance table, rather than element by element against the text of Article 12.5.2 and s. 101(3). The IS records that it "meets the requirements outlined in the Nunavut Agreement and the NIRB Guidelines for the Preparation of an Impact Statement for the Grays Bay Road and Port Project (NIRB File No. 24XN038; NIRB 2026)" (Volume 1, Section MD.1.3).

Where information is developed through the progression of engineering design, the associated permitting processes, or the management and monitoring plans, the IS identifies the mechanism rather than an adequacy status:

- **Management and monitoring plans.** Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.
- **Engineering design.** To provide clarity on the basis of design for the Port (marine and landside), Aerodrome, the Road, and see the Grays Bay Road and Port Reference Design Concept Memos attached as Appendix C in the Addendum. Each memo includes the details on the required design scope, the site conditions that must be considered in the design, codes, standards and design guidelines, reference documents, functional requirements, constraints, risks, and interdependencies, the reference design considerations, and future expansion considerations. The memos also include environmental commitments, risks and constraints (including climate resiliency) that must be incorporated into the advancement of the design. The Impact Statement and basis of design relied on existing baseline data, historical geotechnical information, conceptual engineering assumptions, and conservative permafrost protection measures.

For these reasons, WKR respectfully submits that the completeness information requested is already provided in the Impact Statement in an appropriate form. A separate crosswalk would re-package content already presented and cross-referenced in the IS; accordingly, WKR is satisfied that the current IS appropriately addresses the request and that no further completeness crosswalk is required.

NIRB 16. (IR-494)

Subject

VC selection / methodology

Issue / Concern

Reviewer Comments / Reasoning: The IS describes general VC selection and methodological structure. However, it does not always provide transparent, section-specific rationale for why party-requested VCs or indicators were included, excluded, combined or treated through another VC.

Missing Information / Gap: No complete VC/indicator selection record identifies party requests, inclusion/exclusion rationale, and differences in conclusions between knowledge systems.

Information Request

Provide a VC and indicator selection record listing all VCs, subcomponents and indicators considered; source of each request or issue; whether it was included, excluded or combined; rationale; applicable knowledge source; and implications for effects assessment, cumulative effects, transboundary effects and monitoring.

Proponent Response

Volume 4, Section 9.2.1 (Valued Components) states that "[t]he ecosystemic and socio-economic components within the Project region underwent an initial screening process using the following criteria (based on the IS Guidelines) to identify a preliminary list of VCs:

- Identification of the VC by local Inuit communities
- Identification of the VC by government authorities (e.g., resource management) or designated for regulatory protection (e.g., rare or endangered species)
- Potential to occur within the region surrounding the Project and the Project vicinity
- Potential for the VC to interact with the Project" (Volume 4, Section 9.2.1)

The IS states that "[t]he resulting selection of VCs largely reflects the list provided in the IS Guidelines, but is based on multiple factors, including ongoing engagement, Inuit Knowledge, understanding of effects pathways and receptors, and professional judgment," with "detailed rationale for the selection of each VC provided in the VC-specific assessments of the IS (Volume 5 through Volume 9)" (Volume 4, Section 9.2.1).

WKR's consolidated response regarding how Inuit, Indigenous, and Community knowledge influenced Project design and the assessment is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where the influence of engagement, and the rationale where input was not adopted, is documented in the Impact Statement.

Each VC assessment records the engagement and knowledge input that informed its scope in an "Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment" subsection. Volume 3, Section 5.4 describes how Inuit Knowledge, Indigenous Knowledge and Community Knowledge were applied at each stage of the assessment. This includes the scope of each VC assessment (Section 5.4.1) and spatial boundaries (Section 5.4.2). Volume 3, Section 4.1 describes the knowledge sources themselves. For additional information, please refer to the response to NIRB 22 (IR-500).

The VCs selected, and their measurable parameters, carry through each stage of the assessment to the cumulative effects, transboundary effects and monitoring or management plans.

NIRB 17. (IR-495)

Subject

Baseline / climate / closure

Issue / Concern

Reviewer Comments / Reasoning: Baseline sections are extensive and climate change is addressed. However, the Project is described as permanent infrastructure with operations in perpetuity, and closure/post-closure treatment is limited for permanent components. This limits assessment of long-term baseline change, abandonment, transfer or reduced-operation scenarios.

Missing Information / Gap: Closure, post-closure and long-term stewardship scenarios for permanent infrastructure are not fully assessed against changing environmental baselines.

Information Request

Provide a life-of-project baseline-change addendum covering construction, operations, reduced operation, care and maintenance, closure/decommissioning, reclamation and post-closure scenarios; include climate change, permafrost change, hydrology, marine conditions, wildlife and socio-economic change; and identify whether effects predictions or mitigation require revision.

Proponent Response

The Project is largely composed of permanent infrastructure and, therefore, WKR has not proposed a conceptual closure and reclamation plan for the permanent components (Vol. 11 Section 37.1.8). Reclamation of the small number of temporary facilities will be completed in accordance with permit conditions. Care and maintenance measures will be developed for implementation in the event of temporary or unplanned closures or reduced operations (e.g., during a labour strike) and will be included in the Road Management Plan and Port Management Plan.

The Climate Change Risk Assessment (CCRA; Volume 5 Section 12.5 and Appendix 12B) assessed climate-related risk to the Project's permanent infrastructure and considered time horizons throughout the 21st century (2030s, 2050s, and 2080s). The climate-related hazards considered in the CCRA included permafrost thaw, spring freshet/riverine flooding, relative sea level change, wave activity, and sea ice ride-up. The CCRA also identifies potential adaptation measures relevant to the high risks identified. Consistent with the approximately 10% (conceptual) design stage, the CCRA identifies a range of potential adaptation measures to address the identified high-risk climate hazards and the selection and implementation of specific adaptation measures is a detailed engineering design phase activity. The selected measures will be developed and confirmed through the regulatory processes that follow the NIRB Project Certificate.

Changes to Valued Components (VCs; e.g., wildlife), including effects of climate change, and mitigation, management, and enhancement measures are discussed in the respective Volumes and Sections of the IS.

One of the recommendations of the CCRA was that it be revisited and updated when new climate data is available (e.g., subsequent Intergovernmental Panel on Climate Change [IPCC] releases) and when large asset or infrastructure changes or upgrades are completed during the Project's lifespan. Revisiting and updating the CCRA results will allow for the determination of whether climate-related risks are appropriately considered for future asset and infrastructure development and services and in the operations and maintenance of existing assets. Additionally, revisiting the CCRA provides insight into the effectiveness of adaptation strategies implemented and levels of residual risk and allows for further calibration to conditions experienced by the permanent infrastructure of the Project.

NIRB 18. (IR-496)

Subject

Knowledge reconciliation / uncertainty

Issue / Concern

Reviewer Comments / Reasoning: The IS recognizes different knowledge sources and often describes Inuit Knowledge influence within VC sections. It does not provide a consolidated disagreement/reconciliation record for cases where knowledge systems differ or where community concerns remain unresolved.

Missing Information / Gap: No reconciliation table documents conflicting conclusions, unresolved concerns, or plans to address differences through additional analysis, mitigation, monitoring or engagement.

Information Request

Provide a knowledge-reconciliation table identifying each instance where Inuit, Indigenous or Community Knowledge differs from scientific/engineering conclusions; describe the evidence from each knowledge source; state the Proponent's conclusion and rationale; identify remaining concerns; and provide the plan to address the difference through further analysis, mitigation, monitoring or follow-up engagement.

Proponent Response

Differences between knowledge sources (where they exist), and the treatment of any concerns that remain unresolved, are recorded in the Impact Statement in three complementary places rather than in a single consolidated table: the reconciliation approach described in Volume 3, Section 5.5; the input-level records in Volume 3, Table 6.2 and in the knowledge and engagement feedback tables found within each Valued Component (VC) assessment; and the rationale given in the VC assessments where a specific concern or effect pathway was not carried forward.

- **How differing perspectives were approached.** Volume 3, Section 5.5 addresses how differing perspectives, where they existed, were reconciled. It states that WKR “has a responsibility to bring forward and evaluate all views shared to inform project design and planning, and to acknowledge and strive to reconcile disparities or matters of disagreement between WKR and Kitikmiut, other Indigenous groups, or other potentially affected communities” (Volume 3, Section 5.5). Volume 4, Section 9.4.1 establishes the same expectation at the level of individual effect predictions, stating that “[a] key aspect of the assessment process is drawing on engagement and describing how Inuit Knowledge, scientific evidence, Indigenous Knowledge, and/or Community Knowledge informed the prediction of impacts, including discussion on any differences.”

- **Where individual differences and concerns are recorded.** Volume 3, Table 6.2 summarizes key issues raised during engagement and identifies, for each issue, the organizations that raised it, WKR's response, and where the issue is addressed in the Impact Statement (IS). Examples of issues recorded include caribou movement and migration, caribou habitat, wildlife mortality, noise and dust, food security, shipping effects, water quality, travel and access, accidents and malfunctions, employment and economy, infrastructure services, and cumulative effects. At the VC level, Volume 3, Section 5.4.3 states that "[a] summary of this feedback along with WKR's response to the feedback and whether and how it has been further integrated into the IS is included in each VC baseline conditions section." Read together, these records identify the matters on which knowledge sources and community input influenced the assessment and record WKR's response to each.
- **How knowledge informed the assessment.** Volume 3, Section 5.4 describes how Inuit Knowledge, Indigenous Knowledge, and Community Knowledge were integrated into each stage of each VC assessment, including the assessment of Project effects (Section 5.4.4), significance of effects (Section 5.4.6), and mitigation, management, and enhancement measures (Section 5.4.7). Where a concern raised through engagement or knowledge sharing was not carried forward into the effects assessment, the rationale is provided in the relevant VC assessment, consistent with Volume 4, Section 9.4.1.
- **Managing concerns in an ongoing manner.** Volume 3, Section 6.3.4 describes WKR's response to community feedback received, including maintaining an engagement database, using feedback to inform decisions, and reporting back to communities on whether input was incorporated. Volume 3, Table 6.3 identifies ongoing and future engagement activities, and Table 6.4 sets out Construction and Operations and Maintenance phase commitments. Engagement-related commitments are also carried in Volume 1, Appendix B Mitigations and Commitments.

WKR's consolidated response regarding how Inuit, Indigenous, and Community knowledge influenced Project design and the assessment is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where the influence of engagement, and the rationale where input was not adopted, is documented in the Impact Statement.

WKR "commits to continued engagement with Kitikmiut, other Indigenous groups, and other potentially affected communities during the advancement of project design, planning, and monitoring, throughout the life of the Project," and identifies that continued engagement through the NIRB process "will also support on-going identification of issues and mitigation measures to address them" (Volume 3, Section 6.1; Volume 9, Section 27.1).

NIRB 19. (IR-497)

Subject

Methods / sampling / QA-QC

Issue / Concern

Reviewer Comments / Reasoning: Many discipline sections provide methods and supporting appendices. However, the IS does not provide a consistent cross-VC sampling and analysis summary demonstrating that all sampled datasets include variability measures, sample size justification, QA/QC and statistical/model sensitivity information.

Missing Information / Gap: Reviewers must search across thousands of pages to determine whether every sampled dataset meets the guideline; the concordance table uses representative examples for recurring VC requirements.

Information Request

Provide a cross-VC sampling and analysis appendix listing every sampled dataset used in the IS; objective; location; timing; sample size and rationale; variability/dispersion statistics; QA/QC; experimental or analytical controls; laboratory methods; statistical or model assumptions; sensitivity analysis; limitations; and exact reference to the source appendix/table/figure.

Proponent Response

The IS documents sampling design, data analysis methods, quality assurance and quality control, and analytical and model sensitivity within each valued component (VC) assessment and its supporting technical appendices. The overarching requirements are set in the effects assessment methodology (Volume 4, Section 9), and baseline data sources and collection are described at Volume 4, Section 9.3 (Description of the Environment and Baseline Information). As each sampled dataset are VC specific, they are evaluated based on the regulatory requirements to which the standards for the type of data must be measured (including methodology for collection, variability/dispersion statistics, QA/QC process, analytical controls, laboratory methods, assumptions and limitations, as necessary); having a cross-VC sampling and analysis appendix is not warranted.

The VC assessments in Volumes 5 to 9 "are organized using a consistent structure; however, subsection numbering may differ slightly" (Volume 1, Appendix A). Within that structure, each VC assessment carries a Methods subsection, an Analytical Assessment Techniques subsection, and a Prediction Confidence and Uncertainty subsection. The concordance table records that the "[s]ensitivity of analytical methods are evaluated through the effects assessment methodology and documented within VC specific methods and prediction confidence sections, where applicable (Volumes 5-9)" (Volume 1, Appendix A).

The underlying field programs and analyses are presented in full in the technical appendices to each VC assessment.

NIRB 20. (IR-498)

Subject

Knowledge protocols / ethics

Issue / Concern

Reviewer Comments / Reasoning: The IS describes general protocols and confidentiality considerations. For technical review, the Proponent should demonstrate, without disclosing confidential information, the verification and permission status for the key knowledge relied upon in conclusions.

Missing Information / Gap: No non-confidential verification/permission status table is provided for key knowledge inputs used in assessment conclusions.

Information Request

Provide a non-confidential protocol compliance table identifying each knowledge dataset or engagement source used; collection protocol; confidentiality restrictions; knowledge-holder or organization involvement in interpretation; verification method; permission to use status; limitations on use; and affected IS conclusions.

Proponent Response

The collection protocol, permission basis, confidentiality restrictions, and limitations on use are recorded, where relevant, in the Impact Statement by source. Volume 3, Sections 4.1.1 to 4.1.3 identify each knowledge source and how it was gathered; Volume 3, Section 4.2 records the pertinent permission and confidentiality conditions attached to each; and Volume 3, Sections 4.3 and 5.4 identify where those inputs were used in the assessment. A full list of references relied upon in the IS is found within each section, where applicable, under Knowledge and Literature Cited.

For Inuit Knowledge, the Project-specific report compiled from the NTKP database was made available to WKR under a licensing agreement with the Kitikmeot Inuit Association. As noted in Volume 3, Section 4.2, “[t]he terms of this agreement do not allow WKR to publicly release the report in its entirety but do allow for portions of that content to be publicly released. As no other similar agreements were developed with other Inuit or other Indigenous groups, knowledge from these groups is represented by publicly available literature (secondary research) and engagement feedback” (Volume 3, Section 4.2). The above statement identifies both the permission basis for the Inuit Knowledge source and the limitation on its public use, and identifies when Indigenous Knowledge was drawn from publicly available literature and engagement feedback. The Project-specific NTKP report, while confidential, also includes details on the verification process employed by KIA, among other matters.

For Community Knowledge, the same section records that community-based primary research "involved an Informed Consent process that included reviewing the purpose of the research, potential risks, privacy and confidentiality considerations, options for withdrawing from the study, and conditions for releasing recorded information," with participants asked to sign a consent form (Volume 3, Section 4.2). The research was conducted under Nunavut Research Institute permit 04 012 25R-M (Volume 3, Section 4.1.3).

Volume 3, Section 4.3 records that information received through the engagement program "was reviewed and consolidated into an internal knowledge tracking database. The database was categorized into VC-specific topics, streamlining integration into the IS where appropriate" (Volume 3, Section 4.3). Volume 3, Section 5.4 then identifies the assessment stage at which those inputs were applied, and Volume 3, Section 5.4.3 states that "[a] summary of this feedback along with WKR's response to the feedback and whether and how it has been further integrated into the IS is included in each VC baseline conditions section."

WKR's consolidated response regarding how Inuit, Indigenous, and Community knowledge influenced Project design and the assessment is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where the influence of engagement, and the rationale where input was not adopted, is documented in the Impact Statement.

NIRB 21. (IR-499)

Subject

Documentation / criteria / thresholds

Issue / Concern

Reviewer Comments / Reasoning: Assessment criteria are described in Volume 4 and VC sections. However, thresholds and action levels in monitoring/management plans are not consistently finalized, and the relative importance of criteria is not always explicit where professional judgement is used.

Missing Information / Gap: Unclear criteria weighting and incomplete thresholds reduce transparency of significance and adaptive management conclusions.

Information Request

Provide a criteria and thresholds addendum that identifies, for each VC, the criteria used; definitions of rating categories; relative importance or weighting; quantitative thresholds where available; qualitative judgement basis where thresholds are unavailable; monitoring thresholds; action levels; and supporting literature or knowledge source.

Proponent Response

The IS defines the residual effects characterization criteria in the effects assessment methodology (Volume 4, Section 9.4.1) and applies them within each valued component (VC) assessment in Volumes 5 to 9. The criteria are used to characterize each residual effect before the significance determination is made.

Each VC assessment defines the rating categories for those criteria as they apply to that VC, because the parameters that measure an effect differ between VCs the rating categories can be found within the Residual Effects Characterization section of each VC, which are as follows: Air Quality (11.1.5), Noise and Vibration (13.1.5), Terrain, Soils, and Permafrost (14.1.5), Vegetation (15.1.5), Caribou (16.1.6), Birds (17.1.4.3), Other Terrestrial Wildlife (18.1.5), Water Resources (19.1.5), Freshwater Fish and Fish Habitat (20.1.5), Marine Water and Sediment (21.1.5), Marine Fish and Fish Habitat (22.1.5), Marine Mammals (23.1.5), Traditional Land, Marine, and Resource Use (24.1.5), Food Security and Food Sovereignty (25.1.5), Community Health and Well-being (26.1.5), Employment and Economy (27.1.5), Infrastructure and Services (28.1.5), Non-Traditional Land, Marine, and Resource Use (29.1.5), and Heritage Resources (30.1.5). Where a regulatory standard, objective or guideline applies, the IS uses it as the threshold. Where thresholds are not set by regulatory requirements, the methodology states that they "may be based on engagement and/or professional judgement" (Volume 4, Section 9.4.1). Significance is determined at the VC level, and "threshold criteria or standards are defined within the VC assessments beyond which a residual adverse effect would be considered undesirable and/or unacceptable (i.e. 'significant')" (Volume 4, Section 9.4.1.4). At the significance stage, each VC assessment discusses how Inuit Knowledge and scientific evidence informed the determination and

highlights, where available, where culturally relevant thresholds have been identified and applied (Volume 4, Section 9.4.1.4).

The basis for each rating, including where professional judgment was applied, is given within the VC assessment, together with the supporting literature and knowledge sources cited in that VC's Knowledge and Literature Cited section. Each VC assessment also includes a statement on gaps, assumptions and uncertainties, and assigns a level of confidence in the final effects conclusion (Volume 4, Section 9.4.4).

Monitoring thresholds and action levels will be outlined in each specific monitoring plan rather than in the VC assessments. Each plan includes "[p]roposed criteria or thresholds to trigger mitigation measures if monitoring results warrant" (Volume 11, Section 37.1.3). Where monitoring is proposed, "indicators will be selected to evaluate mitigation effectiveness and/or identify unanticipated effects to inform adaptive management and feed back into adjusting mitigation measures or activating backup mitigation measures" (Volume 11, Section 37.1.4).

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 22. (IR-500)

Subject

Inuit Knowledge / methodology

Issue / Concern

Reviewer Comments / Reasoning: The IS states that Inuit Knowledge influenced the assessment. The reviewer cannot consistently verify how qualitative, place-based or culturally defined observations were converted into design criteria, thresholds, monitoring indicators or significance conclusions.

Missing Information / Gap: No explicit method is provided for translating qualitative/culturally defined observations into assessment criteria and monitoring requirements.

Information Request

Provide a methods addendum explaining how qualitative Inuit observations and culturally defined indicators were interpreted, protected, validated, coded or categorized, incorporated into VC criteria, and used to define mitigation, thresholds, monitoring indicators and final conclusions.

Proponent Response

The methods by which Inuit Knowledge, Indigenous Knowledge, and Community Knowledge were integrated into the assessment are described in Volume 3, Section 5.4, which describes how these inputs were used at each stage of each Valued Component (VC) assessment, and in Volume 4, Section 9.4.1, which established the corresponding requirements for individual effect predictions, mitigation, and significance determinations.

Categorization of knowledge. Volume 3, Section 4.3 records that material received through engagement “was reviewed and consolidated into an internal knowledge tracking database. The database was categorized into VC-specific topics, streamlining integration into the IS [Impact Statement] where appropriate” (Volume 3, Section 4.3). The same section notes this information “informed baseline understanding, potential project effects and effects pathways, mitigation and enhancement measures, cumulative effects assessment, significance of effects, project monitoring and management plans, and project design and planning overall.” WKR's consolidated response regarding how Inuit, Indigenous, and Community knowledge influenced Project design and the assessment is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where the influence of engagement, and the rationale where input was not adopted, is documented in the Impact Statement.

Integration of knowledge into assessment criteria. Volume 3, Section 5.4 addresses the integration of knowledge into the following assessment stages: the scope of each VC assessment (Section 5.4.1), spatial boundaries (Section 5.4.2), baseline conditions (Section 5.4.3), the assessment of Project effects (Section 5.4.4), the assessment of cumulative effects (Section 5.4.5), significance of effects (Section 5.4.6), and mitigation, management, and enhancement measures (Section 5.4.7). Table 5.1 summarizes the application of Inuit Qaujimajatuqangit principles in Project engagement and within the Impact Statement itself. Section 5.4.2 gives a worked example in which knowledge about gathering places, travelways, harvesting areas, and resource habitats informed the spatial boundaries adopted for VC assessments. When completing the assessment, WKR integrated Inuit, Indigenous, and Community perspectives with western science to develop holistic conclusions on how multiple changes could affect land-based livelihoods, cultural continuity, and environmental integrity over time. At the significance stage, Volume 4, Section 9.4.1.4 notes the VC assessments “include discussion on how Inuit Knowledge and scientific evidence were used to inform the significance determination, and highlight, where available, where culturally relevant thresholds have been identified and applied.”

Development of monitoring indicators. Please refer to NIRB 4 (IR-482) for a description of the current state of Project management, mitigation and monitoring plans, and WKR’s commitments to providing future updates.

WKR's consolidated response regarding how Inuit, Indigenous, and Community knowledge influenced Project design and the assessment is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where the influence of engagement, and the rationale where input was not adopted, is documented in the Impact Statement.

NIRB 23. (IR-501)

Subject

Existing information / lessons learned

Issue / Concern

Reviewer Comments / Reasoning: The IS uses extensive existing information, but it does not provide a consolidated lessons learned analysis showing how experience from comparable Arctic roads, ports, mines, shipping projects or monitoring programs shaped design, mitigation and adaptive management.

Missing Information / Gap: Existing information is cited, but the practical lessons drawn from comparable projects are not systematically documented.

Information Request

Provide a lessons-learned matrix for comparable Arctic/sub-Arctic road, port, marine shipping, mining-access and infrastructure projects; identify source project/study; relevance to GBRP; observed issue or mitigation performance; lesson learned; how it was incorporated into design, mitigation, monitoring or emergency response; and where it is reflected in the IS

Proponent Response

The IR asks for a consolidated lessons-learned matrix covering comparable Arctic and sub-Arctic road, port, marine shipping, mining-access, and infrastructure projects.

The NIRB Final Impact Statement Guidelines (January 2026) request WKR to:

- **Use existing information:** use relevant studies completed in the project region and incorporate lessons learned from previous or currently active projects in similar environments. This information is to be included *directly in the IS*, with clear references to its source (NIRB Guidelines, Section 2.1.3, Page 13).
- **Explain how lessons will be used:** outline, in the monitoring and mitigation plans, how lessons from other projects in similar environments will be used to refine mitigation measures and management plans (NIRB Guidelines, Section 11.3, Page 99).

WKR believes it has addressed this requirement in the IS. Lessons learned from comparable projects are placed within the relevant sections of the IS rather than in a separate analysis. The main locations are as follows.

- **Project design and alternatives.** The Project has been in development for more than 20 years. The evaluation of project location, road type, and port infrastructure alternatives draws on earlier engineering studies and previous environmental assessments in the region (Volume 2, Section 2.4, Table 2.2).

- **Assessment method and baseline.** The assessment approach draws on regulatory experience and on impact assessment precedents both within and outside Nunavut (Volume 4, Section 9.1, Page 9-1). Baseline conditions for each valued component include past research and studies in the region. Volumes 5 to 9 describe the baseline approach and sources for each valued component.
- **Management plans.** The Volume 11 management plans draw on established best management practices, regional guidance, and experience from comparable northern road and mining-access projects. They are also informed by Inuit, Indigenous, and Community Knowledge. The plans are conceptual. They will be refined as planning, engagement, and regulatory review continue.
- **Monitoring and adaptive management.** Monitoring and adaptive management will be used to:
  - check that effects predictions are accurate
  - confirm that mitigation measures are effective
  - identify any effects that were not anticipated (Volume 4, Section 9.5)

The Project will apply adaptive management informed by monitoring and ongoing engagement (Volume 1, Appendix B, Commitment 39). Through this process, further lessons from comparable projects will continue to be brought into mitigation and management as the Project proceeds, as Guidelines Section 11.3 anticipates.

WKR believes that a consolidated lessons-learned matrix, including an evaluation of how mitigation performed at other projects, is outside the scope of the Guidelines:

- **Format:** the Guidelines direct that lessons learned be included within the relevant sections of the IS with source references (NIRB Guidelines, Section 2.1.3). They do not request a consolidated matrix or a standard project-by-project format.
- **Mitigation performance:** evaluating how mitigation performed at other projects would require new comparative analysis based on monitoring data held by other proponents. Sections 2.1.3 and 11.3 do not request that analysis.
- **Ongoing process:** the Guidelines treat lessons from other projects as an ongoing input to refining mitigation and management plans (NIRB Guidelines, Section 11.3). WKR's adaptive management framework and the further development of the Volume 11 management plans are the mechanisms for this.

NIRB 24. (IR-502)

Subject

Existing Knowledge / applicability

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies the NTKP-derived Kitikmiut Knowledge source and KIA role. A reviewer still needs a non-confidential applicability record showing how older database information was confirmed as applicable to current project design, footprint, timing and conditions.

Missing Information / Gap: Applicability review of database knowledge is not summarized by topic, geography, season and current project component.

Information Request

Provide a database-knowledge applicability table identifying each dataset/source; original collection period; geographic and seasonal coverage; project component or VC to which it was applied; KIA/knowledge-holder input on applicability; limitations; and whether additional engagement or validation is required.

Proponent Response

WKR respectfully submits that the NTKP material was not applied to the Project in its database form. Volume 3, Section 4.1.1 states that the Kitikmeot Inuit Association and its consultants compiled a Project-specific report, *Kitikmiut Knowledge of the Proposed Kogloktoakyok (Grays Bay) Port and Road Project* (Banci and Spicker 2024), *from* the NTKP database. Nothing beyond this report was made available to WKR. The selection of knowledge to include relevant to this Project was therefore made by the Kitikmeot Inuit Association as owner and custodian of the source, and it is this Project-specific report that the Impact Statement relies on.

The report itself, while confidential, contains details on sources of data and methods used, including how IK was documented, time and spatial scale of the work, and NTKP database components. Details on the consultants interviewed (515) for the NTKP database and data verification processes employed are also described,

Additionally, Volume 3, Section 5.4.2 describes how knowledge shared through the Project-specific report (e.g., about gathering places, travelways, harvesting areas, and resource habitats in the vicinity of the Project) informed the spatial boundaries selected for Valued Component (VC) assessments. Volume 3, Section 5.4 identifies the further assessment stages at which the material was applied, including the scope of each Valued Component assessment (5.4.1), baseline conditions (5.4.3), assessment of project effects and effect pathways (5.4.4.1), transboundary effects (5.4.4.2), effects of climate change (5.4.4.3), cumulative effects (5.4.5), significance of effects (5.4.6), and mitigation, management, and enhancement measures (5.4.7). Further, each VC assessment provides a summary of relevant input received from Inuit

about these spatial boundaries and their appropriateness, and where Inuit have identified alternative spatial boundaries, as appropriate.

WKR trusts the above information satisfies the components of this IR.

NIRB 25. (IR-503)

Subject

AI disclosure / translation

Issue / Concern

Reviewer Comments / Reasoning: The IS discloses AI-assisted/machine translation tools and states AI was not used for technical assessments. However, the disclosure does not fully identify affected sections, input/output validation, responsible qualified reviewers, or ethical safeguards.

Missing Information / Gap: AI disclosure lacks section-level inventory, reviewer names/roles/qualifications, validation status, QA/QC results, and privacy/bias/security safeguards.

Information Request

Provide a complete AI-use disclosure table identifying each AI tool; every affected section/component; purpose and method of use; inputs and outputs reviewed; responsible reviewer names/roles/professional designations; validation procedures and dates; corrections made; and safeguards for privacy, bias, security and output verification.

Proponent Response

The information below is organized according to the Artificial Intelligence (AI) disclosure elements of the Impact Statement (IS) Guidelines, Section 2.1.4 (NIRB 2026). No AI was used for technical assessments (Disclaimer on Translated Content; e.g., Volume 1).

(a) **AI technologies used.** Microsoft Bing Translator, ImTranslator, and Microsoft Copilot were used to produce interim translations to support timely submission of the IS to the NIRB (Disclaimer on Translated Content; e.g., Volume 1).

(b) **How AI technologies were used.** Machine and / or AI-assisted interim translation was used for Inuinnaqtun and Inuktitut content only. A Disclaimer on Translated Content appears at the end of each translated section of the IS that includes machine and / or AI-assisted interim translation.

- Inuinnaqtun: the Executive Summary, Non-Technical Summary, Main Document, and Volume Summaries were translated entirely using the machine and / or AI tools.
- Inuktitut: in the Executive Summary, Non-Technical Summary, and Main Document, the machine and / or AI tools were used only for content relating to Volume 1 and Volume 9, for which human translations were not available when the IS was submitted.

AI was not used for the French translations.

(c) **Human oversight of AI inputs and outputs.** All machine translations will undergo review, validation, and full replacement by qualified human translators, and the human-verified translations will be submitted to the NIRB as soon as they become available. The human-verified translations, prepared by Parenty Reitmeier Translation Services, were completed following submission of the IS and are provided in Appendix H, Translations, of the Addendum to this Proponent Response package. Appendix H includes the human-verified Inuktitut translations of the Volume 1 and Volume 9 content of the sections identified in (b), and these replace the interim machine Inuktitut translations identified in (b).

Regarding Inuinnaqtun translations, WKR has experienced persistent challenges securing sufficient Inuinnaqtun translation capacity within required project timelines. Correspondence documents provide repeated efforts to identify translators, instances where identified translators were unavailable due to competing interpretation commitments, and the concern that different translation providers may ultimately be drawing on the same small pool of available Inuinnaqtun translators. To manage these capacity constraints, WKR used machine translation as an interim measure, with plans for human translation or verification to be completed as resources became available. During WKR's trip to Ulukhaktok in September 2026, WKR connected with an additional pool of potential Inuinnaqtun translators. WKR is actively reaching out to these translators to verify the machine-produced translations and to support the Project's Inuinnaqtun translation needs going forward.

(d) **Ethical AI use.** The use of machine and / or AI was limited to producing interim translations of the sections identified in (b). AI was not used for data analysis, effects prediction, significance determination, or other technical assessments in the IS. Machine and / or AI use was disclosed through the Disclaimer on Translated Content placed at the end of each translated section that includes machine and / or AI-assisted interim translation. Machine and / or AI outputs were treated as interim and, where available, have been replaced by human-verified translations prepared by qualified human translators (see (c); Appendix H).

NIRB 26. (IR-504)

Issue / Concern

Reviewer Comments / Reasoning: The IS states that machine translations were used for timely submission and that human translations were commissioned. Because translated materials support public engagement and informed participation, interim machine-translated materials should not be relied on without a clear validation and replacement record.

Missing Information / Gap: Final human-verified translations and change log from interim to verified translations are not provided in the reviewed record.

Information Request

Submit final human-verified translations in English, French, Inuinnaqtun and Inuktitut for all required summaries and main-document materials; provide translator/reviewer qualifications; identify all sections replaced; provide a change log of substantive corrections from interim machine translation to final text; and confirm whether any technical conclusions, mitigation commitments or community-facing descriptions changed.

Proponent Response

Please see the response to NIRB 25 (IR-503) on human-verified translations.

Regarding translator and reviewer qualifications, WKR identifies its translators through community-based referral: translators are recommended by community groups and members of the public as qualified individuals.

NIRB 27. (IR-505)

Subject

Statutory requirements / completeness

Issue / Concern

Reviewer Comments / Reasoning: The IS is structured into a main document and thematic/supporting volumes that broadly address project description, effects assessment, cumulative effects, accidents/malfunctions, transboundary effects, and management plans. However, technical review requires direct traceability between each statutory/guideline requirement and the specific evidence supporting the assessment conclusions. Some requirements are addressed across multiple volumes or deferred to future design/permitting/management-plan development.

Missing Information / Gap: No single auditable index shows, requirement-by-requirement, where each statutory information requirement is fully addressed and where information is deferred. This creates uncertainty for reviewers in confirming completeness.

Information Request

Provide a statutory requirements crosswalk that maps each Nunavut Agreement Article 12.5.2 and NuPPAA s. 101(3) requirement to the exact IS volume, section, table, figure, appendix, and page range. Identify requirements that rely on future design, permitting, or management-plan completion, and provide a schedule for closing each gap.

Proponent Response

Refer also to the response provided for NIRB 15 (IR 493).

NIRB 28. (IR-506)

Subject

Concordance / traceability

Issue / Concern

Reviewer Comments / Reasoning: A concordance table is provided. However, it frequently uses representative examples for requirements that apply across multiple valued components and volumes. This approach is not sufficient for direct navigation or for confirming that each guideline requirement has been addressed for every applicable discipline, phase, and project component.

Missing Information / Gap: Representative examples do not demonstrate full conformance for all VCs, plans, and appendices. Several references are broad and do not provide complete page-level traceability.

Information Request

Submit a revised concordance table that: 1) lists every guideline requirement separately; 2) provides all applicable IS volume, section, subsection, table, figure, appendix, and page references; 3) identifies where requirements apply across multiple VCs and provides references for each VC; 4) clearly flags partially addressed, not applicable, and deferred requirements; and 5) includes hyperlinks or bookmarks in the electronic PDF where feasible.

Proponent Response

The IR asks for a revised concordance table that:

1. lists every guideline requirement separately
2. gives all applicable Impact Statement (IS) volume, section, subsection, table, figure, appendix, and page references
3. gives references for each valued component (VC) where a requirement applies to several VCs
4. flags requirements that are partially addressed, not applicable, or deferred
5. includes hyperlinks or bookmarks in the electronic PDF where feasible

The NIRB Final Impact Statement Guidelines (January 2026) request WKR to compile:

- **A concordance table.** It must show where information is presented in the main document and supporting volumes, by document, section, and page number, cross-referenced to the Guidelines' information requirements. It must be easy to follow and allow navigation directly to the required information (NIRB Guidelines, Section 3.2, Page 15).

- **A table following the Appendix A sample.** The sample is organized by Guidelines section, with columns for the Guidelines reference, a description, and the IS volume or appendix and section (NIRB Guidelines, Appendix A, Pages A-1 to A-3).
- **An index and accessible PDFs.** The index references key subjects by volume, section, sub-section, and page. The IS must be supplied as searchable PDFs, with no password restrictions and with text and images that can be copied (NIRB Guidelines, Section 3.3, Pages 15–16).

WKR believes it has addressed the requirements of the Guidelines in the Concordance Table, Volume 1, Appendix A. The table goes beyond the Appendix A sample. For each requirement it gives the IS volume, section, and starting page, and adds a comment column linking the requirement to the relevant content.

WKR believes the following parts of the IR are outside the scope of the Guidelines:

- **A separate reference for every VC on cross-cutting methodology requirements (request 3).** Section 3.2 and the Appendix A sample do not ask for each requirement to be repeated for every VC. The VC assessments in Volumes 5 to 9 use the same structure, so the representative reference shows where the content sits in every VC section. Repeating each methodology line for all 20 VCs would add no new information.
- **A reference to every subsection, table, and figure (request 2).** Section 3.2 asks for document, section, and page number, which the table provides.
- **A conformance-status column for partially addressed or deferred requirements (request 4).** Neither the Guidelines nor the Appendix A sample includes one. The table already marks requirements that are not applicable.
- **Hyperlinks within the PDF (request 5).** Section 3.3 sets the electronic format requirements: searchable, unrestricted, and copyable PDFs. Hyperlinks are not among them.

NIRB 29. (IR-507)

Subject

Standalone document / deferred information

Issue / Concern

Reviewer Comments / Reasoning: Volume 1 provides a summary of the Project and the main assessment findings, and the supporting volumes provide discipline-specific detail. The structure is generally consistent with the guideline. However, some of the most important supporting information, including plan thresholds, monitoring locations, care and maintenance details, final closure/stewardship approach, and final design-dependent assumptions, is either incomplete or deferred.

Missing Information / Gap: The main document cannot be fully stand-alone where conclusions depend on future design or management-plan content not yet provided.

Information Request

Provide a main-document addendum or navigation table that links each key residual-effect and significance conclusion to the specific supporting baseline data, modelling, mitigation, monitoring, and management-plan commitments. For any conclusion relying on future design or plan completion, identify the missing input and explain whether the conclusion could change once that information is available.

Proponent Response

The NIRB Final Impact Statement Guidelines (January 2026) request WKR to compile a main document summarizing, for each valued component (VC), the baseline, predicted impacts, mitigation, residual effects and their significance, and follow-up and monitoring. WKR must also characterize the uncertainty of each prediction. The NIRB Final Impact Statement Guidelines (January 2026) set out these requirements:

- **Main document (Section 3.4, Pages 16–17):** the main document must give enough detail for the reader to understand the project, potential impacts, mitigation, residual effects, and significance. It must include a summary of the assessment for each VC. Detailed studies are provided in separate appendices and referenced by appendix, section, and page.
- **Certainty (Section 7.4.7, Page 56):** WKR must assess the degree of uncertainty or confidence for each predicted effect and level of significance. It must also describe how uncertainty is managed through project design, monitoring, and contingency plans, applying the precautionary principle where uncertainty remains high.
- **Management plans (Section 11.0, Page 98):** the NIRB recognizes that some plan information depends on development plans that will continue to be refined through the review, and may not be available at IS submission. For that information, WKR must provide a timeline showing the review or licensing stage at which it will become available. WKR may also use its judgement in arranging this information.

WKR believes that we have addressed these requirements in the IS, following the structure of other impact statements submitted to the NIRB. The IS connects conclusions to their supporting information as follows:

- **Volume 1, Main Document:** summarizes each VC assessment, including residual effects and significance, and cross-references the supporting volumes.
- **Volume 1, Appendix A (Concordance Table):** gives volume, section, and page references from each Guidelines requirement to the relevant IS content. This includes residual effects, significance, mitigation, and monitoring for each VC.
- **Volume 1, Appendix B (Mitigations and Commitments):** consolidates the Project's mitigation measures and commitments, showing which VCs each applies to.
- **Volume 5, Section 11 to Volume 9, Section 30 (Uncertainty):**
    - Each VC assessment states the gaps, assumptions, and uncertainties encountered, and assigns a confidence level to the final effects conclusion.
    - Uncertainty is described in terms of the assumptions made, baseline data quality, modelling confidence, and confidence in mitigation success.
    - Where confidence is low, the precautionary approach is applied, with follow-up, monitoring, and adaptive management.
- **Volume 5, Section 11 to Volume 9, Section 30 (Significance Determination):** each VC assessment defines significance thresholds and ends with a summary and a significance conclusion.
- **Volume 11 (Management Plans):** gives the conceptual management and monitoring plans.

We believe that a new main-document addendum or navigation table, and a re-evaluation of each conclusion against design or plan information not yet available, are outside the scope of the guidelines.

- **A new addendum or navigation table:** Section 3.4 of the Final Impact Statement Guidelines requires the main document to summarize each VC and reference supporting studies by appendix, section, and page. It does not require a separate table linking each conclusion to every supporting dataset, model, mitigation, and plan. The IS already provides these links through the main document, the Concordance Table (Appendix A), and Appendix B.
- **Re-evaluating each conclusion against future information:** Section 7.4.7 of the Final Impact Statement Guidelines requires WKR to characterize uncertainty and describe how it is managed, which the IS does through confidence ratings and the precautionary approach. Section 11.0 accepts that some plan information will become available later in the Review or during licensing. Predicting whether each conclusion would change once that information exists would be a new analysis that the Guidelines do not require.

NIRB 30. (IR-508)

Subject

Index / document navigation

Issue / Concern

Reviewer Comments / Reasoning: The IS contains tables of contents and lists of tables and figures. The concordance table also provides some navigation. However, the submission does not appear to provide a comprehensive subject index covering all key subjects across volumes by volume, section, subsection, and page.

Missing Information / Gap: A subject index is important because the IS is large and key topics such as caribou access controls, future development, DFO offsetting, water crossings, spill response, and Inuit Knowledge integration are distributed across several volumes.

Information Request

Provide a consolidated subject index for the full IS that includes key topics, project components, VCs, management plans, technical appendices, and cross-cutting issues. The index should provide exact volume, section, subsection, table/figure/appendix, and page references.

Proponent Response

The IR asks for a consolidated subject index for the full Impact Statement (IS). It should cover key topics, project components, valued components (VCs), management plans, technical appendices, and cross-cutting issues. It should give exact volume, section, subsection, table, figure, appendix, and page references.

The final guidelines issued to WKR from the NIRB request WKR to compile an index to the IS that references locations in the text by volume, section, sub-section, and page for all key subjects. The IS meets these presentation requirements as follows:

- **Volume roadmap:** Volume 1 includes a roadmap showing the content of each of the 11 volumes by section number and title (Volume 1, Main Document).
- **Within each volume:** each volume has a Table of Contents with Lists of Tables and Figures, and a glossary of abbreviations.
- **Concordance Table:** Volume 1, Appendix A cross-references each Guidelines requirement to the IS volume, section, and starting page.

We believe a more detailed subject index as requested in this IR is outside the scope of the Guidelines.

NIRB 31. (IR-509)

Subject

Maps / geospatial data

Issue / Concern

Reviewer Comments / Reasoning: The IS includes multiple maps and figures, and the overview figures identify WGS 1984 UTM Zone 12N and map scales. These are useful for orientation. However, reviewers also require geospatial data and consistent map layers to overlay Project components with land tenure, waterbodies, habitat, harvesting areas, archaeological constraints, and sensitive receptors.

Missing Information / Gap: The PDFs do not confirm that GIS files, layer metadata, and complete map packages were provided for technical review. Several maps provide context but not enough spatial detail to verify effects or mitigation at component scale.

Information Request

Provide a geospatial data package for technical review, including Project Development Area boundaries, road alignment, port components, aerodrome, camps, quarries, watercourse crossings, winter roads, land tenure, sensitive environmental features, cultural/heritage constraints, and study-area boundaries. Include datum/projection, metadata, data source, date, and version-control information.

Proponent Response

WKR will make a geospatial data for the Project available on the WKR website (https://www.westkit.ca/file-downloads). The package will include the spatial data WKR is able to release publicly. It will not include data that are confidential or that were obtained under agreements that do not permit sharing.

Two kinds of data can't be included, as set out in the response to BQCMB-IR-018 (IR-351), parts (1) to (3):

- Spatial layers from the Kitikmiut Knowledge report for the Project (Banci and Spicker 2024) "are not permitted for public release under the NTKP Non-Exclusive Licensing Agreement between WKR and the Kitikmeot Inuit Association (Volume 3, Section 4.2)."
- Bathurst caribou seasonal ranges "cannot be provided as they were acquired from GNWT-ECC through a data sharing agreement"

Some Project layers, such as quarry and borrow source locations, are not yet available. These locations will be determined as engineering design progresses (refer to the response to BQCMB-IR-018 (IR-351), parts (1) and (2)).

NIRB 32. (IR-510)

Subject

Glossary / plain language

Issue / Concern

Reviewer Comments / Reasoning: The IS provides abbreviations and acronyms. The guideline, however, calls for a plain-language glossary of technical words as well as acronyms and abbreviations. A list of acronyms is not the same as an accessible glossary explaining technical assessment terms, modelling terms, regulatory concepts, Inuit Knowledge terminology, and management-plan terminology.

Missing Information / Gap: Plain-language definitions are needed for public and technical users to understand terms such as residual effects, significance, HADD, RFI, ZOI, TARP, mixing zone, adaptive management, harmful alteration, and other terms central to the assessment.

Information Request

Provide a plain-language glossary for the full IS. The glossary should include technical, regulatory, modelling, mitigation, monitoring, and Inuit Knowledge-related terms used across all volumes. Provide the glossary in the languages required by Section 3.5 for summaries and main-document materials.

Proponent Response

A plain-language glossary for the IS is provided in Appendix G, Glossary, of the Addendum to the Proponent Response package. Each entry identifies the volume and section where the term is used. The glossary is provided in English, French, Inuinnaqtun, and Inuktitut. Acronyms and abbreviations are listed in the Abbreviations section of each IS volume.

NIRB 33. (IR-511)

Subject

PDF accessibility / data usability

Issue / Concern

Reviewer Comments / Reasoning: The uploaded PDFs are searchable, and text can generally be extracted, which supports technical review. However, some extracted map and table content is difficult to read or interpret outside the visual PDF context, and some figures require accompanying data files for full review.

Missing Information / Gap: Searchability alone does not provide the data behind maps, models, and large tables. For a northern review process, file size, registry accessibility, and data-download usability also matter.

Information Request

Confirm that all PDFs submitted to the NIRB Public Registry are searchable, copy-enabled, not password restricted, and optimized for low-bandwidth access. Provide separate machine-readable files for large tables, commitments registers, GIS layers, monitoring locations, model inputs/outputs, and map data.

Proponent Response

The IS volumes were submitted to the NIRB Public Registry as PDFs without password restrictions, with searchable and copy-enabled text, as required by Section 3.3 of the IS Guidelines (NIRB 2026).

WKR will make a geospatial data for the Project available on the WKR website (https://www.westkit.ca/file-downloads). Spatial data that cannot be released, and Project layers not yet available, are identified in the response to BQCMB-IR-018 (IR-351), parts (1) to (3), and NIRB 31. (IR-509).

NIRB 34. (IR-512)

Subject

Main document / residual-effects summary

Issue / Concern

Reviewer Comments / Reasoning: Volume 1 provides a useful high-level summary and includes key maps and conclusions. It is not fully sufficient on its own for technical review because some conclusions are dependent on detailed supporting volumes and incomplete or future management plans. In addition, some positive socio-economic effects are described as benefits but are not assessed with the same level of effect characterization as adverse effects. Missing Information / Gap: The main document does not consistently show the evidentiary chain between baseline, predicted change, mitigation, residual effects, significance, and follow-up for each major conclusion.

Information Request

Provide a main-document residual-effects summary table for each VC that includes baseline condition, predicted change, effect pathway, mitigation/enhancement measures, residual effect, significance, confidence, key uncertainty, follow-up/monitoring, and source volume/page references. Include positive and adverse residual effects.

Proponent Response

The NIRB Final Impact Statement Guidelines (January 2026) request WKR to compile a main document summarizing the assessment for each VC. They also request a residual-effects summary table showing effects before and after mitigation, the mitigation measures applied, and the residual impacts. The NIRB Final Impact Statement Guidelines set out these requirements:

- **Main document (Section 3.4, Pages 16–17):** the main document must give enough detail for the reader to understand potential impacts, mitigation, residual effects, and significance. It must include a summary for each VC covering baseline, predicted changes, impacts, mitigation and enhancement, residual effects and significance, and cumulative effects. Detailed studies are to be referenced by appendix, section, and page.
- **Impact prediction (Section 7.4.1, Page 39):** WKR must discuss how predicted changes compare to baseline, the mitigation proposed, residual impacts, and their significance, and describe the uncertainty for each predicted impact.
- **Significance determination (Section 7.4.6, Page 54):** significance determinations are applied to predicted residual effects on VCs.

WKR believes that we have addressed this IR in Volume 1 and the VC assessments in Volumes 5 to 9, following the structure of other impact statements submitted to the NIRB.

- **Volume 1, Main Document:** summarizes the Project and each VC assessment, with key maps and conclusions (Volume 1, Sections MD.1 and MD.6 to MD.10). Both adverse and positive effects are summarized. Supporting studies are referenced by volume and section number.
- **Residual-effects summary tables for each VC:** every VC assessment in Volumes 5 to 9 follows the same structure:
  - effects pathways, mitigation measures, and residual effects for each effect
  - a summary of Project residual effects with a characterization table
  - a summary of cumulative effects with a table
  - a significance of effects section
- **Confidence and uncertainty:** each VC assessment includes a Prediction Confidence and Uncertainty section.
- **Follow-up and monitoring:** each VC assessment includes a Follow-up and Monitoring section.
- **Positive (beneficial) effects:** positive socio-economic effects are assessed in the Volume 9 VC assessments, along with the related enhancement measures.
- **Traceability:** the Concordance Table (Volume 1, Appendix A) cross-references each of the Guidelines requirements above to the relevant volume, section, and page.

We believe that a new consolidated table in the main document with additional columns, and a significance determination for positive residual effects, are outside the scope of the guidelines.

- **A consolidated main-document table with additional columns:** Section 11.5 of the Final Impact Statement Guidelines calls for a summary table of effects before and after mitigation, the mitigation applied, and the residual impacts. The IS provides this in each VC assessment. The Guidelines do not ask for these tables to be repeated in the main document, or for added columns on baseline, confidence, key uncertainty, follow-up, and page references. Section 3.4 of the Final Impact Statement Guidelines requires the main document to summarize the VC assessments and reference supporting studies, which it does.
- **Significance determinations for positive effects:** Section 7.4.6 of the Final Impact Statement Guidelines applies significance determinations to predicted residual effects. Consistent with Volume 4, Section 9.4.1.4 (p. 9-13), "[r]esidual positive effects are not carried forward to a significance determination," This is a commonly used impact assessment methodology in Canada, under which the significance determination is applied to adverse residual effects while positive effects are described qualitatively and inform the overall assessment.

NIRB 35. (IR-513)

Subject

VC summary / uncertainty

Issue / Concern

Reviewer Comments / Reasoning: The main document summarizes each VC and cross-cutting assessment. The limitation is that the summary sometimes relies on statements that effects are not significant after mitigation without giving enough detail in the main document on uncertainty, residual effect magnitude, benefit distribution, and the role of incomplete management plans.

Missing Information / Gap: A complete VC-by-VC summary of uncertainty, confidence, adaptive management triggers, and monitoring commitments is not consistently presented in the main document.

Information Request

Provide a VC summary addendum that identifies for each VC: 1) residual effect conclusion; 2) significance rationale; 3) confidence and uncertainty; 4) incomplete design or plan dependencies; 5) key mitigation measures; 6) monitoring indicators and thresholds; and 7) cumulative and transboundary effect implications.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Volume 1 Main Document of the Impact Statement (IS), which includes the summary of impact assessment for each VCs as described in the Final NIRB Guidelines for the Project. In particular, Section 3.4 of the Guidelines required a summary of impact assessment for each valued component including: the description of the historical background and current baseline conditions; predicted changes to the biophysical and socio-economic environments; predicted impacts to the valued components; mitigation and enhancement measures; residual effects and the significance of those effects; cumulative effects; and other effects including accidents and malfunctions and effects of the environment on the project. The Guidelines did not request the confidence and uncertainty, incomplete design or plan dependencies, monitoring indicators and thresholds, and transboundary effect implications to be included in the summary; this information can be found in the detailed VC assessments.

NIRB 36. (IR-514)

Subject

Follow-up / monitoring

Issue / Concern

Reviewer Comments / Reasoning: The IS provides a management plan volume and a summary of management plans. However, several plans are preliminary, draft, or include placeholders for monitoring design, thresholds, adaptive responses, roles, and reporting. Where the effects assessment relies on these plans, the information is not yet complete enough for a technical reviewer to confirm that mitigation and follow-up will be effective.

Missing Information / Gap: The main document does not provide a complete follow-up, and monitoring commitments register with indicators, thresholds, schedules, accountable parties, reporting, and adaptive actions.

Information Request

Provide a consolidated follow-up and monitoring register covering all VCs and management plans. Include monitoring objective, indicator, method, location, frequency, duration, threshold/action level, responsible party, reporting recipient, adaptive-management response, and link to the residual effect being verified.

Proponent Response

The IR asks for a single follow-up and monitoring register covering all valued components (VCs) and management plans.

Section 11 of The NIRB Final Impact Statement Guidelines (January 2026) requests WKR to compile individual monitoring and mitigation plans, and follow-up and adaptive management plans, as part of an Environmental Management Plan. For plan information not yet available, the Guidelines request a timeline showing when it will be provided. Section 3.4 of the Guidelines require that the main document summarize the proposed follow-up and monitoring programs.

WKR believes that we have addressed these requirements in Volume 11.

We believe that a single consolidated register across all VCs and management plans is outside the scope of the guidelines.

- **Format:** Section 11.3 of the Guidelines asks for the monitoring content to be set out in each individual plan, and Section 11.0 lets WKR arrange this information as it judges most effective. The Guidelines do not ask for the monitoring details from every plan to be combined into one register.
- **Timing of detail:** Section 11.0 accepts that some plan information will become available later in the Review or during licensing. The Volume 11 plans are conceptual. Section 37.1.5 in Volume 11 outlines timing for refinement of the plans.

NIRB 37. (IR-515)

Subject

Translation / public participation

Issue / Concern

Reviewer Comments / Reasoning: The submission includes translated sections, but the IS discloses that some translated sections were produced using machine translation and that human-translated versions were commissioned and would replace the interim text. This is not adequate as final review material because public understanding and participation depend on accurate translations.

Missing Information / Gap: Final human-verified translations, translator/validator qualifications, QA/QC records, and a change log between machine-translated and verified versions are missing.

Information Request

Provide final human-translated and validated versions of the main document, thematic volume summaries, Executive Summary, and Non-Technical Summary in English, French, Inuinnaqtun, and Inuktitut. Include translator/reviewer qualifications, QA/QC procedures, validation dates, and a change log identifying any substantive corrections from interim machine translations.

Proponent Response

The IS provides the Executive Summary, Non-technical Summary, Main Document, and Volume Summaries in English, French, Inuinnaqtun, and Inuktitut, as required by Section 3.5 of the IS Guidelines (NIRB 2026). The Volume 1 Table of Contents is given in each language for navigation to the translated sections.

Please refer to NIRB 25 (IR-503) for further details.

NIRB 38. (IR-516)

Subject

Place names / maps

Issue / Concern

Reviewer Comments / Reasoning: Some local/Inuit place names appear in the text and figures. However, it is not clear that all maps consistently include local/common names, accepted community names, official toponyms, and dialectal differences across potentially affected communities.

Missing Information / Gap: No consolidated place-name register is provided to show how local names were selected, verified, and applied across maps.

Information Request

Provide a placename register and map QA/QC table identifying each place name used in the IS, official toponym, local/common Inuit name(s), language/dialect, source/verification method, and all figures/maps where the name appears. Update maps where local names are missing or inconsistently applied.

Proponent Response

WKR appreciates the importance of accurate local place names to community understanding of the Project. As the IS Guidelines do not require a consolidated place-name register or map QA/QC table, WKR has not prepared a separate register. The place names, their sources, and dialectal context are presented in the IS as described below.

Local place names are shown on figures throughout the IS, consistent with Sections 3.5 and 5.3 of the IS Guidelines (NIRB 2026):

- Volume 1 (Main Document): the figures include place names. Inuktitut and Inuinnaqtun versions of the figures, including legend entries and place names, are presented in the Inuktitut and Inuinnaqtun sections of the Main Document.
- Volume 2: the Project figures include place names, including Figure 1.4 (Project Location).
- Volume 9, Section 24: Figure 24.1 (Traditional Land, Marine, and Resources Use LAA and RAA Overview) shows communities and Inuit place names alongside official names, Figure 24.2 (Geographic Overview of Kitikmiut and Other Potentially Affected Indigenous Groups Included in the TLMRU Assessment) shows potentially affected Nunavut and transboundary communities.

Dialectal differences among potentially affected communities are described in Volume 9, Section 24.2.2.2 (Inuit of the Kitikmeot Region; Governance, Demographics, and Language) and Section 24.2.2.3 (Inuvialuit; Governance, Demographics, and Language).

The Inuktitut figure text was human-translated; however, the Inuinnaqtun figure text was machine-translated as an interim measure and will be replaced with human-verified translations, as described in the response to NIRB 25 (IR-503). Refer also to the response to NIRB 37 (IR-515).

Inuit place names in the IS are attributed to the Project-specific Inuit Knowledge report, *Kitikmiut Knowledge of the Proposed Kogloktoakyok (Grays Bay) Port and Road Project* (Banci and Spicker 2024) (e.g., Volume 3, Section 7.3.1). "Prior to sharing the report, the data was verified following an approved protocol" (Volume 3, Section 4.1.1).

NIRB 39. (IR-517)

Subject

Executive summary / effects synthesis

Issue / Concern

Reviewer Comments / Reasoning: The Executive Summary provides a broad summary of the Project, benefits, phases, VCs, and conclusions. However, it does not consistently provide enough detail on community-specific concerns, unresolved issues, uncertainty, positive-effect distribution, and management-plan dependencies for readers to understand the basis for the final conclusions without consulting many supporting volumes.

Missing Information / Gap: The Executive Summary lacks a concise issue-response-conclusion chain showing how key public/Inuit concerns influenced design, mitigation, monitoring, and significance. It also needs clearer treatment of residual cumulative effects and key uncertainties.

Information Request

Revise or supplement the Executive Summary to include: 1) a table of key issues raised by communities, Inuit organizations, Indigenous groups, and adjacent jurisdictions; 2) the Proponent response; 3) whether the issue changed design, mitigation, monitoring, or conclusions; 4) residual effect and significance; 5) remaining uncertainty; and 6) follow-up commitments.

Proponent Response

WKR respectfully submits that the information requested in this IR regarding key issues raised, how they were addressed, and the resulting conclusions on residual and cumulative effects is included in the IS, as follows:

- **Key issues, who raised them, and WKR's response**: Volume 3, Table 6.2.
- **Whether an issue changed the design, mitigation or monitoring**: the "Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment" subsection of each VC assessment, together with the "Summary of Inuit, Indigenous, and Community Knowledge and Engagement Feedback" table, which gives each comment, its source, WKR's response, and where it is addressed in the IS (Volumes 5 to 9).
- **Residual effects, significance, mitigation and monitoring**: refer to the response to NIRB 1 (IR-479). Remaining uncertainty is addressed in the Prediction Confidence and Uncertainty section of each VC assessment (Volumes 5 to 9).
- **Cumulative effects**: the cumulative effects section of each VC assessment (Volumes 5 to 9), with an overview in Volume 10, Section 32, and additional detail in Addendum Appendix A, Cumulative Effects Assessment Supplement.

Please also see the preamble to NIRB's IRs for further context regarding the request for a table that summarizes issues, responses and conclusions for the IS. Appendix D (Engagement and Knowledge Supplement), Section 4, of the Addendum sets out WKR's commitment to provide an Inuit, Indigenous, and Community Knowledge influence table during the technical review comment phase. Refer also to the responses to NIRB 1 (IR-479), NIRB 18 (IR-496) and NIRB 305 (IR-783).

NIRB 40. (IR-518)

Subject

Executive summary / maps

Issue / Concern

Reviewer Comments / Reasoning: Summary maps are provided and are useful for regional orientation. However, technical reviewers and community readers require maps that clearly show all routes and Project components together with potentially affected communities, harvesting/travel areas, sensitive features, marine navigation routes, and road/winter-road connections at readable scales.

Missing Information / Gap: Maps in the summary material do not appear to fully integrate all key Project routes, sensitive receptors, and community-use areas needed to understand potential effects.

Information Request

Provide an updated summary-map package in all required languages showing: Project components; road, winter-road, air and marine routes; potentially affected Nunavut and transboundary communities; key landmarks and local place names; sensitive environmental/cultural features; and major land/marine use areas at scales suitable for public review.

Proponent Response

WKR respectfully submits that the information requested in this IR regarding summary maps of Project components, transportation routes, potentially affected communities, key landmarks and local place names is included in the IS, as follows:

- Summary map: the Non-Technical Summary, Figure NTS.1 (Regional Context), shows the Grays Bay Port, Grays Bay Road, Project Access Corridor, Northwest Passage marine route, Tibbitt to Contwoyto Winter Road, and potentially affected Nunavut and transboundary communities. It also shows key landmarks, with local place names alongside official names (e.g., Cambridge Bay / Ekaluktutiak; Bathurst Inlet / Kiligiktokmik). Translated versions of Figure NTS.1 are presented in the Inuktitut, Inuinnaqtun, and French sections of the Main Document (Volume 1).
- Project components, routes, communities and landmarks: Volume 2, Figures 1.1, 1.3 and 1.4. These figures are reproduced in Volume 1, including in the Inuktitut, Inuinnaqtun, and French sections of the Main Document.
- Potentially affected Nunavut and transboundary communities: Volume 9, Figure 24.1, which shows communities and Inuit place names alongside official names (e.g., Grays Bay / Kogloktoakyok; Bathurst Inlet / Kiligiktokmik), and Figure 24.2.

- Local place names: refer to the response to NIRB 38 (IR-516).
- Land and marine use, harvesting areas, travel routes, culturally important areas and other sensitive features: refer to the response to NIRB 49 (IR-527), which identifies the relevant figures in Volume 2, Appendix E of the Addendum, and the VC assessments (Volumes 5 to 9), and notes that archaeological site locations are confidential. Spatial data from the Project-specific Inuit Knowledge report cannot be released (refer to the response to NIRB 31 (IR-509) and Volume 3, Section 4.2).

Please also see the preamble to NIRB's IRs for further context regarding the request for a summary-map package for the IS.

NIRB 41. (IR-519)

Subject

Popular summary / plain language

Issue / Concern

Reviewer Comments / Reasoning: A Non-Technical Summary is included and describes the Project, baseline, predicted changes, mitigation, and public participation. However, the language remains relatively high-level, and the required plain-language glossary is not clearly provided. The presence of interim machine translations also limits adequacy for public review until final human-verified translations are supplied.

Missing Information / Gap: Plain-language glossary, final verified translations, and a stand-alone confirmation/version of the Popular Summary are needed.

Information Request

Provide a final stand-alone Popular/Non-Technical Summary in English, French, Inuinnaqtun, and Inuktitut that includes a plain-language glossary, clear explanations of major technical terms, maps/figures at appropriate scales, and a version-control note confirming replacement of any machine translated text.

Proponent Response

WKR respectfully submits that the information requested in this IR regarding the Non-Technical Summary (NTS) glossary, maps and translations is included in the IS and Addendum, as follows:

- NTS: Volume 1, in English, French, Inuinnaqtun and Inuktitut. For where the detail behind the NTS's summary of issues, effects and conclusions is found in the IS, refer to the response to NIRB 39 (IR-517).
- Plain-language glossary: Appendix G (Glossary) of the Addendum, in all four languages; refer to the response to NIRB 32 (IR-510).
- Maps and figures: the NTS includes Figure NTS.1 (Regional Context). Translated versions of it are presented in the Inuktitut and Inuinnaqtun sections of the Main Document (Volume 1). Refer also to the responses to NIRB 38 (IR-516) and NIRB 40 (IR-518).
- Human-verified translations: Appendix H (Translations) of the Addendum. Refer to the responses to NIRB 25 (IR-503) and NIRB 37 (IR-515).

NIRB 42. (IR-520)

Subject

Proponent information / ownership

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies WKR, ownership context, contact information, mission, some corporate background, and general internal policies. It does not provide a complete description of corporate/management structures, policy applicability across contractors and suppliers, or reporting systems for lessons learned and accountability.

Missing Information / Gap: Corporate governance and policy implementation detail is insufficient for verifying accountability for mitigation, monitoring, contractor compliance, and adaptive management.

Information Request

Provide a Proponent governance and policy addendum that includes: corporate and Project management structure; roles and responsibilities for environmental, socio-economic, health, safety, and cultural commitments; policy list and applicability to employees, contractors, subcontractors, and suppliers; contractor enforcement mechanisms; reporting systems; and procedures for incorporating lessons learned into Project operations.

Proponent Response

WKR respectfully submits that the Impact Statement (IS) already contains the information needed to determine who is accountable and how to deliver on the Project's commitments. Accountability rests with both the corporate background and a clear framework that assigns responsibility, holds contractors to the same standards, and provides ways to monitor, report on, and improve performance. That framework is in the IS and addresses each of the four concerns:

- **Mitigation.** Every mitigation commitment is tied to WKR as the responsible proponent and to a specific management plan that carries it out — for example, the Road, Port, Air Quality, Explosives, Water, Waste, and Spill Contingency plans (Volume 11). These commitments are tracked in a single commitments register (Volume 1, Appendix B), and the Environmental Management System (EMS) provides the overall structure for putting them into practice and tracking their implementation. This allows for a reviewer to trace any measure to the plan that delivers it and to WKR as the party responsible.
- **Monitoring.** The monitoring programs (as identified in Volume 11, Table 37.1), set out what is monitored, who does it, and how results are reported and acted on. Results will be shared with the Kitikmeot Inuit Association, communities, the Board, and regulators, so progress is visible and can be checked.

- **Contractor compliance.** The Project's rules apply to contractors, not just WKR staff. Key policies, such as the No Drug and Alcohol Policy, the Employee Code of Conduct, and the Travel Policy, apply to all personnel and contractors on-site and at camps (Volume 9, Sections 26–27), and the EMS and management plans govern work done by contractors. Compliance is enforced through those plans and policies, the Project's contracts, and on-site controls.
- **Adaptive management.** The IS commits to adjusting mitigation when monitoring shows that effects differ from expectations (Volume 4, Section 9.5). It also commits to investigating accidents, incidents, and near-misses so lessons learned are shared and built back into how the Project operates (Volume 10, Section 34). In short, monitoring leads to action, and lessons learned feed back into operations.

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process and will be further developed as the review progresses. This includes further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and after the final hearing is completed, if necessary.

Roles and responsibilities for implementing the Project management and monitoring plans, including those of WKR as proponent, the General Manager (or equivalent), and site personnel, are set out in Volume 11, Section 37.1.9. The Volume 11 management plan summary identifies the plans developed by WKR and those developed jointly with the construction contractor (Volume 11, Section 37). These plans operate within the Project's EMS (Volume 2, Section 2.1; Volume 11). Design commitments, Project-specific commitments, and mitigation measures are listed in Volume 1, Appendix B. Table 1 lists the Project policies and the parties to which they apply.

As with the other plans, the EMS and supporting procedures will be finalized through the review and before construction.

NIRB 43. (IR-521)

Subject

Proponent experience / capability

Issue / Concern

Reviewer Comments / Reasoning: The IS provides general statements on WKR's exploration experience, barge landing, aircraft/marine support for baseline studies, spill reporting, safety, engagement, and Arctic/Sub-Arctic operations. These statements are largely qualitative and self-attested. The Project is a large-scale port, road, aerodrome, quarry, and marine-logistics undertaking, which is much broader than prior exploration activities described.

Missing Information / Gap: The IS does not provide detailed evidence showing WKR's experience managing infrastructure of comparable scale, complexity, and risk, nor does it clearly identify safeguards to address any experience gaps.

Information Request

Provide an operational experience and safeguards table covering: 1) WKR's direct experience with ports, marine traffic, aerodromes, all-weather roads, winter roads, quarries, camps, fuel storage, waste systems, and emergency response; 2) compliance history and supporting records; 3) spills, incidents, corrective actions, and lessons learned; 4) contractor/partner experience filling any gaps; and 5) safeguards to ensure competent implementation during construction and operations.

Proponent Response

Section 5.1 (Proponent Information) of the NIRB Final Impact Statement Guidelines (January 2026) requests WKR to compile a description of its past and present operational experience in the proposed activities, together with references to its records of compliance, safety, spills and emergencies, adaptive management, and corrective actions, and safeguards where operational experience in Nunavut or Northern Canada is lacking.

WKR believes that we have addressed these requirements in Volume 2, Section 1.1.1 (Operational Experience).

We believe that a stand-alone experience and safeguards table, supporting compliance records, contractor and partner experience, and a separate safeguards analysis for experience gaps are outside the scope of the guidelines.

- **Table format and supporting records:** Section 5.1 asks WKR to describe its experience and *reference* its records. It does not ask for a structured table or for the underlying compliance records to be filed.

- **Contractor and partner experience (sub-part 4):** Section 5.1 covers the Proponent's own experience and records. It does not require an assessment of contractors or partners who have not yet been engaged.
- **Safeguards (sub-part 5):** Section 5.1 requires safeguards only where the Proponent has no prior operational experience in Nunavut or Northern Canada. That condition does not apply, because all of WKR's operations have been in Arctic and sub-Arctic regions.

NIRB 44. (IR-522)

Subject

Financial security / bonding

Issue / Concern

Reviewer Comments / Reasoning: The IS states the Project is primarily permanent infrastructure and that WKR does not expect to post a bond or financial security for reclamation, except potentially for temporary construction areas. This does not fully address premature closure, temporary closure, reduced operations, accidents, long-term stewardship, or compensation for major biophysical or socioeconomic damage.

Missing Information / Gap: Financial assurance and closure/stewardship cost information are not sufficient to assess long-term risk, abandoned infrastructure scenarios, or accident compensation capacity.

Information Request

Provide a financial assurance and closure-liability addendum that includes: preliminary reclamation, care and maintenance, decommissioning, postclosure, long-term maintenance, and accident-response cost estimates; assumptions and contingencies; responsible parties; funding mechanism; security/bonding approach; ownership/transfer scenarios; and timing for final security determination.

Proponent Response

Please see KAA-4 (IR-04) for the response.

NIRB 45. (IR-523)

Subject

Project overview / component scope

Issue / Concern

Reviewer Comments / Reasoning: The IS lists key Project components and activities, including port infrastructure, controlled access road, aerodrome, fuel storage, quarries, water crossings, camps, winter roads, and reclamation of temporary areas. However, some features remain conceptual or undetermined, including equalization structures, final design of future-ready components, and the treatment of excluded future third-party uses.

Missing Information / Gap: A single phase-by-phase component/activity matrix is needed to verify the scope, timing, and assessment basis for all works and undertakings.

Information Request

Provide a Project overview matrix listing each component/activity by phase, with location, design status, construction method, operating assumptions, workforce, traffic/shipping/flight assumptions, water/fuel/waste requirements, dependencies, and whether it is included in the Project, futureready, or excluded/future third-party development.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the Volume 2 Project description, which sets out each element of the request by component and phase, in the sections and tables listed below.

Volume 2, Section 1.5 (Project Overview, Pages 1-13 to 1-19) describes all Project components. Their approximate locations are given in Table 1.4 (Project Component Locations, Page 1-18). The main components are summarized in Table 2.7 (Summary of Main Project Components, Page 2-26), and each component is described in Section 2.6.1 and Tables 2.8 to 2.11:

- Port: Table 2.8, Page 2-27
- Aerodrome: Table 2.9, Page 2-32
- Road: Table 2.10, Page 2-33
- Jericho Station: Table 2.11, Page 2-34

Phases, timing and dependencies

The Project has two phases:

- **Construction.** Onsite works begin in 2029 and major construction begins in 2030. The Construction phase lasts about five years.
- **Operations and Maintenance.** This phase begins in 2035 and continues indefinitely.

Section 2.2 identifies the dependencies. Construction "is dependent on the timing of the NIRB process, permitting timelines, public and private funding availability, contractor availability, and user needs and commitments," and "[c]onstruction of the port may also proceed separately from the road and may be advanced initially and independently of the road" (Volume 2, Section 2.2).

Section 2.6.2 describes construction activities and sequencing. Table 2.12 (Construction Summary, Page 2-36) sets out activities by year and season. The road "will generally be advanced concurrently from the port at the north end, and from Jericho Station at the south end." Land-based components are expected to be built year-round, and "[n]ear-shore and marine-based infrastructure will most likely be constructed primarily during the open-water season" (Volume 2, Section 2.6.2, Page 2-35). Watercourse crossing structures "will be constructed in winter, where possible" (Volume 2, Section 2.6.2).

Annual equipment and supply requirements are set out for each phase:

- Construction: Table 2.13 (Page 2-39)
- Operations and Maintenance: Table 2.19 (Page 2-50)

The activities for each component during Operations and Maintenance are described in Section 2.6.3.

Workforce

The Construction phase "is expected to require 200 to 500 people per year." The Operations and Maintenance phase is "estimated at around 20 personnel for port operations and approximately 22 personnel for road operations based at the port, and approximately 12 people based at Jericho Station" (Volume 2, Section 2.5.5, Page 2-24).

Traffic/Shipping/Flight requirements

Vessel type, frequency and direction of transit, aircraft type and frequency, and ground-based traffic are given for each phase:

	Construction	Operations and Maintenance
Vessels	Table 2.14 (Page 2-41)	Table 2.20 (Page 2-52)
Aircraft	Table 2.15 (Page 2-41)	Table 2.21 (Page 2-52)
Ground-based traffic	Table 2.16 (Page 2-42)	Table 2.22 (Page 2-54)

Water, fuel and waste requirements

- **Water, wastewater and waste infrastructure** for each component is described in Tables 2.8 and 2.11.
- **Waste generated during construction:** Table 2.17 (Page 2-46).
- **Proposed treated sewage effluent discharge criteria:** Table 2.18 (Page 2-47).
- **Fuel storage at Jericho Station:** Table 2.11 states that the facilities "are anticipated to store up to 180,000 L of diesel, 50,000 L of jet fuel, and 100 barrels of gasoline" (Volume 2, Table 2.11).

Included, future-ready and excluded

Volume 2, Section 1.5 states that the Project "does not include the future use of Project infrastructure by third parties, such as trucking mineral concentrate from future mines to the Grays Bay Port, storing and handling concentrate at the port, or shipping concentrate from the port," nor "future construction of additional infrastructure by third parties, such as spur roads to future mines or concentrate storage facilities at the port." It also states that these uses and facilities "will be addressed in the assessment of cumulative effects" (Volume 2, Section 1.5). The future concentrate storage area at the port is identified in Table 2.8. Refer to the responses to NIRB 65 (IR-543), NIRB 81 (IR-559) and NIRB 85 (IR-563) for additional information.

Design status

The IS was prepared on a conceptual level of engineering design. Some details will be confirmed as design progresses. For example, in addition to the identified crossings, "[a]n additional, indeterminate number of drainage culverts will be installed along the road alignment to prevent ponding along the side of the road embankment" (Volume 2, Section 2.6.2). The number, location and size of laydown areas at Jericho Station "will be confirmed as Project design progresses and as third-party users needs are confirmed" (Volume 2, Table 2.11).

To provide clarity on the basis of design for the Port (marine and landside), Aerodrome, and the Road, see the Grays Bay Road and Port Reference Design Concept Memos attached as Addendum Appendix C. Each memo includes the details on the required design scope, the site conditions that must be considered in the design, codes, standards and design guidelines, reference documents, functional requirements, constraints, risks, and interdependencies, the reference design considerations, and future expansion considerations. The memos also include environmental commitments, risks and constraints (including climate resiliency) that must be incorporated into the advancement of the design. The Impact Statement and basis of design relied on existing baseline data, historical geotechnical information, conceptual engineering assumptions, and conservative permafrost protection measures.

Refer to the responses to NIRB 48 (IR-526) and NIRB 82 (IR-560).

NIRB 46. (IR-524)

Subject

Quantity and type of explosives to be manufactured and stored

Issue / Concern

Reviewer Comments / Reasoning: Arising from NRCan-IR 08. NRCan appended "for information - no response needed," which makes this a non-IR. The substance is nonetheless a specific, answerable request that NRCan states it requires to confirm the explosives facility siting is safe under the Explosives Regulations, 2013. Guideline s. 8.2.11 requires worker health/safety assessment for explosives manufacturing and blasting.

Missing Information / Gap: Types and quantities of explosives to be manufactured and stored on site are not specified, so the safety of the explosives facility location cannot be assessed.

Information Request

Specify the quantity and type of explosives to be manufactured, stored and used on site, itemised by type (e.g. quantity of ANFO, quantity of emulsion), by Project phase and by storage location, sufficient to permit assessment of the explosives facility siting against the Explosives Regulations, 2013 and Guideline s. 8.2.11.

Proponent Response

See response to NRCan-IR 08 (IR-216).

NIRB 47. (IR-525)

Subject

Project location / regional setting

Issue / Concern

Reviewer Comments / Reasoning: The IS provides regional context and identifies nearby communities and broad ecological/cultural context. The more detailed interrelationships between the biophysical environment and residents are distributed across Volumes 3, 6– 9, and 10 rather than being synthesized in the introductory location section.

Missing Information / Gap: A concise socio-ecological context synthesis is needed to connect location, land/marine use, wildlife, water, culture, health, and community well-being at the outset of the IS.

Information Request

Provide a Project location and socio-ecological context synthesis that identifies the main pathways connecting land, water, marine areas, wildlife, travel routes, harvesting, country food, community health, cultural practices, and affected communities. Include cross-references to the detailed baseline and effects sections.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in in Volume 2, Section 1.2 (Regional Context, Pages 1-4 to 1-6) and the Project location in Volume 2, Section 1.5.1 (Project Location, Page 1-18). The historical and cultural context of the region is described in Volume 3, Section 7 (Regional Historical Overview, Page 7-1). The communities and socio-economic setting are described in Volume 9, Appendix 25A (People and Communities Baseline Report).The IS brings together the connections between the biophysical environment and the people who live in and use the region in the Holistic Valued Component Assessment (Volume 10, Section 31). Table 31.1 (Valued Component Summary and Relationships) gives, for each valued component (VC), its effect pathways, its predicted residual effects, and the other VCs it is linked to. It also shows the direction of each relationship (Volume 10, Section 31.2, Table 31.1, Page 31-5). For example, Table 31.1 lists Traditional Land, Marine, and Resource Use (TLMRU), Food Security and Food Sovereignty, and Community Health and Well-being among the VCs linked to Caribou. Table 31.2 (Matrix of VC Interconnections) draws on Table 31.1 to show "the many interconnections among the VCs (where a VC may support or impact another VC)" (Volume 10, Section 31.2, Table 31.2, Page 31-15). Section 31.3 groups the VCs into three Holistic VCs: the Land and Freshwater Environment, the Ocean Environment, and the Human Environment. These are used for "a systems-based evaluation of potential Project and cumulative effects" (Volume 10, Section 31.1; Section 31.3, Page 31-16). Section 31.4 (Collective System) considers the Project's collective effects across those systems (Volume 10, Section 31.4, Page 31-26).

The Holistic Assessment "is not intended to replace the individual VC assessments (Volumes 5 to 9) and should not be considered a stand-alone assessment, as it aims to present a complementary perspective of Project effects from a systems perspective" (Volume 10, Section 31.1).

Cross-references to the detailed baseline and effects sections

The elements named in the Information Request are assessed in the following sections:

- **Land and terrain:** Volume 6, Section 14 (Terrain, Soils, and Permafrost) and Section 15 (Vegetation).
- **Water:** Volume 7, Section 19 (Water Resources) and Section 20 (Freshwater Fish and Fish Habitat).
- **Marine areas:** Volume 8, Section 21 (Marine Water and Sediment Quality), Section 22 (Marine Fish and Fish Habitat) and Section 23 (Marine Mammals).
- **Wildlife:** Volume 6, Section 16 (Caribou), Section 17 (Birds) and Section 18 (Other Terrestrial Wildlife); Volume 8, Section 23 (Marine Mammals).
- **Travel routes, harvesting and cultural practices:** Volume 9, Section 24 (Traditional Land, Marine, and Resource Use), including the TLMRU overview at Section 24.2.2 (Page 24-22); and Volume 9, Section 30 (Heritage Resources).
- **Country food:** Volume 9, Section 25 (Food Security and Food Sovereignty).
- **Community health:** Volume 9, Section 26 (Community Health and Well-being), including the Human Health and Ecological Risk Assessment (Appendix 26A).
- **Affected communities:** Volume 9, Section 27 (Employment and Economy), Section 28 (Infrastructure and Services) and Section 29 (Non-traditional Land, Marine, and Resource Use); and Volume 9, Appendix 25A.
- **Inuit, Indigenous and Community Knowledge of these connections:** Volume 3, Section 4 (knowledge sources) and Section 5 (integration into the assessment). Each VC assessment also includes an "Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment" subsection.

Each VC assessment above also contains the cumulative effects assessment for that VC. The cumulative effects assessment is summarized in Volume 10, Section 32, and transboundary effects are assessed in Volume 10, Section 33.

NIRB 48. (IR-526)

Subject

Coordinates / mapping

Issue / Concern

Reviewer Comments / Reasoning: The IS provides UTM coordinates, latitude, and longitude for the northern and southern road termini, Jericho Station, port marine infrastructure, port landside infrastructure, aerodrome, and winter road PDA.

Missing Information / Gap: No major gap identified for the broad coordinate requirement. More precise coordinates may still be needed during detailed design and permitting for individual crossings, quarries, camps, and facilities.

Information Request

For the next design update, provide an expanded coordinate table for all major permanent and temporary components, including bridges, culverts, quarries, camps, borrow areas, water intakes, outfalls, waste facilities, fuel storage, laydown areas, and monitoring stations.

Proponent Response

To provide clarity on the basis of design for the Port (marine and landside), Aerodrome, and the Road, see the Grays Bay Road and Port Reference Design Concept Memos attached in the Addendum (Appendix C Engineering Design Memos). Each memo includes the details on the required design scope, the site conditions that must be considered in the design, codes, standards and design guidelines, reference documents, functional requirements, constraints, risks, and interdependencies, the reference design considerations, and future expansion considerations. The memos also include environmental commitments, risks and constraints (including climate resiliency) that must be incorporated into the advancement of the design. The Impact Statement and basis of design relied on existing baseline data, historical geotechnical information, conceptual engineering assumptions, and conservative permafrost protection measures.

The design will not be updated until after the Project Certificate decision has been made. Locations of the major permanent components including bridges, culverts, camps, borrow areas, water intakes, outfalls, waste facilities, laydown areas and monitoring stations will not be finalized until design advances.

NIRB 49. (IR-527)

Subject

Land and aquatic uses / sensitive areas

Issue / Concern

Reviewer Comments / Reasoning: The IS provides this information across multiple volumes, including regional context, land tenure, TLMRU, heritage, and VC baseline sections. For technical review, the information needs to be more easily integrated spatially so reviewers can compare Project components with land and aquatic use, sensitive areas, cultural/heritage constraints, and waterbodies.

Missing Information / Gap: The introductory sections do not provide a consolidated constraints map package showing all listed features together in relation to the Project footprint and alternatives.

Information Request

Provide a Project location constraints atlas showing Project components relative to: land tenure; current land and aquatic uses; all major waterbodies and navigable waterways; wetlands; species-at-risk habitat; culturally important areas; archaeological/paleontological constraints; harvesting regions; travel routes; camps; communities; parks/protected areas; and other sensitive receptors. Include confidentiality protections where required.

Proponent Response

WKR respectfully submits that the information requested in this IR are mapped in Volume 2:

- **Figure 1.1** (Regional Context, Page 1-5): the Project in its regional setting.
- **Figure 1.2** (Land Tenures, Page 1-10): land tenure across the Project area.
- **Figure 1.3** (Project Overview, Page 1-15) and **Figure 1.4** (Project Location, Page 1-19): the Project components.
- **Figure 2.2** (Alternatives (Project Location Options), Page 2-13): the alternatives assessed.
- **Table 1.4** (Page 1-18): the approximate location of each main component.

Communities, seasonal settlements and camps are provided on Figure 1.1 and Figure 1.4. Additional figures have been included in the Addendum (Appendix E) that provide the land and aquatic use areas, harvesting, travel routes and culturally important areas that were only discussed and used as part of the assessment in Volume 9, Section 24. Section 24.3.4 (Change to Specific Areas of Cultural Importance Where TLMRU Occurs, Page 24-119). Areas where archaeological sites are located are confidential and not provided based on guidance by the Government of Nunavut (Heritage Resources).

Each valued component assessment in Volumes 5 to 9 maps its own assessment areas relative to the Project which includes navigable waterways, wetlands, and species at risk habitats.

Refer also to the response to NIRB 31 (IR-509) regarding geospatial data.

NIRB 50. (IR-528)

Subject

Geospatial files / mapping data

Issue / Concern

Reviewer Comments / Reasoning: The PDFs contain maps, but the PDFs themselves do not confirm that a complete geospatial data package has been provided. Technical review of spatial effects cannot rely solely on static PDF figures, especially for watercourse crossings, caribou ranges, harvest areas, marine routes, cultural sites, and sensitive habitat.

Missing Information / Gap: Electronic geospatial data files, metadata, and community scale-reference information are not evident from the PDF record.

Information Request

Submit GIS files and metadata for all Project features and assessment layers. Provide files in a common projection/datum, with scale limitations, data source, date, and use restrictions. Include community-readable maps with familiar reference points and distances to key communities, camps, travel corridors, and harvesting areas.

Proponent Response

Refer to the response to NIRB 31 (IR-509) regarding geospatial data.

NIRB 51. (IR-529)

Subject

Land tenure / legal boundaries

Issue / Concern

Reviewer Comments / Reasoning: The IS states the Project involves both Inuit Owned Land and Crown land and identifies that approximately 116 km of the road is on IOL. It also states that all approvals, permits, and agreements will be completed later and that no tenure type, size, ownership of property, or activities related to development has been included. This does not meet the guideline requirement for legal boundary and tenure detail.

Missing Information / Gap: Legal tenure boundaries, parcel-level details, file numbers, terms, fees, and rights-holder information are incomplete or deferred.

Information Request

Provide a land tenure table and map package identifying every land parcel, lease, permit, easement, right-of-way, quarry concession, access agreement, and water/shoreline tenure required for the Project. Include legal boundary, coordinates, area, file/application number, right holder, land administrator, term, fees if applicable, status, amendments/renewals, and Project activities authorized or proposed.

Proponent Response

WKR respectfully submits that the information requested in this IR regarding land tenure is included in the IS to the extent available at the current stage of the Project, as follows:

- **Land status:** Approximately 116 km of the approximately 230 km all-season road is on Inuit Owned Lands, administered by the Kitikmeot Inuit Association. "The remainder of the road and the port are on Crown land," administered by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) (Volume 2, Section 1.4; Volume 1, Section MD.1.4).[Confirm with WKR: No Project components are located on Commissioner's land.]
- **Tenure boundaries:** Volume 2, Figure 1.2 (Land Tenures) "illustrates the boundaries of areas where WKR will acquire surface rights through lease or other tenure arrangements" (Volume 2, Section 1.4).
- **Required tenure, responsible authorities and authorized activities:** Volume 2, Section 1.4, Table 1.2 (Project Regulatory Requirements) and Table 1.3 (Permits, Licences, and Authorizations Required for the Grays Bay Road and Port Project, Page 1-12). This includes a long-term lease from CIRNAC for operation of the road and port.

- **Marine and port works:** Table 1.3 identifies the authorizations for the port's marine infrastructure. These are a CIRNAC Class A land use permit, a *Fisheries Act* authorization from Fisheries and Oceans Canada, and Transport Canada approval for port construction under the navigable waters legislation.
- **Coordinates:** Volume 2, Table 1.4 (Project Component Locations (Approximate)) gives coordinates for each Project component.

Parcel-level details, including legal boundaries, areas, file numbers, terms, fees, status, and amendments or renewals, are established through the tenure application and issuance process with the Kitikmeot Inuit Association and CIRNAC. As stated in the IS, "*[a]ll necessary authorizations and permits will be finalized and secured upon completion of the final Project design*" (Volume 2, Section 1.4). Refer also to the responses to KAA-4 (IR-04) regarding post-Certificate licensing instruments and NIRB 31 (IR-509) regarding geospatial data.

NIRB 52. (IR-530)

Subject

Permits and authorizations / tenure

Issue / Concern

Reviewer Comments / Reasoning: The IS lists required authorizations and general land tenure context. It does not provide a complete inventory of existing third-party tenures, permits, licences, or authorizations that may be intersected or affected by the Project, nor does it provide a consultation record with those holders.

Missing Information / Gap: Existing rights and tenure conflicts may affect access, construction, mitigation, and cumulative effects. The record is not sufficient to identify affected tenure holders or unresolved conflicts.

Information Request

Provide an existing-tenure interaction table listing all existing tenures, licences, permits, authorizations, claims, leases, research permits, tourism operations, water licences, and land-use authorizations that overlap or may be affected by the Project. Include holder, authorization number, location, activity, potential interaction, consultation date/method, issue raised, resolution status, and required mitigation.

Proponent Response

WKR respectfully submits that the information requested in this IR regarding existing land and resource users and authorizations is included in the IS, as follows:

- **Project land tenure context:** refer to the response to NIRB 51 (IR-529).
- **Existing land and marine uses and users:**
  - Volume 2, Section 1.2 describes tourism operations in the region, including Tree River Lodge and outfitter-run trips on the James, Burnside, Back, Hood and Coppermine rivers.
  - Volume 9, Section 24 describes traditional land and marine use.
  - Volume 9, Section 29 (Non-traditional Land, Marine, and Resource Use),

  Refer to the response to NIRB 72 (IR-550).
- **Potential interactions and mitigation:** Volume 9, Sections 24 and 29 assess effects on these uses and identify mitigation. Agreements with user groups for access to the road are described in Volume 9, Section 29.3.3.3. Refer to the response to NIRB 239 (IR-717).

- **Engagement with potentially affected parties:** the organizations engaged and the dates, methods, issues raised and WKR's responses are recorded in Volume 3, Section 6, Table 6.2 and Appendices 6C and 6E. Refer to Appendix D (Engagement and Knowledge Supplement) of the Addendum.
- **Existing tenures overlapping the Project Development Area:** WKR has submitted an application for surface land tenure on Crown land and has discussed the process to apply for surface land tenure on IOL with the Kitikmeot Inuit Association Lands department.

Please also see the preamble to NIRB's IRs for further context regarding the request for a table that summarizes existing tenures for the IS.

NIRB 53. (IR-531)

Subject

Regulatory regime / standards

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies many applicable regulatory approvals and acknowledges possible devolution-related changes. However, it does not provide a full compliance matrix showing how each requirement will be met by phase, nor does it clearly integrate Inuit societal laws/norms, regional plans/studies, standards, and required approvals into a single auditable framework.

Missing Information / Gap: A permit list alone is not enough to demonstrate compliance planning or requirements management across design, construction, operation, care and maintenance, closure, and post-closure.

Information Request

Provide a regulatory compliance matrix that includes applicable statutes, regulations, policies, guidelines, Inuit societal laws/norms, standards, land/resource plans, strategic/regional studies, permits, licences, approvals, responsible authority, phase, requirement, compliance method, evidence/source section, current status, expected application date, issue/expiry date where applicable, and responsible WKR lead.

Proponent Response

WKR respectfully submits that the information requested in this IR regarding the regulatory framework and compliance approach is included in the IS, as follows:

- **Governing framework, review process and devolution:** Volume 2, Section 1.4 sets out the Nunavut Agreement, NuPPAA and the review process to date. It also notes that the Nunavut Lands and Resources Devolution Agreement may transfer the Ministerial decision to a Minister of the Government of Nunavut, with devolution "expected to occur by April 2027."
- **Required permits, licences and approvals, responsible authorities and activities:** Volume 2, Table 1.2 (Page 1-11) and Table 1.3 (Page 1-12). Refer to the responses to NIRB 51 (IR-529) and NIRB 54 (IR-532).
- **Land use plans:** Volume 2, Section 1.2 states that no approved land use plan is in effect for the Kitikmeot Region, and that WKR "will monitor the status of the draft Land Use Plan" and "will incorporate relevant aspects of the draft Land Use Plan where feasible." As a result, the Project "is not subject to a land use plan conformity determination by the NPC… and is instead assessed directly by the NIRB" (Volume 3, Section 6.1.3.1).
- **Inuit societal values:** Volume 1, Section MD.3 and Table MD.3.1 (Inuit Qaujimajatuqangit Principles and their Application in Engagement and in the IS).

- **International commitments:** Volume 3, Section 6.1.3.3 describes international standards, including the United Nations Declaration on the Rights of Indigenous Peoples, that inform WKR's engagement approach, although they are "not regulatory requirements for the Project."
- **Compliance by phase:** mitigation and commitments are consolidated in Volume 1, Appendix B (Mitigations and Commitments). Management and monitoring plans for each phase are in Volume 11. Conditions will be set through the NIRB Project Certificate and the licensing instruments that follow it. Refer to the response to KAA-4 (IR-04).

Please also see the preamble to NIRB's IRs for further context regarding the request for a regulatory compliance matrix for the IS.

NIRB 54. (IR-532)

Subject

Permits / schedule

Issue / Concern

Reviewer Comments / Reasoning: Required permits and authorizations are listed. However, the table does not provide a complete list of currently held permits/licences with issue/expiry dates, and some authorizations are identified only as 'to be determined' or future. Tax obligations are cross-referenced, but the introductory regulatory table does not summarize the compliance approach.

Missing Information / Gap: Reviewers need to know what is currently held, what is pending, what will be required later, and which authorizations could affect construction readiness or the assessment assumptions.

Information Request

Provide a permit/licence register identifying: authorization name; status; currently held or required; application date; expected decision date; issue date; expiry date; responsible authority; Project phase; activities authorized; dependencies; and whether the authorization could require design, mitigation, monitoring, or schedule changes. Provide a brief summary of steps to meet GN fuel, payroll, and other applicable tax obligations.

Proponent Response

WKR respectfully submits that the information requested in this IR regarding permits and licences is included in the IS, as follows:

- **Required permits, licences and authorizations:** Volume 2, Table 1.2 (Project Regulatory Requirements) and Table 1.3 (Permits, Licences, and Authorizations Required for the Grays Bay Road and Port Project) identify each authorization, the responsible authority, and the activities authorized. Application, decision, issue and expiry dates will be established through the permitting process following the NIRB Project Certificate. Refer to the responses to NIRB 51 (IR-529) and KAA-4 (IR-04).
- **Currently held authorizations:** As stated in the IS, "*all necessary authorizations and permits will be finalized and secured upon completion of the final Project design*" (Volume 2, Section 1.4). There are no further updates to the list of authorizations in the IS at the time of this Information Request submission.
- **Tax obligations:** The Project's contribution to Government of Nunavut revenues, including consumption taxes on fuel, equipment and materials and income taxes paid by workers, and royalties on minerals extracted from the territory is described in Volume 2, Section 2.5.1, and quantified in Volume 9, Section 27. Refer also to the responses to GN IR 30 (IR-310) and GNWT 1 (IR-372).

Please also see the preamble to NIRB's IRs for further context regarding the request for a permit and licence register for the IS.

NIRB 55. (IR-533)

Subject

Regional context / cross-VC baseline

Issue / Concern

Reviewer Comments / Reasoning: The IS provides general regional context and cross-references detailed biophysical, human environment, and cumulative effects volumes. The introductory context is useful but high-level. It does not fully synthesize current and future land/aquatic use, future mineral development, community wellbeing, health, cultural connection, and ecological processes into a single regional baseline narrative that supports cumulative and transboundary review.

Missing Information / Gap: The regional context is distributed across the submission and lacks an integrated synthesis of future development, land/aquatic use, socio-ecological relationships, and well-being conditions.

Information Request

Provide a regional context synthesis addendum that integrates: ecological classifications/processes; key wildlife, freshwater, marine, and climate relationships; existing and future mineral developments; current and future land and aquatic use; harvesting/travel/camps/cultural connection; community health and well-being; regional infrastructure/service capacity; and how this context informs cumulative and transboundary effects assessment.

Proponent Response

The specific deliverable requested — a single regional context synthesis addendum consolidating the ecological, biophysical, human-environment, future-development, and cumulative/transboundary content above into one integrated regional baseline narrative — is not compiled in that consolidated form in the cited IS sections; WKR respectfully notes that the IS Guidelines did not require a separate, stand-alone "regional context synthesis addendum." Rather, the Guidelines required that regional context be described within the IS.

To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

The introductory regional context is provided in Volume 2, Section 1.2 (Regional Context). The elements the IR asks to integrate are developed in the detailed volumes to which the introductory context cross-refers:

- **Ecological classifications/processes and key wildlife, freshwater, marine, and climate relationships** — the biophysical baseline and effects volumes: Volume 5 (Atmospheric Environment, including Climate), Volume 6 (Terrestrial Environment), Volume 7 (Freshwater Environment), and Volume 8 (Marine Environment), as set out in the Volume 1 Appendix A Concordance Table.
- **Current land and aquatic use, harvesting/travel/camps/cultural connection, community health and well-being, and regional infrastructure/service capacity** — the human-environment baseline and assessment in Volume 9: Section 24 (Traditional Land and Marine Resource Use), Section 25 (Food Security and Food Sovereignty), Section 26 (Community Health and Well-being), Section 28 (Infrastructure and Services), Section 29 (Non-traditional Land and Marine Resource Use), and Section 30 (Heritage Resources).
- **Existing and future mineral developments** — Volume 2, Section 1.6 (Mineral Resource Access) and Section 2.3 (Future Development), with the present or reasonably foreseeable induced developments in Volume 2, Table 1.6, and the reasonably foreseeable and induced physical activities catalogued in the Project Inclusion List (Volume 4, Appendix 9A).
- **How this context informs cumulative and transboundary effects assessment** — Volume 10: Section 31 (Holistic Valued Component Assessment), Section 32 (Cumulative Effects Assessment Overview, including Section 32.3 Regional and Future Perspectives), and Section 33 (Transboundary Effects Assessment).

As summarized in the Volume 1 Executive Summary, Volume 10 "presents the Holistic Assessment, which considers the collective and cumulative impacts to natural and human systems as a result of the Project," an overview of the Cumulative Effects Assessment that summarizes "the regional context shaping those effects, and the key outcomes across all VCs," and the Transboundary Effects Assessment. The Volume 10, Section 33 Transboundary Effects Assessment applies the NIRB IS Guidelines definition of transboundary impacts and the associated triggers, including potential effects on resources outside the designated area such as migratory species.

NIRB 56. (IR-534)

Subject

Design certainty / assessment assumptions

Issue / Concern

Reviewer Comments / Reasoning: The IS describes the Project at a concept/design level and identifies that final siting will be informed by environmental assessment, Inuit, Indigenous and Community Knowledge, geotechnical, oceanographic, hydrology, meteorological, environmental and regulatory conditions, and further engagement. This means important design inputs remain open during technical review.

Missing Information / Gap: No consolidated design-basis register identifies which impact predictions rely on preliminary design assumptions, which assumptions remain unverified, and how final design changes could change predicted effects.

Information Request

Provide a design-basis and assumptions register for each project component, including: 1) current design status; 2) key design assumptions used in the effects assessment; 3) remaining investigations required; 4) effect predictions that depend on each assumption; 5) criteria for determining whether a design change is material to the IS; and 6) a process for notifying NIRB and parties before construction if final design changes affect predicted impacts or mitigation.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

1) and 2) **Current design status and Key design assumptions used in the effects assessment**

The Project design considerations are described in Volume 2, Section 2.1 (Project Design Considerations), and the detailed scope of the components is set out in Volume 2, Section 2.6 (Detailed Scope of the Project). Consistent with the project-context basis for the IS, the current design status is the approximately 10% conceptual design stage. Additional information on current conceptual level engineering design used for the effects assessment and updated design are described in the response to NIRB 48 (IR-526) and the Grays Bay Road and Port Reference Design Concept Memos attached in the Addendum (Appendix C, Engineering Design Memos). The design assumptions themselves are embedded within the individual valued component assessments rather than consolidated into a single per-component assumptions register.

3) **Remaining investigations required**

The IS identifies that final siting and design will be informed by geotechnical, oceanographic, hydrology, meteorological, environmental, and regulatory investigations and further engagement (Volume 2, Section 2.1), and gives specific examples of design detail to be confirmed through such investigation — for instance, "the depth of the granular embankment sections will be confirmed after considering the permafrost regime through further geotechnical investigations and analysis during detailed design phases" (Volume 2, Section 2.6.2.4). These are the categories of remaining investigation identified in the IS. The consolidated per-component inventory of remaining investigations requested is developed through the progression of engineering design beyond the current conceptual stage and the associated detailed-design phases, as identified in the Strategy section.

4) **Effect predictions that depend on each assumption**

The predicted effects, the assumptions on which they rely, and the associated prediction confidence and certainty are presented within each valued component assessment (Volumes 5 through 9) and addressed methodologically in Volume 4, Section 9.4.4 (Prediction Confidence and Certainty).

5) **Criteria for determining whether a design change is material to the IS**

Criteria for determining whether a final design change is material to the impact predictions or mitigation are developed through the progression of engineering design and the associated regulatory and permitting processes, rather than at the current conceptual design stage.

6) **Process for notifying NIRB and parties before construction if final design changes affect predicted impacts or mitigation**

A process for notifying the NIRB and parties, before construction, of final design changes that affect predicted impacts or mitigation is developed through the regulatory and permitting sequence and the applicable Project Certificate and permit conditions.

Please also see the preamble to NIRB's IRs for further context regarding the request for a register that summarizes issues, responses and conclusions for the IS.

NIRB 57. (IR-535)

Subject

Climate change / design resilience

Issue / Concern

Reviewer Comments / Reasoning: The IS recognizes climate change and permafrost preservation as critical design considerations and includes a climate risk assessment. However, the linkage between high-risk climate hazards, final engineering criteria, monitoring thresholds, and adaptive responses is not fully transparent in the Project description.

Missing Information / Gap: Climate resilience measures are not presented as a component-by-component design table with final criteria for permafrost thaw, extreme precipitation, wind, icing, sea conditions, tundra fire, water supply, and road/culvert performance.

Information Request

Provide a climate-adaptation implementation table for each component, including: 1) relevant climate hazard; 2) design criterion or climate allowance; 3) source of climate data; 4) residual risk; 5) monitoring indicator; 6) threshold/action level; 7) maintenance or retrofit response; and 8) review frequency over the 75-year design life.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

Climate change and the preservation of permafrost are addressed as design considerations in Volume 2, Section 2.1.2, which states that "a key objective of the Project's design is to develop permanent infrastructure that both minimizes potential negative effects on the environment and remains resilient to the impacts of climate change", that "climate related risks have been integrated into the Project's design, planning, and management", and that "a critical design consideration is the preservation of permafrost". The assessment of the potential effects of climate change on the Project is presented in Volume 5, Section 12 and its supporting technical data reports — Appendix 12A (Climate Profile Technical Data Report) and Appendix 12B (Climate Change Risk Assessment Technical Data Report) — with the effects of the natural environment on the Project assessed in Volume 10 (Effects of the Environment on the Project).

The Climate Change Risk Assessment (CCRA) assesses climate hazards and their consequences and presents adaptation recommendations for the identified high risks (Appendix 12B, Section 7 Risk Assessment and Adaptation Recommendations; summarized at Volume 5, Section 12.4.5). All mitigations, design assumptions and recommendations have been included in the technical requirements for detailed design as part of the Progressive Design-Build Contract for the Project and are outlined in the BoD memos for the design criteria for the Project (see Addendum Appendix C).

Monitoring and maintenance schedules have not been determined at this time, but will be completed in consideration of climate change and adaptive as necessary.

Please also see the preamble to NIRB's IRs for further context regarding the request for a table that summarizes issues, responses and conclusions for the IS.

NIRB 58. (IR-536)

Subject

Ecosystem integrity / habitat loss / cumulative effects

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies design measures such as footprint/routing adjustments, buffers, avoidance of ice-rich areas where practical, stream crossing design, fish passage, borrow-source selection, and road-management measures. These are relevant, but the Project description does not show a complete habitat-avoidance and design trade-off record.

Missing Information / Gap: The record does not quantify how design changes reduced habitat loss or cumulative disturbance, nor does it provide a clear component-level line of sight from habitat constraints to final siting, footprint, mitigation, and residual effects.

Information Request

Provide a habitat-avoidance and ecosystem-integrity design record showing: 1) mapped constraints considered; 2) design options reviewed; 3) footprint or routing changes made; 4) habitat loss avoided; 5) residual habitat loss by habitat type and VC; 6) cumulative disturbance assumptions; and 7) management-plan commitments that implement the selected design.

Proponent Response

Design Approach

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

The Project's design approach to ecosystem integrity is described in Volume 2, Section 2.1.1 (Biophysical and Socio-Economic Environments and Ecosystem Integrity), which states these design inputs "have collectively guided the development of strategies to protect ecosystem integrity," and identifies biophysical design measures including "adjustment to the Project footprint and routing to maintain established buffers and reduce the loss of habitat where practical" and that "Project design will avoid ice-rich areas where practical." The implementing design measures and commitments are compiled in Volume 1, Appendix B (Mitigations and Commitments). The alternatives evaluated, including port-location and road-corridor/alignment options, are presented in Volume 2, Section 2.4 (Alternatives), with the location comparison in Table 2.2 and the component comparison in Table 2.3. As stated in Volume 2, Section 2.4 "in 2016, an alternate road alignment was evaluated to avoid overlap of the published mapping of core calving grounds," which "was not carried forward" for stated length/bridge/terrain reasons; the selected Option 3 road is "west of the observed Bathurst caribou core calving area, outside of Bluenose East calving area and annual range entirely."

Responses to Information Requests NIRB 48 (IR 526) and NIRB 57 (IR 535) provide additional detail on design criteria and changes within the PDA.

Habitat Loss

The IS does not present quantified habitat loss "avoided" through design change as a discrete metric; it depends on final siting/footprint developed through engineering-design progression beyond ~10% conceptual design. The IS presents residual habitat effects, and the habitat-type breakdown, within each valued-component assessment (and its supporting tables); it does not consolidate these into a single cross-VC tabulation of habitat type by VC. The residual figures reported by VC, with the IS's own effect characterizations, are provided in each section and are based on the removal of the full PDA, which is a conservative assessment for review of residual and cumulative effects, as the full PDA will not be developed even with the modification and updated design tweaks. A summary of habitat loss for each applicable VC is provided below based on assumption of full PDA loss of habitat at a 10% design stage:

- *Vegetation* (v6_sec15): the Project results in "a conversion of 4,950.7 ha (9.9% of the LAA) to disturbed landcover (Table 15.9)," and in total "will affect 6,941.3 ha of landcover classes, or 0.5% of the RAA (4,950.7 ha removed during clearing and 1,990.7 ha from dust deposition)"; a further residual figure of 6,997.2 ha (0.5% of the RAA) is reported in the culturally-important-plants analysis. It is "expected to partially intersect 369 wetlands (4.4% of wetlands in the LAA) and fully remove 541 wetlands (6.4% of wetlands in the LAA) (Table 15.13)." The IS states "the magnitude of effect on community diversity is considered low."
- *Caribou* (v6_sec16): "Changes in selected habitat from the Project are expected to be low in magnitude for the BCH (maximum 55.2 km2 or 0.8% combined seasonal direct and indirect loss in BCH-RAA1; see Table 16.12)" and "low in magnitude for the DUH (maximum 158.6 km2 or 1.5% combined direct and indirect loss in DUH-RAA; see Table 16.13)." For range disturbance, the Project increases total disturbance in BCH-RAA1 by 1,804.2 km² (to 4,863.6 km²) but "does not increase the CLDF disturbance tier … does not increase the risk to caribou and caribou habitat."
- *Birds* (v6_sec17): total passerine habitat influenced "amounts to 2.6% of baseline suitable habitat within the RAA … a low-magnitude residual effect" (direct 30.0 km²/0.83%; indirect 64.1 km²/1.8%; Table 17.12); waterbird "overall residual effects … is 2.1% of the RAA … a low magnitude residual effect."
- *Other Terrestrial Wildlife* (v6_sec18): muskox — "796.4 km2 of suitable muskox summer habitat will be lost … representing 2.4% of currently suitable habitat in the RAA" (Table 18.12) and "875.5 km2 of suitable muskox late winter habitat … 2.7%" (Table 18.13); moose — "55.9 km² of direct and indirect habitat effects … a 0.8% decrease in shrubby habitat relative to baseline conditions, which is negligible (i.e., <1%)" (Table 18.19).

- *Freshwater Fish and Fish Habitat* (v7_sec20): "The Project will affect approximately 198,408 m2 of riparian habitat and 33,017 m2 of this will include functional riparian habitat at fish-bearing watercourses" (Table 20.10), including "approximately 118,500 m2 for the 81 fish-bearing watercourse crossings" of the road alignment.
- *Marine Fish and Fish Habitat* (v8_sec22): "the Project footprint is expected to affect approximately 61,688 m2 of marine fish habitat (Table 22.10) … inclusive of both alteration and destruction of marine riparian, intertidal and subtidal habitats." The IS states "Not all of this area is expected to constitute a harmful alteration, disruption, or destruction (HADD); this will be estimated as the Project design advances and in discussion with DFO, Kitikmiut, and other Indigenous groups," with HADD areas "detailed in the DFO Offsetting Plan."

Cumulative Disturbance Assumptions

Set out in Volume 10, Section 32 (Cumulative Effects Assessment Overview) and the Volume 4, Appendix 9A Project Inclusion List, the cumulative effects assessment is built on a reasonably foreseeable induced (RFI) scenario of three producing mines using the Project infrastructure — Izok Lake, Hackett River, and High Lake — with their access roads, assessed over approximately 2035–2055. The RFI scenario assumes mine footprints of approximately 290 ha (Izok Lake), 78 ha (High Lake), and 290 ha (Hackett River, provisional), with access-road lengths of approximately 101 km (Izok), 260.5 km (Hackett/Back River), and 68.6 km (Phase 2); however, without having published locations and mapped footprints, habitat changes were not evaluated. Instead, it was evaluated at the regional landscape scale, Section 32 assesses that the RFI scenario represents approximately 17 km², and that "the total land disturbance remains negligible, accounting for less than 0.02% of the Kitikmeot Region," relative to the Project PDA of 49.5 km².

At the caribou range-management scale, the cumulative assessment reaches a different outcome that the IS states directly: for the Bathurst herd, "Range disturbance in the BCH-RAA1 is expected to be moderate in magnitude under RFI conditions," where "the overall level of disturbance under RFI conditions (8,818.6 km2) … exceeds the low threshold (<6,000 km2) and moves the BCH-RAA1 into the moderate risk category or 'cautionary' disturbance tier (6,000 km2 to 12,000 km2)," driven by the zones of influence of the induced mines and their access roads (v6_sec16). The IS reports the associated change in selected habitat under RFI conditions as "low in magnitude (maximum 218.4 km2 or 3.0% combined direct and indirect loss in BCH-RAA1)," with the Project contributing a maximum of 0.8% and RFI physical activities a maximum of 2.4%. Consistent with the assessment scope, cumulative disturbance is answered from the CEA, the caribou assessment, and the PIL, not on the basis that induced development is outside the applied-for Project.

Management Plan Commitments

Volume 1, Appendix B compiles the implementing design and mitigation measures by phase, including ID 2 and ID 3 (PDA/footprint confinement to reduce habitat loss), ID 4 (infrastructure "designed to reduce the PDA in the marine environment"), and ID 10 (road side slopes "designed, where possible, to 3:1 (≤18.5 degrees) to facilitate caribou crossings"). These are carried into the Volume 11 management plans: the Wildlife Mitigation and Monitoring Plan states its purpose to identify and mitigate Project-related effects on wildlife and wildlife habitat such as habitat loss, sensory disturbance, or potential injury or mortality risk.

Please also see the preamble to NIRB's IRs for further context regarding the request for a design record that summarizes issues, responses and conclusions for the IS.

NIRB 59. (IR-537)

Subject

Holistic assessment / systems integration

Issue / Concern

Reviewer Comments / Reasoning: The IS includes VC-level assessments and a separate holistic assessment intended to address interactions among terrestrial, marine, social, cultural and health systems. However, the socio-ecological systems framework remains partly separated from the VC conclusions.

Missing Information / Gap: The IS does not consistently demonstrate how system interactions changed residual effects, mitigation, monitoring, or significance conclusions for individual VCs.

Information Request

Provide a socio-ecological systems crosswalk that identifies: 1) each system considered; 2) linked VCs; 3) pathways among land, water, wildlife, people, culture, health and economy; 4) where interactions were carried into residual-effects characterization; 5) where interactions changed mitigation or monitoring; and 6) reasons where documented interactions were not carried forward.

Proponent Response

See response to NIRB 47 (IR-525).

NIRB 60. (IR-538)

Subject

Human environment / design response

Issue / Concern

Reviewer Comments / Reasoning: The Project description identifies positive socio-economic objectives and broad design considerations, but it does not provide a direct design-response record for specific human and community concerns. Many measures are deferred to management plans, access protocols, workforce policies, and monitoring programs.

Missing Information / Gap: There is no consolidated table showing how specific community health, well-being, food security, access, infrastructure, vulnerable-group, and mental health concerns altered project layout, workforce design, schedules, access rules, or mitigation.

Information Request

Provide a community-effects design-response matrix that lists each human/community concern raised; the affected community or group; the project component/activity; the design, operational, mitigation or monitoring response; remaining residual effect; responsible party; and follow-up indicator. Include concerns related to access, harvesting, food security, infrastructure capacity, worker interactions, communicable disease risk, mental health, vulnerable populations, and perceived contamination.

Proponent Response

A community-effects design-response matrix is not required by the Guidelines for the Preparation of an Impact Statement (NIRB 2026). However, the information requested in this IR is addressed throughout the valued component (VC) assessments in the IS.

Volume 3, Sections 4, 5, and 6 describe Inuit Knowledge, Indigenous Knowledge, and Community Knowledge; the approach to integrating Inuit, Indigenous, and Community values and perspectives; and the public engagement approach and outcomes, respectively. Volume 3, Table 6.2 summarizes the key issues raised during engagement, the organizations that raised them, WKR's responses, and where each issue is addressed in the IS. Community concerns related to access, harvesting, and food security are listed and assessed in Volume 9, Section 25; concerns related to infrastructure capacity are listed and assessed in Volume 9, Section 28; and concerns related to worker interactions, communicable disease risk, mental health, vulnerable populations, and perceived contamination are listed and assessed as pathways for effects on community health and well-being in Volume 9, Section 26.

Each applicable VC assessment includes a summary of information, concerns, and recommendations related to the VC that were identified through the Project-specific engagement program, Project-specific Inuit Knowledge report, and a review of publicly available information. Each VC assessment also identifies how engagement and Inuit, Indigenous, and Community Knowledge informed the assessment.

Each VC's Summary of Inuit, Indigenous, and Community Knowledge and Engagement Feedback table organizes feedback by theme and attributes each comment to the organization that provided it. The first subsection under the scope of each VC describes how engagement and Inuit, Indigenous, and Community Knowledge influenced assessment boundaries, baseline conditions, assessment of Project effects, cumulative effects assessment, significance determinations, mitigation, management and enhancement measures, and transboundary effects. Each VC also identifies relevant Project interactions, mitigation, management and enhancement measures, responsible parties, residual effects, and follow-up and monitoring requirements. Results of engagement and Inuit, Indigenous, and Community Knowledge are embedded throughout the relevant VC sections. Accordingly, the requested concern-response linkages are provided within the applicable VC-specific assessment sections and supporting management and monitoring frameworks.

Please also see the preamble to NIRB's IRs for further context regarding the request for a matrix that summarizes issues, responses and conclusions for the IS.

NIRB 61. (IR-539)

Subject

Accidents / public safety / emergency response

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies road design speed, line of sight, traffic control, an Occupational Health and Safety Plan, and a Risk Management and Emergency Response Plan. However, the accident and emergency-response plans remain draft/preliminary in important areas.

Missing Information / Gap: The Project description does not provide a complete safety-design register linking accident scenarios to final design controls, response capacity, remote-response assumptions, training, emergency equipment, public notification and residual risk.

Information Request

Provide a safety and accident-design register that includes: 1) worker and public hazard scenarios; 2) design controls incorporated; 3) prevention measures; 4) emergency-response capacity and response times; 5) seasonal constraints; 6) public/community notification procedures; 7) residual risk; and 8) how plan placeholders will be resolved before construction.

Proponent Response

Section 8.4 (Accident and Malfunctions Assessment) of the NIRB Final Impact Statement Guidelines (January 2026) requests WKR to compile a hazard identification and risk assessment of accidents and malfunctions across all Project phases. This covers how scenarios were identified and how likely they are, potential consequences including plausible worst-case scenarios, and how each scenario would be managed. That includes design safeguards, contingency and emergency response measures, and how these differ by season. It also covers existing emergency preparedness and coordination with response organizations, planned training, and how emergencies would be communicated to regulators and communities (NIRB Guidelines, Section 8.4, Pages 90–91). Section 8.2.11 also requires an assessment of worker health and safety and of conventional risks to workers and the public (Pages 88–89).

WKR believes that we have addressed these requirements in Volume 10, Section 34 (Accidents and Malfunctions), and Volume 2, Section 2.1.4 (Workers Health and Safety). Section 34 sets out:

- the risk assessment method, including the likelihood, consequence, and risk-ranking matrix (Section 34.3.2)
- seven accident and malfunction scenarios, including vehicle, aircraft, and marine vessel accidents (Section 34.4)

- mitigation, emergency preparedness and response, and seasonal risk considerations (Sections 34.6.1 to 34.6.3)
- the residual effects of each scenario (Section 34.7)

Volume 2, Section 2.1.4 describes the safety-related design features, including road design speed, line of sight, and traffic control. Emergency response and spill procedures will be developed further through the Risk Management and Emergency Response Plan (RMERP) and the Spill Contingency Plan in Volume 11.

We believe that a consolidated safety and accident-design register, quantified response capacity and response times, and a separate placeholder-resolution plan are outside the scope of the guidelines.

- **Register format:** Section 8.4 asks for the assessment of each scenario to describe its design safeguards, response measures, seasonal differences, training, and communication. It does not ask for these to be compiled into a single register.
- **Response capacity and response times:** Section 8.4 asks for a description of existing emergency preparedness and response systems, and of coordination with qualified response organizations. It does not require response times to be estimated or response capacity to be quantified.
- **Resolving plan placeholders:** Section 11.0 accepts that some plan information will become available later in the Review or during licensing, and asks for a timeline showing when. That timeline is set out in Volume 11 (Page 37-6).

NIRB 62. (IR-540)

Subject

Wildlife / footprint / sensory disturbance

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies several wildlife-related design measures, including road embankment slopes to facilitate caribou movement, reduced speed zones, stream crossings designed for fish passage, and restricted road use during sensitive periods. However, the design rationale is not complete for all key species and habitat types.

Missing Information / Gap: The submission does not provide a consolidated species-by-species design rationale showing how the final location, footprint, timing, noise controls, road-access controls, marine construction methods, vessel operations and monitoring were selected to avoid or minimize effects.

Information Request

Provide a wildlife design-rationale table for caribou, birds, other terrestrial wildlife, freshwater fish, marine fish and marine mammals. The table should identify design constraints, alternatives considered, final design response, residual disturbance area, sensory-disturbance controls, timing restrictions, monitoring methods, thresholds and adaptive management actions.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

The Project design considerations are described in Volume 2, Section 2.1 (Project Design Considerations), and the detailed scope of the components is set out in Volume 2, Section 2.6 (Detailed Scope of the Project). Volume 2, Section 2.4 discusses alternatives considered for the Project. Consistent with the project-context basis for the IS, the current design status is at approximately 10% conceptual design stage. Additional information on current conceptual level engineering design used for the effects assessment and updated design are described in the response to NIRB 48 (IR-526).
The design commitments and mitigation measures relied on in the assessment are compiled in Volume 1, Appendix B (Mitigations and Commitments) and this compilation identifies which valued components relied on each mitigation measure and commitment in their effects assessment. Residual effects (including area, as applicable), mitigation measures, and monitoring (as applicable) are provided in the effects assessment for each valued component in Volumes 6, 7 and 8:

- Caribou-specific effects assessment is provided in Volume 6, Section 16
- Bird-specific effects assessment is provided in Volume 6, Section 17
- Effects assessment for other terrestrial wildlife is provided in Volume 6, Section 18

- Effects assessment for freshwater fish is provided in Volume 7, Section 20
- Effects assessment on marine fish is provided in Volume 8, Section 22
- Effects assessment on marine mammals is provided in Volume 8, Section 23.

In addition, a summary of the effects assessment for each of these valued components is provided in the Volume 1, Main Document.

Please also see the preamble to NIRB's IRs for further context regarding the request for a table that summarizes issues, responses and conclusions for the IS.

NIRB 63. (IR-541)

Subject

Heritage resources / harvesting areas / design constraints

Issue / Concern

Reviewer Comments / Reasoning: The IS states that documented archaeological sites were an evaluation criterion during port selection and that knowledge and engagement informed design. However, the heritage assessment identifies data gaps, and the Project description does not provide a complete constraints-based siting record for archaeological resources, harvesting areas, or quarrying/soapstone areas.

Missing Information / Gap: The record does not clearly show all known heritage, harvesting, fishing, wildlife-use and quarrying constraints considered, the buffers used, or design changes made to avoid or reduce effects.

Information Request

Provide a constraints map package and design-change log showing: 1) known archaeological and heritage resources; 2) known harvesting, fishing, travel and quarrying/soapstone areas where confidentiality allows; 3) buffers and avoidance criteria; 4) project design changes made in response; 5) remaining data gaps; 6) planned pre-construction surveys; and 7) procedures if new sites are identified.

Proponent Response

See response to NIRB 49 (IR-527) with respect to sharing locations of archaeological and heritage resources. The process that will be followed to address potential effects to archaeological and heritage resources as the Project design is developed is outlined in Section 2.3 of the Heritage Resources Management Plan (Volume 11, Appendix 37G). This process will be implemented in accordance with Nunavut Archaeological and Paleontological Sites Regulations and requirements outlined in permits that will be issued by the Department of Culture and Heritage of the Government of Nunavut. Refer to Volume 9, Section 30.1.2 for additional details on the regulatory framework in place to protect heritage resources.

NIRB 64. (IR-542)

Subject

Engagement / Inuit Knowledge / traceability

Issue / Concern

Reviewer Comments / Reasoning: The IS states that the road alignment reflects extensive engagement input to the extent practical and that knowledge systems were incorporated. However, the record does not provide a complete traceable decision log showing which inputs changed project design or why some inputs were not adopted.

Missing Information / Gap: No complete engagement/knowledge-to-design matrix links issues raised by communities, Inuit organizations, Indigenous groups and knowledge holders to specific planning or design decisions.

Information Request

Provide an engagement and knowledge design-decision register that identifies: 1) issue or knowledge input; 2) source/community/organization; 3) affected project component; 4) design or planning response; 5) whether the input changed routing, siting, schedule, mitigation, monitoring or access controls; 6) rationale where input was not adopted; and 7) follow-up commitments.

Proponent Response

WKR's consolidated response to the request for engagement and knowledge design-decision register is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Response Package. Appendix D identifies where each requested element is presented in the Impact Statement including issues raised, their sources and WKR's responses (Volume 3, Table 6.2, and the knowledge and engagement feedback summary table in each Valued Component section), the rationale where input was not adopted (Volume 3, Section 5.5; Volume 4, Section 9.4.1), and follow-up commitments.

NIRB 65. (IR-543)

Subject

Future development / project scope

Issue / Concern

Reviewer Comments / Reasoning: The IS describes future-ready infrastructure and anticipated third-party uses, including potential mineral concentrate storage, cargo areas, laydown, explosives, fuel storage, equipment maintenance and future users. It also states construction and operation of those facilities are outside the current Project scope.

Missing Information / Gap: The distinction between Project scope, future-ready enabling works, reasonably foreseeable third-party use, and excluded future development is not sufficiently clear for assessing induced and cumulative effects or project-splitting concerns.

Information Request

Provide a future-development scope table and map package identifying: 1) all future-ready areas and expandable components; 2) whether each is included in the current Project; 3) design capacity or envelope; 4) third-party dependencies; 5) likely traffic, fuel, cargo, workforce and marine-use assumptions; 6) associated biophysical and socio-economic effects; and 7) rationale for inclusion or exclusion from current assessment scope.

Proponent Response

See response to GTC-06 (IR-272) for future-development scope and how it was included in the IS. The effects of the described Project scope are assessed in the Project residual effects assessments for the valued components. Volume 4, Section 9.4.3 identifies how cumulative effects of the Project in combination with other physical activities were assessed. Appendix 9A (Project Inclusion List) identifies these other physical activities and their scope; this is further described in the CIRNAC-5 (IR-160) and Addendum Appendix A Cumulative Effects Assessment Supplement.

NIRB 66. (IR-544)

Subject

Precautionary principle / uncertainty

Issue / Concern

Reviewer Comments / Reasoning: The IS restates the precautionary principle and explains that mitigation, monitoring and EMS implementation will support continual improvement. However, the document does not provide a decision record showing where uncertainty or risk of irreversible harm caused WKR to adopt a more conservative design or mitigation option.

Missing Information / Gap: The application of precaution is described generally rather than demonstrated through specific decisions, uncertainty thresholds, conservative assumptions, or rejected alternatives.

Information Request

Provide a precautionary-principle application register identifying: 1) areas of scientific or design uncertainty; 2) potential for serious or irreversible harm; 3) conservative assumptions used; 4) design or mitigation decisions made because of uncertainty; 5) alternatives rejected because of risk; and 6) monitoring/adaptive management triggers for each uncertainty.

Proponent Response

See NIRB 11 (IR-489) for the response.

NIRB 67. (IR-545)

Subject

Sustainability / benefits and burdens

Issue / Concern

Reviewer Comments / Reasoning: The IS describes expected sovereignty, security, mineral access, community, supply-chain, employment and economic benefits. However, sustainability is not presented as a balanced test against adverse effects, intergenerational equity, ecological integrity, food security, Inuit harvesting and the distribution of benefits and burdens.

Missing Information / Gap: No consolidated sustainability analysis demonstrates how Project benefits and adverse effects are balanced across communities, generations, ecosystemic integrity, future land use, and country food/cultural continuity.

Information Request

Provide a sustainability assessment addendum that evaluates: 1) ecosystem integrity; 2) intergenerational equity; 3) durable social and economic benefits; 4) Inuit harvesting, culture and food security; 5) distribution of benefits and burdens by community and population group; 6) future generations; and 7) how monitoring will verify that predicted sustainability benefits occur.

Proponent Response

See response to information request NIRB 13 (IR-491).

NIRB 68. (IR-546)

Subject

Closure / post-closure / financial security

Issue / Concern

Reviewer Comments / Reasoning: The IS states that road and port components are permanent infrastructure and that the Project does not include plans for decommissioning and reclamation of main components. Temporary areas would be reclaimed in accordance with permit conditions.

Missing Information / Gap: The IS does not demonstrate how permanent infrastructure would be closed, decommissioned, transferred, or maintained if operations cease. It also does not provide closure contaminant levels, post-closure dose/risk estimates, aesthetics, long-term maintenance responsibility, or funding/security approach for permanent components.

Information Request

Provide a conceptual closure and long-term stewardship framework for permanent and temporary infrastructure, including: 1) closure scenarios; 2) decommissioning or transfer options; 3) contaminant/material inventories; 4) post-closure public and ecological exposure pathways; 5) aesthetics and land-use objectives; 6) monitoring and maintenance requirements; 7) financial responsibility/security; and 8) community and Inuit organization involvement.

Proponent Response

Please see KAA-4 (IR-04) for the response.

NIRB 69. (IR-547)

Subject

Purpose and need / engagement traceability

Issue / Concern

Reviewer Comments / Reasoning: The IS describes proponent objectives related to sovereignty, security, mineral access, community benefits and social benefits. It also describes engagement history. However, the incorporation of public perspectives into the stated purpose and need is not fully traceable.

Missing Information / Gap: The IS does not provide a clear public-perspective purpose-and-need matrix showing which public comments shaped the Project objectives, scope, alternatives, or design.

Information Request

Provide a purpose-and-need engagement matrix identifying: 1) public, Inuit organization, Indigenous group and community comments related to project purpose/need; 2) how those comments were considered; 3) whether they changed project objectives, alternatives, scope or design; and 4) rationale where public preferences were not incorporated.

Proponent Response

WKR's consolidated response to the request for a purpose-and-need engagement matrix is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Response Package. Appendix D identifies where each requested element is presented in the Impact Statement including issues raised, their sources and WKR's responses (Volume 3, Table 6.2, and the knowledge and engagement feedback summary table in each Valued Component section), the rationale where input was not adopted (Volume 3, Section 5.5; Volume 4, Section 9.4.1), and follow-up commitments.

NIRB 70. (IR-548)

Subject

Economic feasibility / net benefit

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies transportation, sovereignty, security, community resupply, mineral access and economic opportunities, and provides GDP/employment estimates. However, the economic feasibility information is not presented as a complete net-benefit assessment for technical review.

Missing Information / Gap: Capital cost estimates are provided, but operating costs, closure costs, revenues, financing assumptions, benefit durability and adverse social/cultural/economic trade-offs are not fully integrated into the feasibility/benefit rationale.

Information Request

Provide an economic feasibility and net-benefit addendum that includes: 1) capital, operating, maintenance, closure/stewardship and financing assumptions; 2) expected revenues or funding sources; 3) direct, indirect and induced benefits; 4) adverse socio-economic and cultural costs; 5) uncertainty/sensitivity analysis; and 6) distribution of benefits and losses by community and region.

Proponent Response

The IR asks for an economic feasibility and net-benefit addendum that includes:

- capital, operating, maintenance, closure, and financing assumptions
- revenues or funding sources
- direct, indirect, and induced benefits
- adverse socio-economic and cultural costs
- uncertainty and sensitivity analysis
- how benefits and losses are distributed by community and region

Section 6.2 of the NIRB Final Impact Statement Guidelines (January 2026) requests WKR to describe the Project's "general feasibility from an economic perspective" and how it would benefit communities. It also requests an analysis of the overall net benefit, considering adverse impacts and how benefits and losses are distributed. Section 6.5 requests development and closure costs, employment opportunities, contracting, and benefits. Section 5.1 requests the current status of Project financing.

WKR believes that we have addressed these requirements in Volume 2 (Sections 1.1.2, 1.6, 2.5, and 2.6.4) and Volume 9, Section 27.

- **Costs and financing status:** the current construction cost estimate is provided in Volume 2, Section 2.5.1. Project funding to date and WKR's ongoing work on detailed cost estimates and construction funding are described in Volume 2, Section 1.1.2. The economic effects were estimated from WKR's capital and operating cost estimates (Volume 9, Section 27.3.1).
- **Closure:** the Project components are permanent infrastructure, so no closure is planned. Areas used only during construction will be reclaimed under permit conditions (Volume 2, Sections 1.1.2 and 2.6.4).
- **Benefits:** direct, indirect, and induced contributions to GDP, government revenues, and employment are assessed for the Project and for reasonably foreseeable induced projects (Volume 2, Tables 2.4 to 2.6; Volume 9, Section 27.3, Tables 27.14 to 27.24, and Section 27.4).
- **Adverse effects:** Adverse effects on employment and economy are assessed in Volume 9, Sections 27.3.4, 27.3.5, and 27.4. Other social and cultural effects are assessed in the remaining Volume 9 sections.
- **Distribution:** effects on sub-populations and differences between communities are assessed in Section 27.
- **Uncertainty:** model limitations and prediction confidence are described in Sections 27.3.1 and 27.6.

We believe that a stand-alone economic feasibility and net-benefit addendum, detailed operating, maintenance, and financing assumptions, Project revenue projections, and a quantitative sensitivity analysis are outside the scope of the guidelines.

- **Addendum format:** Section 6.2 asks for the net-benefit analysis as part of the purpose and need discussion, not as a separate addendum.
- **Financing:** Section 5.1 asks for the *current status* of Project financing, which Volume 2, Section 1.1.2 provides.
- **Sensitivity analysis:** the Guidelines do not ask for an economic sensitivity analysis. Uncertainty is addressed in Section 27.6.

NIRB 71. (IR-549)

Subject

Infrastructure networks / induced development

Issue / Concern

Reviewer Comments / Reasoning: The IS describes the Project as multi-use infrastructure that may improve regional supply chains, security and mineral access. It also notes future development and induced mining potential. However, longer-term network implications are not assessed through clear scenarios.

Missing Information / Gap: The IS does not provide a scenario-based assessment of future transportation networks, third-party road/port use, southern road connections, airstrip expansion, CCG use, mineral traffic and community use over the Project life.

Information Request

Provide a long-term infrastructure network scenario analysis identifying: 1) likely future users and uses; 2) infrastructure capacity and expansion triggers; 3) traffic and shipping assumptions; 4) implications for communities, harvesting, safety and maintenance; 5) cumulative effects by scenario; and 6) governance and access-management arrangements.

Proponent Response

Information regarding assessment of potential cumulative effects is provided throughout the Impact Statement (IS). Volume 10 Section 32 Cumulative Effects Assessment Overview describes content, location and summary of this information. This is supplemented in the Addendum Appendix A, Cumulative Effects Assessment Supplement, in response to Information Request NIRB 133 (IR-608).

The assessment of potential cumulative effects, collectively referred to as the Cumulative Effects Assessment (CEA), was completed in response to NIRB's Guidelines for this Project and reflective of known precedence for current practice, guidance and organizational structure for environmental assessments in Nunavut and under other Canadian jurisdictions. WKR views the CEA as providing a complete response in consideration of these standards and requirements, but has supplemented the CEA through the information in the Volume 3 Section 7 Regional Historical Overview, Volume 10 Section 31 Holistic Assessment, Volume 10 Section 32 Cumulative Effects Assessment Overview, and, incorporation of a unique variant of reasonably foreseeable physical activities in the form of such activities that may be induced by the Project. One reasonably foreseeable induced scenario was assessed. As discussed in Section 32 Cumulative Effects Assessment Overview, a range of scenarios based on different degrees of physical activity was not conducted as doing so would represent hypothetical induced futures for which WKR is not aware of their basis, and given that multiple scenarios were not required in the Guidelines.

Description of overall assessment method in the IS is provided in Volume 4 Section 9 Effects Assessment Methodology, and specifically for the CEA in Section 9.4.3 Cumulative Effects Assessment. Further description of methods specific to each Valued Component (VC) are provided in each VC assessment (Vol. 5-9, Sections 11-30). Additional assessment reflective of a “systems” approach is provided in Volume 10, Section 31 Holistic Assessment, based on a unique method given there is no known basis for such assessments applicable and relevant to regulatory project applications. The Holistic Assessment supplements the VC assessments by identifying and discussing the relationships (connections) between VCs in various ways. Much of the Holistic Assessment is reflective of cumulative effects.

Thresholds relevant to effects or degree of disturbance are identified, if any are available and relevant, within the appropriate VC assessments. Generally, thresholds to manage cumulative effects are rare, and may not always be applicable to certain geographic and human use conditions, such as in northern terrestrial and marine environments.

Each Section X.4 Assessment of Cumulative Effects (where X is the main section number) for each VC begins with a Section X.4.1 Project Residual Effects Likely to Interact Cumulatively that includes a Table X.Y Interactions with the Potential to Contribute to Cumulative Effects (Y will vary by VC). This table is a cumulative effects screening table that within identifies which of the effects assessed for the VC may interact with those effects from other physical activities. The table is supplemented, as appropriate and relevant, with a qualitative discussion of rationale for some interactions and of associated factors and considerations such as climate change and positive effects. As is the case for all VC assessments and throughout those assessments, associated community concerns are reflected.

The Grays Bay Road is a controlled-access road managed through access-control gates (Volume 2). The Road and Port Management Plans (Volume 11) govern road and port use, including third-party use; Section 2.3 covers third-party approval requirements; and Section 1.1 covers the Project's Inuit ownership and governance., Section 2); transboundary highway traffic is assessed in Volume 10, Section 33. See also Information Request responses to ADNLC IR 12 (IR-328) and NTI-10 (IR-407) regarding access management and the anticipated joint permit process.

NIRB 72. (IR-550)

Subject

Land use / access governance / user inventory

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies some current and future user groups, including community users, CCG, mineral exploration and mining users. However, the user inventory is not complete enough to support access-management, cumulative effects, safety and rights-related review.

Missing Information / Gap: There is no consolidated inventory of past, current and future users by area, season, purpose, governance requirements, access permissions, and potential conflicts with Project operations.

Information Request

Provide a past/current/future user inventory for the LSA, RSA and project infrastructure, including: 1) user group; 2) area and season of use; 3) purpose of use; 4) rights or authorization basis; 5) expected future use; 6) potential conflict with Project operations; 7) access governance; and 8) monitoring/communication commitments.

Proponent Response

The IS describes past, current and future users of the Regional Assessment Area (RAA) (and therefore the Local Assessment Area [LAA]) and of the Project infrastructure across several volumes. These users are:

- Kitikmiut and other Indigenous land and marine users;
- non-traditional users;
- mining and exploration companies;
- government and security users.

Access to Project infrastructure is governed through the Road Management Plan (Volume 11, Appendix 37A). The response below sets out where each element of the Information Request is addressed.

1–3. **User groups, area and season of use, and purpose of use**

- **Kitikmiut and other Indigenous land and marine users.** Harvesting, travel routes, camps and cultural use are described by area and season in Volume 9, Section 24 (Traditional Land, Marine, and Resource Use), including the overview at Section 24.2.2. The underlying knowledge sources are described in Volume 3, Sections 4 and 5.
- **Non-traditional users.** Other land and marine users are described in Volume 9, Section 29 (Non-traditional Land, Marine, and Resource Use), including the overview at Section 29.2.2. These include mineral exploration, commercial and recreational users.
- **Past, present and reasonably foreseeable industrial users.** These are identified in the Project Inclusion List (Volume 4, Appendix 9A). The present or reasonably foreseeable induced developments expected to use Project infrastructure are listed in Volume 2, Section 1.6.2 (Table 1.6): Goose Mine, the Hackett River Project, and Izok Lake and High Lake (Izok Corridor Project).
- **Marine users of the Grays Bay Port.** Vessel access is limited to the open-water season. The IS states that "all third-party user groups, including those listed as Reasonably Foreseeable Induced (RFI) projects/activities, have committed to using the port only during open-water season, typically from late June through October," and that WKR has agreed to accommodate crew changes for Canadian Coast Guard icebreaking vessels via the airstrip during the open-water season (Volume 8, Section 23).

4. and 7. **Rights or authorization basis, and access governance**

The Project is designed as "a controlled access, multi-user, multi-use transportation system" (Volume 2, Section 1.6, Page 1-20). The Road Management Plan sets out how access will be controlled and the terms that apply to each user group. Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station, with sign-in procedures, radio check-ins, and logs recording vehicle entry and exit (Volume 11, Appendix 37A, Section 5.1.1, Page 10). The terms for each user group are:

- **Mining users:** "will have access to the road on a tolled basis, with port and road use fees to be established through agreements between WKR and mining/exploration companies."
- **Security and other public government users:** "will have access to the road through agreements to be established between WKR and the relevant government department or agency."
- **Community users:** "will have free access to the road for travel and transportation purposes, subject to agreeing to abide by safe operating procedures."
- **Users seeking access for harvesting purposes:** "will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA)."

The regulatory authorizations required for the Project, and the authorities responsible for them, are set out in Volume 2, Section 1.4 and Tables 1.2 and 1.3.

5. **Expected future use**

Expected future use of the Grays Bay Road and Port by WKR during the Operations and Maintenance phase is described in Section 2.6.3. Predicted future use by induced developments is described in Volume 2, Section 1.6.2 and Section 2.3 (Future Development), and in the reasonably foreseeable induced physical activities in Volume 4, Appendix 9A and Attachment 9A2. The Project's multi-user purpose is described in Volume 2, Section 1.6, including "improved community infrastructure and re-supply" and "economic development by unlocking the critical mineral wealth of the Kitikmeot Region" (Volume 2, Section 1.6, Page 1-20).

6. **Potential conflict with Project operations**

The following sections assess potential interactions between Project operations and existing users:

- Volume 9, Section 24 (Traditional Land, Marine, and Resource Use), for travel, harvesting access and resource availability;
- Volume 9, Section 29 (Non-traditional Land, Marine, and Resource Use);
- Volume 10, Section 34 (Accidents and Malfunctions), which includes vehicle and mobile equipment accidents.

Where Project residual effects overlap with other physical activities, cumulative interactions with future users are assessed in each valued component's cumulative effects assessment (Volume 10, Section 32 summarizes the cumulative effects assessments).

8. **Monitoring and communication commitments**

The Road Management Plan provides for managing and monitoring road use through the access points. It also provides that logs "will also record any incidents or accidents for regulatory and safety audit purpose" (Volume 11, Appendix 37A, Section 5.1.1, Page 10). The Port Management Plan (Volume 11, Appendix 37I) establishes the protocols for use of the Grays Bay Port during the Operations and Maintenance phase of the Project.

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses. This includes further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and after the final hearing is completed, if necessary.

NIRB 73. (IR-551)

Subject

Net benefit / distributional effects

Issue / Concern

Reviewer Comments / Reasoning: The IS emphasizes economic and strategic benefits and assesses adverse human environment effects in separate VC chapters. It does not provide a consolidated net-benefit analysis that balances benefits against adverse social, cultural, harvesting, food security, health, well-being and alternative-economic effects.

Missing Information / Gap: Potential losses or reductions in traditional economy activities, tourism/recreation, harvesting efficiency, cultural practices, country food confidence, and alternative land-use values are not integrated into a net-benefit framework.

Information Request

Provide a net-benefit analysis that includes: 1) economic benefits; 2) adverse social, cultural, health, well-being and economic effects; 3) potential reduction or displacement of existing or alternative economic activities; 4) traditional economy impacts; 5) distribution of benefits and losses by community and population group; 6) uncertainty; and 7) measures to optimize benefits and mitigate losses.

Proponent Response

The IS does not present a single consolidated net-benefit calculation because the NIRB Guidelines do not specifically require one. In addition, a net-benefit analysis would require complex economic, social, cultural and health effects (derived from different indicators, data sets, spatial and temporal scales, methods and significance criteria) to be compared using simplistic, common measures and explicit weighting assumptions. The IS therefore assesses effects by valued component rather than aggregating them into a single net-benefit measure, consistent with other reviews NIRB has completed. Pertinent information is nevertheless provided across the IS as follows:

1. Economic benefits: Volume 2, Section 2.5 and Table 2.4 summarize anticipated employment and economic benefits. Volume 9, Section 27 provides the detailed Employment and Economy assessment, including the modelling method (Section 27.3.1), GDP, employment, labour income and government revenue results (Tables 27.14–27.24), and residual effects on economic development, employment, training, contracting, business opportunities and resupply resilience (Sections 27.3.3–27.3.7).

2. Adverse social, cultural, health, well-being and economic effects: These are assessed in Volume 9 by valued component: Section 24, Traditional Land, Marine and Resource Use; Section 25, Food Security and Food Sovereignty; Section 26, Community Health and Well-being; Section 27, Employment and Economy; Section 28, Infrastructure and Services; and Section 29, Non-Traditional Land, Marine and Resource Use. Each chapter identifies pathways, mitigation, residual effects and significance conclusions.

3. Reduction or displacement of existing or alternative economic activities: Potential effects on harvesting and other traditional land and resource uses are addressed in Volume 9, Section 24; effects on tourism, recreation and other non-traditional uses are addressed in Section 29; and effects on employment, contracting, business opportunities and community resupply are addressed in Section 27.

4. Traditional economy impacts: Volume 9, Sections 24 and 25 assess effects on harvesting, access, use of lands and waters, country food availability and access, and food security and sovereignty. The knowledge and values informing these assessments are described in Volume 3, including the integration of Inuit, Indigenous and Community Knowledge and perspectives.

5. Distribution of benefits and losses: Volume 9, Section 27.1.4.1 defines the local and regional assessment areas and communities considered. Section 27.3.1 distinguishes employment by work location and worker residency, and the Section 27 tables report the geographic distribution of economic outputs. Community- and population-specific effects are also addressed, where data permit, within the relevant assessments in Sections 24–29 rather than in a separate distributional account.

6. Uncertainty: The general approach to prediction confidence, uncertainty and significance is described in Volume 4, Effects Assessment Methodology. VC-specific assumptions and uncertainty are addressed in each Volume 9 assessment; for example, economic-model limitations are discussed in Section 27.3.1.2 and prediction confidence and uncertainty in Section 27.6. Cumulative uncertainty and interactions with other developments are considered in Volume 10, Cumulative Effects Assessment.

7. Measures to optimize benefits and mitigate losses: Enhancement and mitigation measures are identified in each applicable Volume 9 VC assessment, Sections 24–29. Volume 11, Section 37.1 explains the Environmental Management System, follow-up and adaptive-management framework. The supporting plans include Appendix 37J, Inuit Human Resources and Business Development Plan, and Appendix 37K, Socio-economic Monitoring Plan, alongside the relevant environmental and resource-use management plans.

Accordingly, the IS discloses the principal benefits, adverse effects, distributional considerations, uncertainties and mitigation measures, but does not convert effects into a coarse single monetary value or net-benefit score. These cross-references listed above can instead be used as a structured, non-monetized account of potential Project trade-offs.

WKR strongly believes in the many benefits this Project will create. This is further supported by the mitigation and management measures we have committed to that not only address potential effects, but enhance Project benefits for Nunavummiut and other Canadians alike.

NIRB 74. (IR-552)

Subject

Alternatives / Inuit Organization engagement

Issue / Concern

Reviewer Comments / Reasoning: The alternatives section states criteria were informed by Inuit, Indigenous and Community Knowledge, but the IS does not provide a complete record showing early Inuit Organization involvement in alternative means, criteria development, weighting, or assessment structure.

Missing Information / Gap: The alternatives assessment lacks a traceable record of who participated in criteria selection, how criteria were weighted, whether Inuit Organizations proposed or rejected alternatives, and how Inuit values changed the preferred alternative.

Information Request

Provide an alternatives-engagement record identifying: 1) Inuit Organizations engaged; 2) timing of engagement; 3) alternatives discussed; 4) criteria proposed by Inuit Organizations or knowledge holders; 5) weighting or assessment structure input; 6) resulting changes to alternatives or scoring; and 7) unresolved concerns.

Proponent Response

WKR's consolidated response regarding how Inuit, Indigenous, and Community knowledge influenced Project design and the assessment is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where the influence of engagement, and the rationale where input was not adopted, is documented in the Impact Statement.

NIRB 75. (IR-553)

Subject

Socio-economic distribution / wellbeing

Issue / Concern

Reviewer Comments / Reasoning: The IS includes socio-economic and health assessments, but the distribution and magnitude of benefits and losses are not presented in a single life-of-project analysis by socio-economic group, vulnerable group, gender, age, community, or mental-health pathway.

Missing Information / Gap: The record does not clearly quantify or characterize who benefits, who may experience adverse effects, how long effects last, and what monitoring will detect uneven benefit distribution or social stress.

Information Request

Provide a distributional socio-economic effects analysis over construction, operations, care and maintenance, closure/stewardship and future development scenarios. Include community, gender, age, Inuit/non-Inuit, vulnerable groups, employment status, household income, mental health/well-being pathways, benefit/loss magnitude, uncertainty, indicators, thresholds and adaptive measures.

Proponent Response

The *Guidelines for the Preparation of an Impact Statement for the WKR Grays Bay Road and Port Project* (NIRB 2026) do not require the level of detail requested in the Information Request. With respect to Gender Based Analysis + (GBA Plus), Section 8.2 of the Guidelines states that, where relevant and appropriate, data should be distinguished by gender, age, and other community-relevant factors (e.g., hunters, trappers, harvesters) to support a GBA Plus assessment. The Guidelines further require the use of socio-economic indicators to characterize baseline conditions and assess potential project-related effects, including cumulative and residual effects. The Proponent is expected to identify and justify the indicators selected, provide predictions regarding the timing of potential effects on relevant socio-economic valued components (VCs), and clearly describe any data limitations or knowledge gaps encountered during the assessment.

Consistent with the Guidelines, the GBA Plus assessment presented in the Impact Statement is a qualitative analysis and does not include quantitative modelling or distributional effect estimates. The assessment focuses on identifying potential pathways through which Project effects may be experienced differently by various sub-populations and characterizing the nature and relative significance of those effects.

The GBA Plus methodology employed is described in Volume 9, Sections 24.2.1.4, 25.2.1.6, 26.2.1.1, 27.2.1.4, 28.2.1.7, and 29.2.1.6, with additional detail provided in Volume 9, Appendix 25A, Section 3.5. This section outlines the rationale for the identification and inclusion of sub-populations considered throughout the assessment. Sub-populations assessed include Inuit, hunters and trappers, other Indigenous Peoples, Indigenous women and girls, women+, men+, low-income individuals and households, people with disabilities, lone-parent families, members of the Two-Spirit, Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, Asexual, and other sexually and gender diverse (2SLGBTQQIA+) community, youth, and Elders (Volume 9, Appendix 25A, Table 3.5).

This GBA Plus framework is integrated throughout the socio-economic effects assessment and forms part of the evaluation of each socio-economic VC. In each human-environment VC, the potential for differential experience of Project effects among identified sub-populations is assessed in dedicated subsections titled “Residual Effects on Sub-populations Identified Through Gender Based Analysis Plus (GBA Plus),” specifically:

- **Traditional Land, Marine and Resource Use (Section 24)** — Volume 9, Sections 24.3.3.4, 24.3.4.4, 24.3.5.4, and 24.3.6.4;
- **Food Security and Food Sovereignty (Section 25)** — Volume 9, Sections 25.3.3.4 and 25.3.4.4;
- **Community Health and Well-being (Section 26)** — Volume 9, Sections 26.3.3.4, 26.3.4.4, 26.3.5.4 (mental health and well-being pathways), 26.3.6.4, 26.3.7.4, and 26.3.8.4;
- **Employment and Economy (Section 27)** — Volume 9, Sections 27.3.3.4, 27.3.4.4, 27.3.5.4, 27.3.6.4, and 27.3.7.4;
- **Infrastructure and Services (Section 28)** — Volume 9, Sections 28.3.3.4, 28.3.4.4, 28.3.5.4, and 28.3.6.4; and
- **Non-Traditional Land, Marine and Resource Use (Section 29)** — Volume 9, Sections 29.3.2.5, 29.3.3.5, 29.3.4.5, and 29.3.5.5.

As such, the assessment considers the potential for differential experiences of Project effects among identified sub-populations across all project phases.

Each socio-economic VC assessment identifies interactions between Project activities during construction and operations and maintenance and the resulting potential effects for each VC, in its “Assessment of Project Effects” section — Volume 9, Sections 24.3 (Traditional Land, Marine and Resource Use), 25.3 (Food Security and Food Sovereignty), 26.3 (Community Health and Well-being), 27.3 (Employment and Economy), 28.3 (Infrastructure and Services), and 29.3 (Non-Traditional Land, Marine and Resource Use).

Each socio-economic VC assessment also includes an assessment of cumulative effects — including past, present, reasonably foreseeable, and reasonably foreseeable induced projects and physical activities that may act cumulatively with the residual effects of the Project — in its “Assessment of Cumulative Effects” section (Volume 9, Sections 24.4, 25.4, 26.4, 27.4, 28.4, and 29.4).

Consequently, the assessment addresses community-level and sub-population-level considerations, including age, gender, Indigenous identity, vulnerability, income-related factors, and other relevant socio-economic characteristics, within the qualitative effects assessment framework adopted for the Impact Statement. Given the qualitative nature of the GBA Plus methodology, Project effects are characterized using available evidence, community-informed knowledge, and professional judgment rather than quantitative estimates of effect magnitude, thresholds, or distributional outcomes. Uncertainty, data limitations, and knowledge gaps are identified where applicable, and adaptive management and mitigation measures are described within the relevant VC assessments.

NIRB 76. (IR-554)

Subject

Alternatives / no-go / criteria

Issue / Concern

Reviewer Comments / Reasoning: The IS presents three project location options and selected component alternatives. The information is useful but does not fully show all alternatives considered, all alternatives screened out, how the no-go alternative was analyzed, or how criteria and ratings were applied.

Missing Information / Gap: The alternatives record lacks a full criteria/weighting/scoring table, no-go comparison, sensitivity analysis, and traceability from Inuit/Indigenous/community input to final alternative selection.

Information Request

Submit a complete alternatives assessment record that includes: 1) all alternatives considered and screened out; 2) no-go alternative; 3) criteria and weighting; 4) scoring rationale and evidence; 5) Inuit, Indigenous and Community Knowledge inputs; 6) uncertainty and sensitivity tests; 7) reasons for selecting or rejecting each alternative; and 8) identification of any alternatives deferred to later design or excluded from assessment.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the alternatives assessment for the Project presented in Volume 2, Section 2.4 (Alternatives, Pages 2-11 to 2-19), with a comparison of the Project location options in Table 2.2.

To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

1. **Alternatives considered and screened out**

   Volume 2, Section 2.4 records that "concepts for the Project have been evolving for over 30 years," with studies of alternative means of carrying out the Project conducted over that period (Volume 2, Section 2.4). The IS presents three Project location options (Table 2.2), together with alternative means of carrying out selected Project components (Volume 2, Section 2.4).

   Within the selected Grays Bay location, the IS evaluated (in 2016) an alternate road alignment to avoid the published mapping of Bathurst caribou core calving grounds. It was not carried forward mainly because it would have added roughly 50% to the road length and, through a longer corridor in more rugged terrain, caused greater overall habitat loss — both direct (larger footprint, more disturbance) and indirect (more noise, dust, traffic, and human activity). These outcomes did not align with the design approach informed by Inuit Knowledge, which seeks to minimize land disturbance and

protect key wildlife areas, and the longer route would also have avoided important areas of Inuit Owned Lands, contrary to the objective of supporting Inuit access. The rugged topography would additionally have raised construction and maintenance costs and safety concerns (Volume 1, Main Document, p. MD-13; Volume 2, Section 2.4)

2. **No-go alternative**

Volume 2, Section 2.4 describes the outcome without the Project:

> "*In the absence of the Project, Canada will continue to assert sovereignty claims over the Northwest Passage and will continue to assert that it is comprised of Canadian internal waters. However, the opportunity to strengthen this assertion through strategic infrastructure will be lost. The Canadian Coast Guard and the Royal Canadian Navy will continue to operate in the Coronation Gulf, but without the benefit of any deep-water ports to bolster their presence. While individual resource development projects will likely continue, economic constraints may make advancement and development to production levels cost prohibitive due to the inability to efficiently import materials and equipment to the sites and export mineral ore to national and international markets. […] The western Arctic will continue to rely on barge shipments via the Mackenzie River and sealift shipments from ports in Eastern Canada, exposing communities to continued risks of supply chain disruptions. Without the Project, communities will not gain as many employment, training, business, and contracting opportunities, and the safety and efficiency of marine and overland travel in the west Kitikmeot Region will not be improved.*" (Volume 2, Section 2.4, Page 2-11)

The environmental effects of the no-go case are represented by the existing baseline conditions in each valued component (VC) assessment in Volumes 5 to 9. Project effects are measured against that baseline.

3–4. **Criteria, weighting and scoring rationale**

Table 2.2 compares the three location options against the Project's purposes (Volume 2, Section 2.4). The purposes are community infrastructure and re-supply, sovereignty and security, and economic development through mineral resource access (Volume 2, Section 1.6, Page 1-20). The evidence for each option's selection or rejection is stated in Table 2.2 and in the Section 2.4 narrative.

5. **Inuit, Indigenous and Community Knowledge inputs**

The selected location reflects a prior selection made by Inuit and territorial organizations. Volume 2, Section 2.4 records that Option 3 (Grays Bay):

> "*is the project alternative selected and advanced by the Government of Nunavut and the Kitikmeot Inuit Association in 2017, based on their assessment of alternatives. This location has direct access to the Northwest Passage, direct or spur road access to every major mining project in the region, and overland access to southern Canada. The location between Kugluktuk and Cambridge Bay provides a centrally located hub for marine transportation and safety.*" (Volume 2, Section 2.4, Table 2.2, Page 2-16)

Engagement input on caribou calving habitat informed the evaluation of the alternate road alignment described under item 1 (Volume 3, Section 5.4.7). The ways Inuit, Indigenous and Community Knowledge informed Project design are described in Volume 3, Section 5.4 and Volume 2, Section 2.1.5 (Public Engagement and Inuit Qaujimajatuqangit, Page 2-7).

6. **Uncertainty and sensitivity tests**

The treatment of uncertainty and sensitivity in the alternatives assessment is addressed in the response to NIRB 80 (IR-558).

7. **Reasons for selecting or rejecting each alternative**

The reasons for selecting Option 3 and for not carrying forward the other location options are set out in Table 2.2 and in Volume 2, Section 2.4. The reasons for not carrying forward the alternate road alignment are set out under item 1, and further described in Volume 1, Main Document, p. MD-13.

8. **Alternatives deferred to later design or excluded from assessment**

The final siting of Project components, including individual water crossings, quarries and camps, will be informed by the progression of engineering design and by further engagement.

The Phase 2 all-season road extension from Jericho Station to the Nunavut/Northwest Territories border is described in Volume 2, Section 2.3. The response to GTC-06 (IR-272) addresses it.

Please see NIRB 77. (IR-555) for further details

NIRB 77. (IR-555)

Subject

Alternatives / comparability / transboundary effects

Issue / Concern

Reviewer Comments / Reasoning: The alternatives table rates development/construction, operations and local/regional effects. However, the ratings are broad and do not consistently evaluate health, well-being, cultural, food-security, cumulative, climate, or transboundary consequences for each alternative.

Missing Information / Gap: The alternatives assessment is not detailed enough for reviewers to verify that the preferred plan is most reasonable across all required impact categories, especially cultural, health, well-being, transboundary and cumulative effects.

Information Request

Provide an expanded alternatives comparison table with quantitative and qualitative ratings for each alternative across: 1) cost; 2) technical feasibility; 3) climate resilience; 4) freshwater, terrestrial and marine effects; 5) wildlife and harvesting effects; 6) cultural and heritage effects; 7) health and wellbeing; 8) food security; 9) economic benefits/losses; 10) cumulative effects; and 11) transboundary effects.

Proponent Response

The alternatives assessment in the IS meets the requirements of the Final Impact Statement Guidelines (Section 6.0, Alternatives). As required, the IS identifies all alternative means — including the “no-go” alternative — and applies criteria, including Inuit Knowledge, Indigenous Knowledge, and Community Knowledge and the avoidance of impacts on Inuit values, to a level of detail sufficient to compare the options and validate that the preferred plan is the most reasonable approach.

Table 2.2 (Volume 2, Section 2.4) compares the location options across cost-effectiveness, feasibility, potential effects on the environment, and potential effects on the socio-economic environment and traditional land use, with a summary rating for each. The supporting narrative in Section 2.4 and the Main Document further documents the biophysical and socio-cultural basis for the selection — including Inuit Knowledge, caribou calving-ground and herd-range considerations, habitat loss, Inuit Owned Lands, community resupply and safety, and security and sovereignty objectives — and records the reasons for rejecting each non-preferred option.

Consistent with the Guidelines, only the preferred alternative is carried forward into the detailed, VC-level effects assessment; the Guidelines do not require rejected alternatives to be assessed to the valued component level, nor do they prescribe a quantitative, multi-category ratings matrix for each alternative.

- On this basis, WKR respectfully submits that the alternatives assessment provides the comparison and validation the Guidelines require, and that the current IS addresses the information requested.

NIRB 78. (IR-556)

Subject

Alternatives assessment for the road corridor — ecological, cultural and IQ/IK criteria; need for an all-season road

Issue / Concern

Reviewer Comments / Reasoning: Arising from KHTO-IR-011 and ADNLC-IR-05, which ask the same question at different depth. ADNLC provides the stronger drafting: it asks for per-route mapping against caribou critical habitat and challenges the stated basis for rejecting the calving-ground-avoiding route (that it was longer). A longer route is not necessarily the higher-impact route.

Missing Information / Gap: No transparent comparison of corridor alternatives against ecological and cultural criteria; no evidence of how IQ/IK/CK informed route selection; no analysis of a port-only option or of a seasonal versus all-season road.

Information Request

Provide: (a) detailed evidence of whether and how IQ/IK/CK were used in the analysis of alternative routes, and whether the resulting conclusions were corroborated with Knowledge Holders; (b) for each alternative route, maps and supporting reports showing how the route interacts with caribou calving and post-calving grounds, water crossings, migration and movement corridors, eskers, seasonal and rutting habitat — overlaid with collar and movement data across all available years, and with Inuit and Indigenous Knowledge of critical areas; (c) the rationale for rejecting the route that avoids the calving grounds, addressing whether route length was weighted against habitat sensitivity; (d) alternatives analysis for a port-only option (no road) and for future mines using winter roads or other transport, with tables showing how regional benefits change without the road; and (e) watercrossing design options, access-control and land-use management measures, seasonal versus all-season access, future-use and cumulative scenarios, and closure and reclamation alternatives. Present the criteria, weightings and basis for the preferred alternative.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

Alternatives were evaluated using criteria informed by, or based on, four considerations (Volume 2, Section 2.4):

- Inuit, Indigenous and Community Knowledge;
- potential effects on the biophysical and socio-economic environment;

- practicality and technical feasibility;
- cost-effectiveness.

(a) **How Inuit, Indigenous and Community Knowledge informed route selection**

The response to NIRB 3 (IR-500) sets out the methods by which knowledge inputs were recorded, protected and carried into the assessment. The response to KAA-10 (IR-10) provides an overview on how Inuit Knowledge influenced project routing and design.

(b) **How each alternative route interacts with caribou habitat**

Table 2.2 (Volume 2, Section 2.4, Table 2.2) characterizes each location option's interaction with caribou herd ranges:

- Option 1 (Port east of Kugluktuk, road to Izok Lake): "The annual range of the Bluenose East, Beverly/Ahiak, and Bathurst caribou herds directly overlap the road route."
- Option 2 (Bathurst Inlet road and port): "The road route directly overlaps the Bathurst and Beverly/Ahiak caribou herd annual ranges."
- Option 3 (Grays Bay, preferred): "The road alignment is west of the observed Bathurst caribou core calving area, outside of Bluenose East calving area and annual range entirely."

Since 2005, the Bathurst herd's annual peak calving area has shifted eastward and has minimal overlap with the Project (Volume 6, Section 16.2.2).

For the selected alignment, the IS maps caribou habitat, calving and post-calving areas, movement and water crossings in Volume 6, Section 16 and in Appendix 16A (Wildlife Baseline Report). That work draws on:

- Bathurst Caribou Herd collar data (1996–2024);
- Dolphin and Union Herd collar data (1987–2024);
- seasonal-range kernel density estimation;
- resource selection function habitat modelling;
- the Project-specific Inuit Knowledge report (Volume 6, Section 16.2; Appendix 16A).

Eskers and other sensitive landforms are assessed in Volume 6, Section 14 (Terrain, Soils, and Permafrost).

(c) **Rationale for not carrying forward the alternate alignment**

See rational provided in NIRB 76. (IR-554) for not carrying forward the alignment.

(d) **Port-only option and alternative transport for future mines**

The comparison of an all-season road with a winter road is presented in Volume 2, Section 2.4, Table 2.3 (Road Type). Table 2.3 rates the all-season road as preferred on the basis of the following, while noting its greater upfront capital cost and greater construction disturbance:

- substantially lower annual operating costs over the life of the project;
- year-round access;
- operational flexibility;
- lower environmental risk.

The winter road is rated not preferred (Volume 2, Section 2.4, Table 2.3).

The outcome without the Project, including for resource development and community resupply, is described at Volume 2, Section 2.4 (Page 2-11).

(e) **Crossing design, access control, seasonal access, future use, and closure**

- **Water crossing design options:** Crossing type and design will be developed as engineering design progresses and through the associated *Fisheries Act* authorization process.
- **Access control and land-use management:** The Project is designed as a controlled-access, multi-user, multi-use transportation system (Volume 2, Section 1.6). Access terms by user group are set out in the Road Management Plan (Volume 11, Appendix 37A, Section 5.1.1).
- **Seasonal versus all-season access:** See item (d) and Volume 2, Table 2.3.
- **Future use and cumulative scenarios:** Refer to the responses to NIRB 65 (IR-543) and NIRB 134 (IR-612).
- **Closure and reclamation:** Refer to the response to NIRB 68 (IR-546).

NIRB 79. (IR-557)

Subject

BAT / energy alternatives / GHG

Issue / Concern

Reviewer Comments / Reasoning: The Project description mentions renewable power generation among port landside infrastructure and discusses fuel/diesel systems, but the alternatives assessment does not provide a robust best-available-technology or alternative-energy comparison.

Missing Information / Gap: There is no clear assessment of renewable, hybrid, low-carbon, electrification, energy-efficiency, or fuel alternatives for power generation, road/port operations, construction equipment, heating, and long-term operations.

Information Request

Provide a best-available-technology and energy alternatives assessment that includes: 1) options considered; 2) feasibility in Arctic conditions; 3) GHG reductions; 4) air quality effects; 5) reliability and safety; 6) costs; 7) implementation schedule; 8) reasons for rejection; and 9) how selected technologies will be updated over the Project life.

Proponent Response

Assessment of renewable energy and best-available technology to the level requested has not been completed at this time. As energy alternatives for power are engineering design feasibility assessments, they will be completed when detailed design advances.

Power generation for the Project is described in Volume 2, Section 2.6.1:

> "*The port may also include a 1 megawatt (MW) alternative energy system (wind, solar, battery) to reduce diesel reliance. Power generation will be provided by modular diesel plants: four units (6 MW total) at the port and two units (3 MW total) at Jericho Station, with capacity designed to meet routine and peak demands efficiently.*"

Volume 5, Section 11 states that "[a]n investigation of renewable energy technology options was undertaken to determine the feasibility of replacing a portion of the provided diesel power with renewable energy during the Operations and Maintenance phase," and that "[t]he implementation of renewable energy would lower emissions from the Operations and Maintenance phase scenario" (Volume 5, Section 11). The resulting reductions are quantified in two tables:

- Table 11.12 (Volume 5, Section 11), for air contaminants;
- Table 12.10 (Volume 5, Section 12), for greenhouse gases.

The Project's greenhouse gas emissions are quantified in Volume 5, Section 12.4.3. The assessment was carried out in line with the Government of Canada's Strategic Assessment of Climate Change (Volume 5, Section 12.2, Page 12-8). The Climate Change Risk Assessment (Volume 5, Appendix 12B) assesses how reliable Project infrastructure will be under Arctic and projected climate conditions.

NIRB 80. (IR-558)

Subject

Alternatives / uncertainty / climate / cumulative effects

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies broad criteria and rating outcomes for alternatives. It does not fully show how Arctic vulnerability, climate-change risk, cumulative effects, uncertainty, baseline limitations and precautionary decision-making were applied to each alternative.

Missing Information / Gap: Alternatives screening does not include a transparent uncertainty/sensitivity analysis or explanation of how alternatives would perform under climate-change and cumulative-development scenarios.

Information Request

Provide an alternatives sensitivity analysis showing how rankings change under: 1) higher climate-risk assumptions; 2) increased cumulative development; 3) different habitat and harvesting weighting; 4) lower confidence in baseline data; 5) stronger precautionary weighting; and 6) different community preference assumptions.

Proponent Response

The IR asks for an alternatives sensitivity analysis showing how rankings would change under six conditions:

- higher climate-risk assumptions
- more cumulative development
- different weighting of habitat and harvesting
- lower confidence in baseline data
- stronger precautionary weighting
- different assumptions about community preference

Section 6.2.1 (Alternatives) of the NIRB Final Impact Statement Guidelines (January 2026) requests WKR to compile an explicit analysis of all alternative means of carrying out the Project, including a "no-go" alternative. The analysis must identify and apply the criteria used, including Inuit Qaujimaningit, Indigenous Knowledge, and Community Knowledge. It must be detailed enough for the NIRB and the public to compare the Project with the alternatives and confirm that the preferred plan is the most reasonable approach (Page 25). Section 6.2 also requests evidence that WKR involved Inuit Organizations in developing the criteria and assessment structure for the alternatives assessment (Page 25).

WKR believes that we have addressed these requirements in Volume 2, Section 2.4 (Alternatives):

- **No-go alternative:** describes the consequences of not proceeding with the Project.
- **Criteria and ratings:** evaluates alternatives against criteria based on Inuit, Indigenous, and Community Knowledge, biophysical and socio-economic effects, technical feasibility, and cost-effectiveness. Each alternative is rated Preferred, Acceptable, or Unacceptable.
- **Location options:** compares three Project locations, including effects on caribou ranges and calving areas (Table 2.2).
- **Component options:** compares port site location, wharf structure type, and road type (Table 2.3).
- **Earlier alignment:** describes the 2016 evaluation of an alternative road alignment that would have avoided the Government of Nunavut's mapped core calving grounds.

The other factors the IR raises are assessed for the Project in the following sections:

- **Precautionary principle:** Volume 2, Section 2.1.3.
- **Climate change:** Volume 2, Section 2.1.2; Volume 5 (climate change risk assessment).
- **Prediction confidence and uncertainty:** Volume 4, Section 9.4.4.
- **Cumulative effects:** Volume 10, Section 32.

We believe that a sensitivity analysis re-ranking the alternatives under different climate-risk, cumulative-development, weighting, baseline-confidence, precautionary, and community-preference assumptions is outside the scope of the guidelines.

- **Section 6.2.1** asks for the criteria to be identified and applied, in enough detail to compare alternatives and confirm the preferred plan. It does not ask for alternatives to be re-ranked under alternative assumptions.
- **No weights to vary:** the alternatives in the IS were rated qualitatively, not scored with numerical weights.
- **Climate change, cumulative effects, and uncertainty** are addressed under Guidelines Sections 7.4.2, 7.4.3, and 7.4.7 for the Project as assessed, not for each alternative.

Please see NIRB 77. (IR-555) for further details regarding the assessment of alternatives

NIRB 81. (IR-559)

Subject

Project scope / project splitting

Issue / Concern

Reviewer Comments / Reasoning: The IS describes a large set of Project components and exclusions. It also identifies future-ready areas and expandable infrastructure, while excluding future third-party mineral concentrate handling, spur roads, and other facilities from the current scope.

Missing Information / Gap: The boundary between included works, future-ready enabling works, excluded future works and reasonably foreseeable induced activities is not clear enough for technical review of cumulative effects, project splitting and mitigation responsibility.

Information Request

Provide a project-scope boundary table that lists each component, activity, work and alternative means as: included in Project, future-ready/enabling, reasonably foreseeable induced, excluded third-party, or previously assessed. For each item, provide location, phase, design status, expected user, regulatory status, related effects assessment location, and rationale for scope treatment.

Proponent Response

See response to GTC-06 (IR-272) for future-development scope and how it was included in the IS.

NIRB 82. (IR-560)

Subject

Project description / design detail

Issue / Concern

Reviewer Comments / Reasoning: The IS provides a systematic description of main components, including port, aerodrome, road, Jericho Station, winter roads, camps, quarries, bridges, culverts and utilities. However, some design details remain approximate or undetermined.

Missing Information / Gap: Important project-description details remain to be finalized, including final quarry locations, drainage equalization structures, detailed camp locations/timing, final marine outfall/diffuser details, final water and wastewater infrastructure, and final site layouts in future-ready areas.

Information Request

Provide project component data sheets for each major and temporary component, including: location coordinates; design status; footprint; capacity; timing; activity description; equipment; workforce; material/fuel/water/waste quantities; design uncertainties; environmental interactions; and references to mitigation/monitoring plans.

Proponent Response

The IS describes each major and temporary Project component in Volume 2, Section 2.6. The main components are summarized in Table 2.7 (Summary of Main Project Components). The descriptions cover:

- the Grays Bay Port, including landside and marine-based infrastructure;
- the aerodrome;
- the Grays Bay Road, including bridges and culverts;
- Jericho Station;
- winter roads;
- camps;
- quarries and borrow sources;
- utilities.

The IS was prepared on the basis of a conceptual level of engineering design as described in Volume 2, Section 2.6 and further detailed in the addendum (Appendix C Engineering Design Memos). Detailed design will not be progressed until after the Project Certificate has been issued.

The monitoring plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 83. (IR-561)

Subject

Schedule / disturbance windows / thresholds

Issue / Concern

Reviewer Comments / Reasoning: The IS provides a conceptual schedule, construction sequence and operations description. However, a consolidated activity schedule with seasonality and disturbance intensity across all components is not provided in a form that supports technical review.

Missing Information / Gap: The submission does not provide a single schedule identifying high-disturbance periods for blasting, quarrying, marine construction, dredging, pile driving, vessel movements, aircraft operations, road construction, water crossings, wildlife-sensitive periods, and public/harvester notification windows.

Information Request

Provide an integrated project activity schedule by phase, component, month/season, frequency, duration, expected disturbance level, applicable code/threshold/permit limit, affected VC, mitigation, monitoring and communication requirement. Highlight activities with increased disturbance and identify timing constraints to protect wildlife, fish, marine mammals, heritage resources and harvesters.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Volume 2, Section 2.2, which presents the Project schedule. Onsite works are scheduled to begin in 2029 and major construction in 2030; the major construction activities are expected to take approximately five years. Operations and Maintenance is anticipated to commence in 2035 and continue indefinitely. The schedule is conceptual, and the timing and duration of activities in both phases may be influenced by seasonal constraints, including the short open-water season and limitations associated with winter road access. The construction schedule, including high-disturbance periods for blasting, quarrying, marine construction, dredging, pile driving, vessel movements, aircraft operations, road construction, and water crossings will not be further developed until the design advances.

NIRB 84. (IR-562)

Subject

Project phases / care and maintenance / closure

Issue / Concern

Reviewer Comments / Reasoning: The IS presents construction and operations/maintenance phases and states that operations will continue indefinitely for permanent infrastructure. It does not present a complete phase matrix for reduced operations, modifications, temporary closure/care and maintenance, final closure, reclamation and post-closure for all permanent components.

Missing Information / Gap: The absence of a complete reduced-operation, care-and-maintenance, closure and post-closure description limits review of long-term environmental, socio-economic, safety, access, monitoring and financial responsibilities.

Information Request

Provide a project-phase matrix for each component identifying: 1) preconstruction/site preparation; 2) construction; 3) operations; 4) reduced operations; 5) maintenance; 6) modifications/expansions; 7) temporary closure/care and maintenance; 8) final closure/decommissioning/reclamation; 9) post-closure; 10) timeframes; 11) works/undertakings; 12) monitoring and mitigation plans; and 13) responsible parties.

Proponent Response

The Project schedule is described in response to NIRB 83 (IR-561). The Project does not include a closure and post closure description as the Project will operate in perpetuity once built. As provided in the IS: "Care and maintenance measures will be developed to address temporary or unplanned closures or reduced operations such as during a pandemic, or a labour strike. These measures are included in the Road Management Plan and Port Management Plan, as appropriate" (Volume 11, Section 37.1.8.1, Page 37-9).

Maintenance of Project components will be scheduled based on the safe operation and life of each component. A maintenance schedule and monitoring plan for Project components will be developed based on the operation of each component and will be recorded in the appropriate management plan for the Port or the Road.

NIRB 85. (IR-563)

Subject

Future development / project splitting / induced effects

Issue / Concern

Reviewer Comments / Reasoning: The IS acknowledges foreseeable future development and future-ready infrastructure. It also states that third-party development will be the responsibility of those users and outside the current scope. This is a central uncertainty because the Project is intended to enable future mineral exploration and mining.

Missing Information / Gap: The IS does not provide sufficient conceptual design, activity envelopes, traffic/shipping/workforce assumptions, ownership/responsibility, or effects assessment for all foreseeable expansions and third-party uses to fully address project-splitting concerns.

Information Request

Provide a Future Development Addendum that identifies each foreseeable expansion or third-party use, including: infrastructure required; conceptual footprint and capacity; timing; likely users; traffic/shipping/fuel/workforce assumptions; associated biophysical, socio-economic, health, well-being, cultural and rights-related effects; mitigation responsibility; regulatory pathway; and rationale for inclusion or exclusion from the current Project.

Proponent Response

See response to GTC-06 (IR-272) for future-development scope and how it was included in the IS.

NIRB 86. (IR-564)

Subject

Future development / cumulative assumptions

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies expandable fuel storage, expandable airstrip length, future third-party port areas and induced mining projects. However, the design capacity, thresholds and cumulative effects implications of these future development assumptions are not clearly integrated in one place.

Missing Information / Gap: Reviewers cannot readily verify whether the current design has been sized for future scenarios and whether the cumulative assessment uses matching assumptions for traffic, utilities, fuel, waste, wastewater, workforce, marine movements and emergency response.

Information Request

Provide a future-scenario design/cumulative-effects crosswalk that shows: 1) each future scenario; 2) design capacity assumed; 3) utility and ancillary infrastructure implications; 4) cumulative-effects assumptions; 5) monitoring indicators; 6) expansion thresholds; and 7) conditions under which additional NIRB review would be required.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

- **Phase 2 all-season road extension** from Jericho Station to the NU/NT border (Volume 2, Section 2.3, Page 2-10).
- **Future utilities** within a Transportation and Utilities Corridor approximately 150 m wide, centred on the road alignment (Volume 2, Section 2.3; Table 2.10, Page 2-33).
- **Airstrip extension** to 8,000 feet (2,438 m) (Volume 2, Section 2.6.1, Page 2-32).
- **Third-party concentrate storage and handling** in "[a]n undeveloped area in the site layout … to be developed by third parties" (Volume 2, Table 2.8, Page 2-27).
- **Induced mining developments** identified in Volume 2, Table 1.6 (Page 1-23).

These future scenarios would be pursued as separate projects (e.g., induced mining development including concentrate storage and handling at the Port, utilities) or expansions to this Project (e.g., road extension, road widening, airstrip expansion) subject to separate regulatory applications and review.

Cumulative-effects assumptions

The cumulative effects assessment includes the future scenarios above as reasonably foreseeable induced physical activities.

The traffic, shipping, fuel and workforce assumptions for these activities are set out in the Project Inclusion List (Volume 4, Appendix 9A, Attachment 9A2). The results are summarized in Volume 10, Section 32. Refer to the responses to NIRB 65 (IR-543), NIRB 85 (IR-563) and NIRB 134 (IR-612).

Please also see the preamble to NIRB's IRs for further context regarding the request for a cross-walk that summarizes issues, responses and conclusions for the IS.

NIRB 87. (IR-565)

Subject

Economic information / closure costs / financial assurance

Issue / Concern

Reviewer Comments / Reasoning: The IS provides a construction cost estimate and economic-output estimates. It states that WKR does not expect to post reclamation security for permanent infrastructure and that temporary-area security would be addressed later. Operating costs, closure/stewardship costs, expected revenues and financial assurance details are not fully provided.

Missing Information / Gap: The economic context is incomplete without operating costs, closure/care-and-maintenance/post-closure costs, revenue or funding assumptions, contingencies, long-term maintenance responsibilities and security/bonding approach.

Information Request

Provide a financial information table including: 1) capital costs; 2) annual operating and maintenance costs; 3) reduced-operation/care-and-maintenance costs; 4) closure, reclamation, decommissioning and post-closure stewardship costs; 5) expected revenues or funding sources; 6) contingencies and uncertainty ranges; 7) ownership/liability assumptions; and 8) financial security or bonding approach.

Proponent Response

See KAA-58 (IR-58) for response.

NIRB 88. (IR-566)

Subject

Employment / training / labour demand

Issue / Concern

Reviewer Comments / Reasoning: The IS provides FTE estimates for construction and operations and broad construction/operations workforce categories. However, job types, classification system, skill/education requirements, training requirements and person-years by phase are not fully detailed.

Missing Information / Gap: The employment information does not provide a detailed occupation-by-occupation labour demand table that reviewers can use to assess local/inuit employment feasibility, training needs, labour supply constraints and benefit distribution.

Information Request

Provide a workforce demand table by phase and year, including: occupation/classification code; number of positions; full-time/parttime/seasonal status; person-years; required skills; education/certification; training required; likely source community/region; Inuit/Nunavummiut hiring target; contractor/direct employer status; and assumptions for direct, indirect and induced employment.

Proponent Response

The IR asks for a workforce demand table by phase and year. For each occupation it would show:

- classification code and number of positions
- employment status (full-time, part-time or seasonal) and person-years
- required skills, education or certification, and training
- likely source community or region, and the Inuit or Nunavummiut hiring target
- whether the employer is a contractor or WKR
- assumptions behind the direct, indirect and induced employment estimates

However, Section 6.5 (Economic and Employment Information) of the NIRB Final Impact Statement Guidelines (January 2026) requests WKR to compile:

- the number of full-time and part-time jobs created directly and indirectly
- the types of jobs, required skills and education levels, using a recognized classification system, including training requirements for each position
- the number of person-years of work by Project phase
- a breakdown of jobs done by contractors, if known
- communities of focus for hiring, and anticipated hiring policies (Pages 28–29)

Section 8.2.3.2(iii) also requests the education, skills and experience the Project's labour force will need (Page 81).

WKR believes we have addressed these requirements in the following sections of the IS:

- Volume 2, Section 2.5 (Economic and Employment Information):
  - Section 2.5.2, Employment Opportunities
  - Table 2.5, Project-Related Nunavut Employment (Full-Time Equivalents)
  - Section 2.5.3, Workforce Mobilization
  - Section 2.5.5, Contracting and Procurement
  - Section 2.5.6, Training and Employment
- Volume 9, Section 27 (Employment and Economy):
  - Section 27.2.2.5, Labour Force and Employment
  - Section 27.3.1, Analytical Assessment Techniques
  - Section 27.3.4, Change in Employment
  - Section 27.3.5, Change in Education and Training
  - Tables 27.20 and 27.21, Employment (FTE) for Construction and for Operations and Maintenance
  - Table 27.22, WKR Operations and Maintenance Positions and Salaries
- Volume 11: Inuit Human Resources and Business Development Plan

We also believe the following parts of the request are outside the scope of the guidelines:

- Year-by-year breakdown: Section 6.5 asks for person-years by phase, not by year.
- Source community for each position: Section 6.5 asks for communities of focus for hiring and hiring policies, not a source community for each occupation.
- Hiring target for each occupation: Section 6.5 asks for anticipated hiring policies, not numeric Inuit or Nunavummiut targets for each occupation.

NIRB 89. (IR-567)

Subject

Human resources / equity / cultural safety

Issue / Concern

Reviewer Comments / Reasoning: The IS commits to developing training and employment strategies and inclusive policies, but many detailed workplace benefit, cultural safety, harassment/discrimination, Inuit advancement, Inuit women retention, contractor assistance and country food program commitments are not yet provided.

Missing Information / Gap: The information is not yet sufficient to assess whether predicted employment and community benefits will be realized or whether adverse worker/community interaction and equity effects will be mitigated.

Information Request

Provide a detailed Inuit employment, training, retention and workplace support plan including: 1) benefits and EAP availability for employees and contractors; 2) Inuit advancement and management pathways; 3) training and apprenticeship schedules; 4) Inuit women recruitment/retention measures; 5) harassment/discrimination policies and training; 6) cultural awareness and onsite support; 7) family/community support; 8) country food program details; 9) contractor-assistance measures; and 10) reporting indicators and corrective actions.

Proponent Response

The IS sets out WKR's employment, training, retention and workplace-support measures in the following places:

- Volume 2, Section 2.5.6 (Training and Employment)
- The enhancement and mitigation measures in Volume 9, Section 24 (Traditional Land, Marine, and Resource Use) and Section 27 (Employment and Economy)
- The Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J)
- The Socio-economic Monitoring Plan (Volume 11, Appendix 37K)

Volume 11 describes the Inuit Human Resources and Business Development Plan as including the following policies and plans:

- a Labour Relations Strategy "to increase local Inuit and youth employment";
- "Gender, Equity, and Diversity Policies, including the Employee Code of Conduct, Cultural Awareness, Travel Policy, Employee and Family Assistance Program, No Drug and Alcohol Policy, and Anti-harassment and Discrimination Policy";

- a Training Strategy "including an apprenticeship program";
- a Procurement Strategy "to prioritize Inuit and regional businesses."

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates. Together, these commitments and the information that has already been provided in the IS are believed to address the scope of this IR.

NIRB 90. (IR-568)

Subject

Impact Assessment Methodology – Factors to be Considered

Issue / Concern

Reviewer Comments / Reasoning: The IS addresses the s. 103 factors across multiple volumes and Volume 4 states that the assessment method was developed to address the factors in the Guidelines. However, the information is dispersed and several factors depend on later design or later management-plan completion.

Missing Information / Gap: No consolidated NuPPAA s. 103 compliance crosswalk shows where each factor is addressed, which conclusions depend on future design or future plans, and what remaining uncertainty affects NIRB's ability to rely on the conclusions.

Information Request

Provide a NuPPAA s. 103 factor crosswalk that identifies, for each factor: 1. IS volume/section/page references; 2. the principal conclusion; 3. supporting data/analysis; 4. remaining uncertainty; 5. mitigation or monitoring relied upon; and 6. any information deferred to permitting, detailed design, or management-plan finalization.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in IS. The IS maps each s. 103(1) factor to the IS content that addresses it through two linked tables: the Final IS Guidelines, Appendix A, and the IS concordance table (Volume 1, Appendix A). The IS concordance table (Volume 1, Appendix A, Page A-1) then maps each Guideline requirement to the IS volume, section and page where it is addressed. This follows Guideline Section 3.2, which requires the Proponent to provide a concordance table "cross-referenced with the information requirements identified in these Impact Statement Guidelines." The two tables together link each s. 103(1) factor to the IS content that addresses it. Please refer also to the responses to NIRB 15 (IR-493) and NIRB 27 (IR-505) for information on this topic.

Each VC section provides the supporting data and analysis of the effects assessment, including uncertainty considerations, mitigation and monitoring that is relied upon and where information is deferred to permitting, detailed design or management plan finalization.

NIRB 91. (IR-569)

Subject

Impact Assessment Methodology – Factors to be Considered

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies potential socio-economic benefits and adverse effects, including employment, infrastructure, food security, well-being, TLMRU, and transboundary considerations. Some positive residual effects are not carried forward for detailed characterization, and socio-economic monitoring commitments remain high level.

Missing Information / Gap: The distribution, durability, certainty, and monitoring of positive effects are not consistently assessed. Vulnerable groups, communities outside Nunavut, and long-term well-being outcomes are not supported by a complete indicator set with thresholds and adaptive responses.

Information Request

Provide a well-being and benefits assessment addendum that: 1. characterizes positive and adverse socio-economic effects using consistent criteria; 2. identifies affected communities and groups; 3. defines indicators, thresholds, and data sources; 4. explains how benefits will be optimized; and 5. links each predicted benefit to enforceable commitments and monitoring.

Proponent Response

1. The existing Impact Statement includes a comprehensive assessment of both positive and adverse effects. Each human environment valued component (VC) assessment in Volume 9 applied the same assessment methodology — pathway identification, interaction screening, mitigation/management/enhancement, residual effect determination, and cumulative effects — to effects that are positive in direction as well as those that are adverse. Each VC assessment also includes a Residual Effects Characterization subsection (for example, Volume 9, Sections 24.1.5, 25.1.5, 26.1.5, 27.1.5, 28.1.5, 29.1.5 and 30.1.5) that outlines descriptions and criteria used to characterize residual effects. These criteria are applied consistently to the characterization of residual effects throughout the corresponding VC assessment. The direction of each residual effect is stated explicitly using the residual effects criteria set out in Volume 4, Section 9.4.1 and repeated in each VC's Residual Effects Characterization subsection.

   Consistent with Volume 4, Section 9.4.1.4 (p. 9-13), "[r]esidual positive effects are not carried forward to a significance determination," This is a commonly used impact assessment methodology in Canada, under which the significance determination is applied to adverse residual effects while positive effects are described qualitatively and inform the overall assessment. This is a difference in the end point of the analysis, not in whether positive effects were assessed. Direction, magnitude, geographic extent, duration, frequency and reversibility are applied consistently to all adverse residual effects, and positive residual effects are described and carried through to identify mitigation, enhancement, and monitoring measures, rather than to a significance conclusion.

2. Information on relevant sub-populations is addressed through the GBA Plus framework (Appendix 25A, Table 3.5) and summarized at Section 26.2.2.8 (Summary of Baseline Information on Sub-Populations for GBA Plus), which draws on an Inuit social –determinants –of health perspective (ITK 2014) to identify the groups most likely to experience disproportionate health outcomes. These have the potential to include: Inuit, hunters and trappers, Indigenous women and girls, other Indigenous peoples, women+, men+, low-income individuals and households, people with disabilities, lone parent families, 2SLGBTQQIA+ community, youth and Elders.

3. Socio-economic monitoring indicators and data sources are established in the Socio-economic Monitoring Plan (Volume 11, Appendix 37K, filed in draft) and the Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J, filed in draft), with relevant baseline data provided in the People and Communities Baseline Report (Volume 9, Appendix 25A). Baseline methods and data sources are described in the Baseline Conditions subsections (Sections 26.2 and 27.2), which draw on Statistics Canada datasets and primary research including interviews, focus groups, and community meetings analyzed thematically and integrated into the People and Communities Baseline Report Appendix 25A.

   As currently filed, the SEMP is a conceptual framework that identifies initial socio-economic indicators to be monitored and provides for adaptive management and annual reporting; the complete indicator set with thresholds and adaptive responses is a level of detail associated with finalization of the Volume 11 monitoring plans. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

4. Enhancement measures have been designed to enhance Project benefits for local communities. Enhancement measures are identified in the Mitigation, Management, and Enhancement Measures subsection of each Volume 9 VC assessment (for example, Section 24.3.6.2 and Table 24.16, p. 24-140; and the corresponding subsections in Sections 25 through 29).Monitoring of predicted positive effects will occur through the Socio-economic Monitoring Plan (Volume 11, Appendix 37K, filed in draft), which Volume 9, Section 27 identifies as "one of the key strategies to guide the implementation of mitigation and management measures, measure the effectiveness of mitigation and management measures, measure how communities are experiencing effects (both positive and adverse), help with the socio-economic development of Inuit communities, and enable adaptive management of new/emerging socio-economic effects". The SEMP therefore provides the tracking mechanism by which the realization of positive residual effects — not only the control of adverse effects — is verified (and adjusted if necessary) over the life of the Project, supported by annual reporting and adaptive management.

5. The mitigation, enhancement, and commitment measures supporting the predicted positive effects are consolidated in Volume 1, Appendix B (Mitigations and Commitments), cross-referenced to VCs and Project phases, and are also set out VC-by-VC in the Mitigation, Management, and Enhancement Measures subsections of Volume 9, Sections 24–30.

NIRB 92. (IR-570)

Subject

Impact Assessment Methodology – Factors to be Considered

Issue / Concern

Reviewer Comments / Reasoning: The IS describes engagement and the role of Inuit, Indigenous, and Community Knowledge, and states that these inputs informed design, mitigation, monitoring, and holistic assessment. The record is not always traceable from individual priority or concern to a specific assessment decision or commitment.

Missing Information / Gap: No complete issue-to-decision matrix shows which community priorities changed project design, mitigation, monitoring, significance, or follow-up, and which priorities were not adopted with rationale.

Information Request

Provide a community values and decision-traceability matrix identifying: 1. the value, priority, or desired outcome; 2. source/community or group; 3. affected VC or project component; 4. how it informed assessment or design; 5. whether it changed mitigation/monitoring/significance; 6. rationale where not adopted; and 7. planned follow-up.

Proponent Response

With respect, the IS Guidelines do not require a community values and decision-traceability matrix of this nature to be provided. WKR has nevertheless taken substantive steps to demonstrate how community priorities were meaningfully addressed throughout the IS, including in Project design. The path from an identified community priority to an assessment or design decision is described in Volume 3 and Volume 4, with the record presented within each Valued Component (VC) assessment. Volume 3, Section 4.3 states that material received through engagement “was reviewed and consolidated into an internal knowledge tracking database. The database was categorized into VC-specific topics, streamlining integration into the IS where appropriate,” and that feedback and knowledge shared “informed baseline understanding, potential project effects and effects pathways, mitigation and enhancement measures, cumulative effects assessment, significance of effects, project monitoring and management plans, and project design and planning overall” (Volume 3, Section 4.3). WKR's consolidated response regarding engagement issues, WKR's responses and where those matters are addressed in the Impact Statement is first presented in response to NIRB 3 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package, which also explains WKR's approach to the requested standalone register.

Volume 3, Section 5.4 describes how this information was used at each assessment stage, from the scoping of each VC assessment through to development of mitigation, management, and enhancement measures, and gives examples pertaining to caribou migration, fish timing, caribou culvert

recommendations, calving concerns, and the timing of planned road construction activities. Volume 4 also describes how this information was used and provides the rationale where an input was not adopted, for example: spatial boundaries, where the VC assessments “include a summary of relevant input received from Inuit about these spatial boundaries and their appropriateness, and where Inuit have identified alternative spatial boundaries, provide a rationale if they were not adopted” (Section 9.2.4.1); effect pathways not carried forward (Section 9.4.1.1); mitigation, including “rationale for why some proposed measures were not selected” (Section 9.4.1.2); and significance, where the assessments “include discussion on how Inuit Knowledge and scientific evidence were used to inform the significance determination, and highlight, where available, where culturally relevant thresholds have been identified and applied” (Section 9.4.1.4). Volume 3, Table 6.2 summarizes WKR’s response to each key issue identified and where it was addressed, and Section 6.3.4 describes reporting back to communities on whether an input was incorporated.

NIRB 93. (IR-571)

Subject

Impact Assessment Methodology – Factors to be Considered

Issue / Concern

Reviewer Comments / Reasoning: The IS includes a dedicated effects-of-environment assessment and climate risk assessment. It identifies climate and geohazard interactions with road, port, water, and other infrastructure. However, some final design responses and monitoring thresholds are deferred.

Missing Information / Gap: The IS does not provide a component-by-component resilience implementation table linking each hazard to design criteria, monitoring, inspection frequency, maintenance triggers, contingency actions, and residual risk.

Information Request

Provide a hazard-resilience matrix for all major components, including roads, crossings, port structures, fuel systems, aerodrome, water/wastewater systems, quarries, camps, and winter road. For each hazard, identify design criteria, scenario assumptions, residual risk, monitoring, action thresholds, responsible party, and reporting.

Proponent Response

See response to NIRB 57 (IR-535).

NIRB 94. (IR-572)

Subject

Impact Assessment Methodology – Factors to be Considered

Issue / Concern

Reviewer Comments / Reasoning: The IS provides separate VC assessments and an additional holistic assessment. However, the VC assessments generally conclude significance at the individual VC level, while Volume 10 acknowledges that interconnections are considered mainly in the holistic discussion.

Missing Information / Gap: The IS does not consistently show how cross-VC interactions changed residual effects conclusions, significance determinations, or management responses.

Information Request

Provide a cross-VC interaction and systems-effects matrix showing direct, indirect, induced, cumulative, and cascading pathways among biophysical, cultural, health, well-being, and socio-economic VCs. Identify where interaction analysis changes predicted effects, mitigation, monitoring, or significance.

Proponent Response

Refer to response provided for NIRB IR-6 (IR-484).

NIRB 95. (IR-573)

Subject

Impact Assessment Methodology – Factors to be Considered

Issue / Concern

Reviewer Comments / Reasoning: The IS includes VC-specific cumulative effects and a consolidated CEA overview. The methodology initiates CEA only where adverse residual Project effects overlap spatially and temporally with other projects or activities.

Missing Information / Gap: This screening method may exclude cumulative interactions involving positive effects, Indigenous/public concerns, future induced development, climate change, or system-level effects not captured by an adverse residual-effect screen.

Information Request

Provide a cumulative-effects screening justification table for every VC and holistic system. Include residual effects screened in and out, positive/beneficial effects, climate interactions, induced development pathways, community-raised concerns, rationale for exclusions, and sensitivity cases where screening assumptions materially affect conclusions.

Proponent Response

Refer to response provided for NIRB 71 (IR-549).

NIRB 96. (IR-574)

Subject

Impact Assessment Methodology – Factors to be Considered

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies mitigation, enhancement, management plans, and monitoring. However, restoration after permanent closure is limited because the Project is treated as permanent infrastructure with no closure/reclamation plan for permanent components.

Missing Information / Gap: The assessment lacks a complete mitigation-to-residual-effect register and does not provide a closure/post-closure restoration framework for permanent infrastructure if use ceases, infrastructure is transferred, or maintenance fails.

Information Request

Provide a commitments and mitigation register linking each measure to: 1. VC/effect; 2. phase; 3. implementing party; 4. timing; 5. performance indicator; 6. threshold; 7. monitoring and reporting; and 8. contingency if ineffective. Also provide a conceptual closure/post-closure stewardship framework for permanent components.

Proponent Response

See response to NIRB 4 (IR-482).

NIRB 97. (IR-575)

Subject

Scope of the Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies ecosystemic and socio-economic VCs and assessment boundaries. The scope covers construction and operations/maintenance, but reduced operation, temporary care and maintenance, final closure, and post-closure are not assessed as separate stages.

Missing Information / Gap: Temporal scope does not fully align with all NIRB project stages, and temporary care and maintenance is assumed similar to lower-level operations without a phase-specific assessment.

Information Request

Provide a phase-scope addendum explaining how each VC is assessed for site preparation/pre-construction, construction, operations, reduced operation, maintenance, modifications, temporary closure/care and maintenance, final closure/decommissioning/reclamation, and post-closure, or provide a reasoned, VC-specific rationale for exclusions.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

The Impact Statement Project phases have been defined to provide context for the temporal boundaries: Construction and Operations and Maintenance (Volume 4, Section 9.2.4.2, Page 9-7). Activities that will be completed in each phase are set out in Volume 2, Table 2.1 of the IS and each VC use these activities, by phase to evaluate the effects from the Project.

How each phase named in the Information Request is treated:

- **Site preparation and pre-construction.** These are included in the Construction phase ("both pre-construction and construction") (Volume 4, Section 9.2.4.2). The pre-construction activities and site preparation are described in Volume 2, Table 2.1 and Section 2.6.2.
- **Construction.** Assessed for each valued component (VC).
- **Operations and maintenance.** Assessed for each VC as a single phase that continues indefinitely.

- **Reduced operation, and temporary closure (care and maintenance).** Not assessed separately. The IS assumes the activities "would be similar to operations and maintenance, but at lower levels" (Volume 4, Section 9.2.4.2). Care and maintenance measures for temporary or unplanned closures or reduced operations are included in the Road Management Plan and Port Management Plan (Volume 11, Section 37.1.8.1, Page 37-9).
- **Modifications.** Future expansions are not part of the Project scope and will be subject to separate regulatory review processes when they are proposed. However, future expansions are included through the cumulative effects assessment as reasonably foreseeable induced physical activities. Refer to the responses to NIRB 65. (IR-543), NIRB 85. (IR-563) and NIRB 86. (IR-564).
- **Final closure, decommissioning and reclamation, and post-closure.** The permanent components are not assessed for these phases, because there are "no plans for closure and reclamation" of those components (Volume 4, Section 9.2.4.2). Areas used only for construction are reclaimed. "Closure and reclamation of temporary borrow sources/quarries, camps, workspaces, laydowns" is a Project activity in the interaction template that each VC assessment applies (Volume 4, Table 9.1). See response to KAA-4 (IR-04) and NIRB 84. (IR-562) for the approach to long-term closure and reclamation,

Please also see the preamble to NIRB's IRs for further context regarding the request for an addenda that summarizes issues, responses and conclusions for the IS.

NIRB 98. (IR-576)

Subject

Valued Ecosystemic and Socio-Economic Components

Issue / Concern

Reviewer Comments / Reasoning: The IS lists ecosystemic and socio-economic VCs and provides selection criteria. It states that selection reflects engagement, Inuit Knowledge, effects pathways, receptors, and professional judgment.

Missing Information / Gap: The IS does not include a consolidated VC selection and validation table showing all candidate VCs considered, those excluded, engagement input on VC selection, and rationale for each exclusion.

Information Request

Provide a VC selection/validation table identifying: 1. candidate VCs considered; 2. selected/excluded status; 3. selection criteria applied; 4. engagement and knowledge input; 5. rationale for exclusion; 6. potential pathway if excluded; and 7. where selected VCs are assessed.

Proponent Response

Please refer to NIRB 4 (IR-482) and NIRB 16 (IR-494).

NIRB 99. (IR-577)

Subject

Valued Ecosystemic and Socio-Economic Components

Issue / Concern

Reviewer Comments / Reasoning: The VC volumes include maps for study areas and many baseline resources. The IS also describes Inuit and community values. However, the connection between mapped VC locations and the groups/communities that value them is not consistently summarized across all VCs.

Missing Information / Gap: No consolidated map/key-values index identifies each important VC location, why it is important, who identified it, confidentiality constraints, and how it influenced boundaries, effects, and mitigation.

Information Request

Provide a VC values and mapping index that, respecting confidentiality, links key mapped VC locations and areas of concern to knowledge sources, community or group values, sensitivity, project interactions, and mitigation/monitoring decisions.

Proponent Response

Please see the response to NIRB 16 (IR-494) on how Valued Components were selected.

NIRB 100. (IR-578)

Subject

Valued Ecosystemic and Socio-Economic Components

Issue / Concern

Reviewer Comments / Reasoning: The methodology states that each VC identifies measurable parameters and characterization criteria. Some indicators are quantitative, while others are qualitative or based on professional judgment. Several management plans contain preliminary thresholds or placeholders.

Missing Information / Gap: Indicators and thresholds are not consolidated, and for some VCs there is limited linkage between public/IK indicators, regulatory thresholds, action levels, and adaptive management.

Information Request

Provide a consolidated indicators and thresholds register by VC and effect pathway, identifying: 1. measurable parameter; 2. data source; 3. threshold/action level; 4. rationale and knowledge source; 5. monitoring method; 6. adaptive action; and 7. whether the indicator was suggested by communities, agencies, or technical experts.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross references below identify where each requested element can be found in the IS:

As described in the IS, Volume 4, Section 9.4.1.3 "[e]ach potential effect and effect pathway includes the identification of one or more measurable parameters (quantitative or qualitative) that are used to characterize the effects of the Project," and that "the changes are evaluated using the measurable parameters identified for each effect for the VC, including rationale for selection". For each effect and effect pathway, the IS identifies measurable parameters within each valued component (VC) assessment. Each VC assessment identifies the baseline data sources and methods used for its measurable parameters. The VC assessments "include discussion on how Inuit Knowledge and scientific evidence, were used" (Volume 4, Section 9.4.1.4). Refer also to the response to NIRB 21 (IR-499).

Please also see the preamble to NIRB's IRs for further context regarding the request for a register that summarizes issues, responses and conclusions for the IS.

NIRB 101. (IR-579)

Subject

Valued Ecosystemic and Socio-Economic Components

Issue / Concern

Reviewer Comments / Reasoning: The IS provides a standard project activity/effects matrix and uses it in VC assessments. The matrix includes construction and operations/maintenance activities. Missing Information / Gap: The matrix does not fully represent reduced operations, temporary care and maintenance, final closure/post-closure, or induced third-party use as phase-specific interactions.

Information Request

Provide an expanded interaction matrix including all NIRB-required phases and reasonably foreseeable induced activities, with columns showing whether each activity is assessed as Project, cumulative, transboundary, or excluded, and the rationale for exclusions.

Proponent Response

See response to NIRB 97 (IR-575) for details on project phases included in the IS.

NIRB 102. (IR-580)

Subject

Valued-component centric spatial and temporal boundaries for transboundary effects

Issue / Concern

Reviewer Comments / Reasoning: Arising from GTC-12. This identifies a substantive deficiency: boundaries were set project-centrically and do not extend outside Nunavut, which materially limits the transboundary assessment. This is also required under Guideline s. 7.4.4. NIRB-IR-105 already requests a spatial-boundary addendum covering boundary rationale, treatment of future-ready/induced infrastructure, transboundary considerations and boundary sensitivity, and NIRB-IR-106 requests a boundary-engagement table. The residual value of GTC-12 is its specific challenge that boundaries do not extend outside Nunavut although direct Project components occur there.

Missing Information / Gap: Spatial and temporal boundaries for VCs likely to experience transboundary effects do not extend beyond Nunavut; direct Project components occurring outside Nunavut are not captured.

Information Request

Provide: (a) confirmation of which direct Project components occur outside Nunavut and how each was assessed; (b) the rationale for boundaries that do not extend beyond Nunavut for VCs identified as having a likely transboundary effect; and (c) revised VC-centric boundaries for those VCs, or a reasoned justification for retaining project-centric boundaries. Where already answered under NIRB IRs #105 and #106, cross-reference rather than repeat.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

(a) Project Components Outside Nunavut: Refer to Appendix B, Transboundary Effects Assessment Supplement, of the Addendum to the Information Request Proponent Response Package (Section B.2).

(b) Assessment Boundaries: Refer to Appendix B, Transboundary Effects Assessment Supplement, of the Addendum to the Information Request Proponent Response Package (Section B.3).

(c) provide revised VC-centric boundaries for those VCs, or a reasoned justification for retaining project-centric boundaries:

The LAA and RAA boundaries established for *Project effects* do not constrain the discussion of *transboundary effects* to those aforementioned areas. The potential for transboundary effects is identified and assessed for numerous wide-ranging wildlife VCs whose zone of influence extends toward or across the NWT boundary (caribou, birds, muskox, moose, grizzly bear, wolverine and marine mammals) despite the fact that the RAAs for each of these VCs remained within the NSA (Volume 10, Section 33). WKR believe the Project boundaries established within the IS are defensible and applicable for the comprehensive assessment of Project effects.

NIRB 103. (IR-581)

Subject

Assessment Boundaries – Spatial Boundaries

Issue / Concern

Reviewer Comments / Reasoning: The IS defines PDA, LAA, and RAA and states that VC-specific boundaries are mapped and justified. The PDA includes buffers around components.

Missing Information / Gap: Spatial boundaries for alternative means and for future-ready/induced components are not presented in a consolidated way, limiting comparison of alternatives and induced-effect areas.

Information Request

Provide a spatial-boundary addendum showing, by VC: 1. PDA/LAA/RAA definitions; 2. rationale; 3. maps; 4. treatment of alternatives; 5. treatment of future-ready/induced infrastructure; 6. transboundary considerations; and 7. uncertainty or sensitivity in boundary selection.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

The spatial boundaries, including their definitions, rationale and maps, and the engagement input on them are set out in Volume 4, Section 9.2.4.1 and in each VC assessment. Each VC assessment in Volumes 5 to 9 maps its assessment areas (Volume 4, Section 9.2.4.1). Refer also to the response to NIRB 31 (IR-509) regarding geospatial data.

The alternatives that were not selected were not assessed against VC-level spatial boundaries. Refer to the responses to NIRB 76 (IR-554) and NIRB 77 (IR-555) for further discussion on Alternatives.

Reasonably foreseeable induced projects (including associated infrastructure) were identified within a broad spatial boundary with the approximate extents of this area, by compass direction, being northwards to Victoria Island, southwards to Yellowknife, westwards to Great Bear Lake and eastwards to Cambridge Bay as described in Volume 9, Section 9.4.3.2 and Appendix 9A).

Refer to the response provided for NIRB 102 (IR-580) regarding spatial considerations for the transboundary assessment.

The IS does not present a sensitivity analysis of how conclusions would change under different boundaries.

Please also see the preamble to NIRB's IRs for further context regarding the request for an addendum that summarizes issues, responses and conclusions for the IS.

NIRB 104. (IR-582)

Subject

Assessment Boundaries – Spatial Boundaries

Issue / Concern

Reviewer Comments / Reasoning: The IS states that boundaries were selected in consideration of engagement feedback and Inuit Knowledge, and that VC assessments summarize relevant input about boundaries.

Missing Information / Gap: The IS does not provide a consolidated boundary-engagement record showing who was asked about each spatial boundary, what alternatives were proposed, and how the Proponent responded.

Information Request

Provide a boundary-engagement table listing, for each VC boundary: 1. groups consulted; 2. date/method; 3. boundary-related input; 4. alternative boundary proposed; 5. whether adopted; 6. rationale if not adopted; and 7. remaining disagreement or uncertainty.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

The IS sets out the approach on how spatial boundaries were selected, as provided in Volume 4, Section 9.2.4.1:

> "*Spatial boundaries have been selected in consideration of engagement feedback and Inuit Knowledge, where available. The VC assessments also include a summary of relevant input received from Inuit about these spatial boundaries and their appropriateness, and where Inuit have identified alternative spatial boundaries, provide a rationale if they were not adopted.*"

This input is recorded within each valued component (VC) assessment, not in a single consolidated table. Each VC assessment includes an "Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment" subsection within its scoping section. Volume 3, Section 5.4.2 (Spatial Boundaries) describes how Inuit, Indigenous and Community Knowledge was applied to spatial boundaries across the assessment.

Where Inuit identified alternative spatial boundaries, the VC assessment provides a rationale if they were not adopted (Volume 4, Section 9.2.4.1, Page 9-7).

Please also see the preamble to NIRB's IRs for further context regarding the request for a table that summarizes issues, responses and conclusions for the IS.

NIRB 105. (IR-583)

Subject

Assessment Boundaries – Spatial Boundaries

Issue / Concern

Reviewer Comments / Reasoning: VC-specific study areas address many of the criteria. However, the basis for some boundaries is dispersed and may rely on standard buffers or zones of influence without a cross-check against all Guideline criteria.

Missing Information / Gap: No boundary rationale matrix demonstrates that each criterion in the Guidelines was considered for each VC and system.

Information Request

Provide a spatial-boundary rationale matrix by VC that explicitly addresses project extent, ecosystem extent, pollutant transport, noise, bioaccumulation, communities, TLMRU, RFI projects, induced development, and transboundary impacts.

Proponent Response

The IS Guidelines set seven criteria for determining spatial boundaries. They cover:

- the physical extent of the project;
- the extent of ecosystems and habitat;
- ecological impacts;
- communities;
- traditional and contemporary land and aquatic use;
- past, present and reasonably foreseeable projects and activities;
- potential impacts outside Nunavut.

The IS also sets out its approach to spatial boundaries in Volume 4, Section 9.2.4.1 (Pages 9-5 to 9-7). Each valued component (VC) assessment then applies that approach:

> "*Each VC assessment includes mapping which depicts the VC-specific assessment areas relative to key features that informed boundary delineations. A description of these areas, along with rationale for the selection of the boundaries, is also provided.*"

Refer also to the response provided for NIRB 103 (IR-581).

NIRB 106. (IR-584)

Subject

Assessment Boundaries – Spatial Boundaries

Issue / Concern

Reviewer Comments / Reasoning: The IS includes a stand-alone transboundary effects section and cross-references VCs. It considers geographic proximity and shared resources.

Missing Information / Gap: The stand-alone section is relatively high level and does not consistently provide detailed pathway tables for all VCs, affected rights holders, mitigation, residual effects, and monitoring.

Information Request

Revise the transboundary section to include a pathway table identifying each affected VC/resource, receptor/community/group, direct/indirect/induced/cumulative pathway, spatial extent, mitigation, residual effect, significance rationale, monitoring, and cross-reference to detailed VC analysis.

Proponent Response

WKR respectfully notes that this information is presented in the form the IS Guidelines require. Section 7.4.4 (Transboundary Impacts, p. 55) directs that the IS include a dedicated, stand-alone section that consolidates transboundary impacts and summarizes pathways, affected valued components, mitigation, and residual effects, with cross-references to the detailed analyses. WKR drafted Volume 10, Section 33 to do this, specifically: Section 33.3.1 identifies which VCs may experience transboundary effects and justifies those not carried forward, and Sections 33.4.1–33.4.9 and 33.5.2–33.5.5 each summarize the receptors, pathways, mitigation and monitoring, and residual effects, with cross-references to the relevant VC assessments.

Consistent with the transboundary methodology, significance determinations are not applied to transboundary effects (see the response to NIRB 102, IR-580), and Section 7.4.4 does not call for a significance determination or a separate multi-column pathway matrix. As a further table would largely reproduce the per-VC content already in Section 33 and its cross-referenced assessments, WKR respectfully submits that the transboundary section is presented as the Guidelines require and that the current IS appropriately addresses the request..

NIRB 107. (IR-585)

Subject

Assessment Boundaries – Spatial Boundaries

Issue / Concern

Reviewer Comments / Reasoning: The IS states that alternative spatial boundaries identified by Inuit are addressed with rationale if not adopted, but this information is not consolidated for reviewer verification.

Missing Information / Gap: There is no single list of alternative boundaries proposed through engagement and the Proponent's decision for each alternative.

Information Request

Provide an alternative-boundary disposition table summarizing every boundary adjustment or alternative boundary raised by Inuit, Indigenous groups, communities, agencies, or technical reviewers, and documenting adoption status and rationale.

Proponent Response

The alternative boundaries raised through engagement, and WKR's response to each, are recorded within each valued component (VC) assessment. They appear in the "Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment" subsection and in the boundaries subsection of each VC assessment in Volumes 5 to 9. The engagement program through which this input was received is described in Volume 3, Section 6.

The consolidated discussion of the boundary input received, its sources, and how it was considered is provided in the response to NIRB 104 (IR-582). As that response and the per-VC boundary discussions together provide the rationale and consultation record the Guidelines call for, and a separate disposition table would reproduce content already presented in context, WKR respectfully submits that the current IS appropriately addresses the request.

NIRB 108. (IR-586)

Subject

Assessment Boundaries – Temporal Boundaries

Issue / Concern

Reviewer Comments / Reasoning: The IS defines Construction and Operations and Maintenance. It states that operations continue indefinitely, no closure/reclamation is planned for permanent infrastructure, and temporary care and maintenance is not assessed because it is assumed to resemble lower-level operations.

Missing Information / Gap: Required phases are not separately assessed. No final closure, post-closure, or phase-specific care and maintenance temporal boundaries are provided for permanent infrastructure.

Information Request

Provide revised temporal boundaries for every NIRB-required phase, including reduced operation, care and maintenance, final closure/decommissioning/reclamation, and post-closure. For each phase, identify timeframe, activities, affected VCs, assumptions, monitoring, and rationale if a phase is excluded.

Proponent Response

Volume 4, Section 9.2.4.2 of the Impact Statement (IS) describes the temporal boundaries for the assessment in relation to specific project phases and activities with a focus on Construction and Operations and Maintenance phases. Activities that will be completed in each phase are set out in Volume 2, Table 2.1 of the IS and each VC use these activities, by phase to evaluate the effects from the Project.

> "*As the Project components are considered permanent infrastructure, there are no plans for closure and reclamation, other than areas used solely for pre-construction/construction activities that are not required for ongoing operations and maintenance. The Project may be placed in a state of temporary care and maintenance if there is an unexpected period of time where third-party users are not yet prepared to use the Project infrastructure. The temporary care and maintenance phase is not assessed in the IS, as it is assumed that the activities occurring would be similar to operations and maintenance, but at lower levels*" (Volume 4, Section 9.2.4.2, Page 9-7).

See response to KAA-4 (IR-04) and NIRB 84 (IR-562) for the approach to long-term closure and reclamation.

NIRB 109. (IR-587)

Subject

Assessment Boundaries – Temporal Boundaries

Issue / Concern

Reviewer Comments / Reasoning: The IS discusses alternatives and states that temporal boundaries for alternatives are discussed in Volume 2. However, a comparative temporal analysis of alternatives is not clearly consolidated.

Missing Information / Gap: The record does not show construction, operations, maintenance, closure, seasonal constraints, or climate-vulnerability timelines for each alternative compared with the preferred option.

Information Request

Provide an alternatives temporal-boundary comparison table showing, for each alternative: construction duration, operations duration, maintenance requirements, closure/post-closure implications, seasonal constraints, climate-change vulnerability period, and implications for effects predictions.

Proponent Response

Project alternatives are described in Volume 2, Section 2.4. The three Project location options are evaluated in Table 2.2 (Evaluation of Project Location Options Summary, Page 2-14), and the Project component alternatives in Table 2.3 (Evaluation of Project Components Summary, Page 2-18). Alternatives were not evaluated for further assessment once they were determined to not be viable options. Further analysis on temporal-boundary comparison is therefore not available. Refer also to response provided for NIRB 77 (IR-555).

NIRB 110. (IR-588)

Subject

Assessment Boundaries – Temporal Boundaries

Issue / Concern

Reviewer Comments / Reasoning: The IS describes historical context, IK and engagement, and temporal boundaries based mainly on construction and operations.

Missing Information / Gap: The temporal boundary rationale is not clearly tied to seasonal harvesting, migration, travel, cultural use, intergenerational use, or future community objectives for every relevant VC.

Information Request

Provide a temporal-boundary rationale table that documents how public input, IQ/IK/CK, technical expertise, seasonal cycles, and past/present/future land and water uses informed each VC's temporal boundaries.

Proponent Response

As described in Volume 4, Section 9.2.4.2 "[t]he temporal boundaries for the assessment are based on the timing and duration of project activities and the nature of the interactions with each VC" (Volume 4, Section 9.2.4.2, Pages 9-7 to 9-8). The assessment phases are Construction (including pre-construction) and Operations and Maintenance, which "continue[s] indefinitely." Each valued component (VC) assessment applies these phases in its scoping section. Refer to the response to NIRB 108 (IR-586).

However, each VC assessment also considers "timing" as a residual effects characterization criterion. This criterion refers to the sensitivity of the VC to activities during critical stages: periods of time where residual effects from project activities could affect the VC (e.g., time of day, seasonal, restricted activity periods). Public input, Inuit, Indigenous and Community Knowledge, and technical expertise on seasonal cycles and/or past/present/future land and water uses was considered to help characterize sensitivity of timing of effects for VCs.

WKR's consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge is first presented in response to NIRB 03 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package.

NIRB 111. (IR-589)

Subject

Assessment Boundaries – Temporal Boundaries

Issue / Concern

Reviewer Comments / Reasoning: The IS includes climate and climate-risk assessments and recognizes that climate change affects design and VCs.

Missing Information / Gap: Climate-change scenario information is not consistently integrated into VC-specific temporal boundaries, closure/post-closure considerations, or adaptive management thresholds.

Information Request

Provide a climate-temporal integration addendum showing the climate scenarios used, time horizons, affected VCs and components, projected changes, uncertainty ranges, and how those scenarios alter temporal boundaries, mitigation, design, monitoring, and closure/post-closure assumptions.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross references below identify where each requested element can be found in the IS:

The Climate Change Risk Assessment (CCRA) considered sixteen climate hazards, including extreme heat and cold, extreme rainfall, freeze-thaw cycles, permafrost thaw, spring melt and flooding, sea level change, wave activity and sea ice (Volume 10, Section 35.1). It sets out a risk matrix, high and extreme risks, and adaptation strategy recommendations for each asset group:

- road system
- Jericho Station
- port marine-based assets
- port landside assets
- aerodrome
- personnel and operations

(Volume 5, Appendix 12B, Sections 7.3.1 to 7.3.7)

Effects on VCs

Each VC assessment includes a subsection on the effects of climate change on that VC. Examples:

- Volume 5, Section 11.3.5 (Effects of Climate Change on Air Quality)
- Volume 5, Section 13.3.6 (Effects of Climate Change on Noise and Vibration, Page 13-48)
- Volume 9, Section 25.3.7 (Effects of Climate Change on Food Security and Food Sovereignty, Page 25-50)

Design and mitigation

The CCRA's adaptation strategy recommendations "are intended to provide insight and guidance for how engineers and designers might incorporate climate considerations into their design and monitoring plans to improve the resilience of the physical assets to the identified risks associated with climate change" (Volume 5, Section 12.5). Examples include (Volume 5, Volume Summary, Section VS.5.2.3):

- including projected changes in extreme rainfall when sizing culverts;
- installing permanent erosion control where it is needed;
- applying monitoring and engineered reinforcement where permafrost is present.

The response to Information Request NIRB 57 (IR-535) provides additional details on how climate adaptation recommendations will be carried into detailed design for the Project.

Please also see the preamble to NIRB's IRs for further context regarding the request for an addenda that summarizes issues, responses and conclusions for the IS.

NIRB 112. (IR-590)

Subject

Description of Ecosystemic and Socio-Economic Environments and Baseline Information

Issue / Concern

Reviewer Comments / Reasoning: The IS contains extensive baseline information and refers to appended baseline reports. The Regional Historical Overview provides long-term context.

Missing Information / Gap: Baseline trend and variability information is uneven across VCs, and not all VC baselines clearly evaluate interrelations, long-term trends, or the adequacy of baseline periods for prediction and monitoring.

Information Request

Provide a baseline adequacy summary by VC identifying: 1. baseline data sources; 2. time period and seasonality; 3. spatial coverage; 4. long-term trends; 5. variability; 6. data gaps; 7. implications for prediction confidence; and 8. monitoring needed to reduce uncertainty.

Proponent Response

The IR asks for a baseline adequacy summary for each valued component (VC). For each VC it would identify baseline data sources, time period and seasonality, spatial coverage, long-term trends, variability, data gaps, implications for prediction confidence, and monitoring needed to reduce uncertainty.

Section 7.3 (Description of the Ecosystemic and Socio-Economic Environments and Baseline Information) of the NIRB Final Impact Statement Guidelines (January 2026) requests WKR to compile:

- a description of the existing environment and its variability
- existing conditions and trends over time for all selected VCs
- the methods used to develop the baseline
- an evaluation of data adequacy and of confidence in the baseline data
- significant gaps in knowledge, the steps to be taken to fill them, and the implications for monitoring, mitigation, and follow-up

Section 2.1 also requests that WKR identify significant gaps in knowledge related to key conclusions and the steps to address them.

WKR believes that we have addressed these requirements in the following sections of the IS:

- Volume 4, Section 9.3 (Description of the Environment and Baseline Information) and Section 9.4.4 (Prediction Confidence and Certainty)
- Volume 3, Section 5.4.3 (Baseline Conditions), and Section 7 (Regional Historical Overview)

- The baseline section of each VC assessment in Volumes 5 to 9, including Methods, Overview, and the summary of Inuit, Indigenous, and Community Knowledge
- The baseline technical appendices in Volumes 5 to 9
- The Prediction Confidence and Uncertainty section of each VC assessment in Volumes 5 to 9
- The Follow-up and Monitoring section of each VC assessment in Volumes 5 to 9

We believe that a separate, consolidated baseline adequacy summary across all VCs is outside the scope of the guidelines. Section 7.3 asks for baseline information, data adequacy, confidence, and gaps to be described as part of the baseline for each VC. It does not ask for these to be compiled into a separate summary across VCs.

NIRB 113. (IR-591)

Subject

Description of Ecosystemic and Socio-Economic Environments and Baseline Information

Issue / Concern

Reviewer Comments / Reasoning: The IS includes TLMRU, food security, community health and well-being, and IK/engagement information. The information is largely qualitative and distributed across volumes.

Missing Information / Gap: The baseline does not consistently convert community-defined conditions, values, and desired outcomes into measurable monitoring indicators or thresholds.

Information Request

Provide a human-environment baseline indicator table for TLMRU, food security, cultural practices, well-being, and land/marine use. Include community-defined indicators, baseline values or qualitative condition, data source, confidentiality constraints, monitoring approach, thresholds, and responsible party.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross references below identify where each requested element can be found in the IS:

The baseline conditions for the human-environment valued components (VCs) are compiled in the Volume 9, Appendix 25A (People and Communities Baseline Report) which supports each of the human environment VC sections in Volume 9. Figure 9.1 in this baseline report shows the Inuit Determinants of health.

Each VC assessment identifies measurable parameters (indicators), both quantitative and qualitative, for each effect pathway. Each VC assessment records the community input that informed it, in its "Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment" subsection.

Each VC assessment evaluates the effect from the Project based on the change from baseline conditions. Each VC assessment also records the community input that informed its assessment, in its "*Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment*" subsection. Confidentiality conditions that apply to each knowledge source are recorded in Volume 3, Section 4.2 (Managing Confidential Information). Refer to the response to NIRB 20 (IR-498).

WKR is responsible for carrying out human-environment monitoring in accordance with the Socio-economic Monitoring Plan (Volume 11, Appendix 37K). The Plan's framework "identifies measurable indicators linked to each mitigation measure, along with corresponding data sources and data collection time periods.

Please also see the preamble to NIRB's IRs for further context regarding the request for a table that summarizes issues, responses and conclusions for the IS.

Please also refer to WKR's consolidated response regarding engagement and knowledge activities and topics, and WKR's ongoing engagement and follow-up commitments, which is first presented in response to NIRB 03 (IR-481) and provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package.

NIRB 114. (IR-592)

Subject

Description of Ecosystemic and Socio-Economic Environments and Baseline Information

Issue / Concern

Reviewer Comments / Reasoning: Each VC generally describes methods and sources. Volume 4 states that baseline methods are summarized in VC assessments and appended reports.

Missing Information / Gap: There is no cross-VC baseline gap register identifying validation status, confidence levels, significant data gaps, and how gaps translate into intensified monitoring or mitigation.

Information Request

Provide a cross-VC baseline data adequacy and gap register, including: dataset, method, coverage, QA/QC, validation, confidence level, limitations, missing seasons/locations, effect on predictions, and actions/timing to fill gaps.

Proponent Response

Please see response to NIRB 5. (IR-483) for how data gaps, assumptions and uncertainties were included in the IS.

NIRB 115. (IR-593)

Subject

Description of Ecosystemic and Socio-Economic Environments and Baseline Information

Issue / Concern

Reviewer Comments / Reasoning: The IS uses historical studies, previous project records, government datasets, and IK. Some VCs, such as caribou, include long-term cycles and collar data.

Missing Information / Gap: The adequacy of baseline duration and spatial/seasonal coverage is not consistently evaluated for every VC, especially where current data are limited, older, or derived from previous projects.

Information Request

Provide a VC-specific long-term variability assessment that identifies whether baseline data are sufficient to capture seasonal, interannual, cyclic, and climate-related variability. Where insufficient, identify how IQ/IK/CK, additional studies, or monitoring will address the gap.

Proponent Response

Baseline conditions, including limitations, are described for each VC in the VC-specific assessments (Volumes 5-9) in the structure best suited to its assessment, in accordance with the effects assessment methodology (Volume 4). For this reason, WKR has not consolidated the information into a separate VC-specific long-term variability assessment.

The Regional Historical Overview gives longer-term context of baseline conditions, providing "a qualitative narrative of the regional natural and human history of the western Kitikmeot Region of Nunavut, recognizing changes that have occurred in the region over approximately 13,000 years of history" (Volume 4, Section 9.3; Volume 3, Section 7). Additional examples where long-term and seasonal records were used to characterize baseline conditions include Caribou (Volume 6, Section 16.2) and Climate (Volume 5, Section 12; Appendix 12A):

- **Caribou.** The baseline draws on multi-decade collar records and Inuit Knowledge (Volume 6, Section 16.2):
  - Bathurst caribou herd seasonal ranges from collar data, 1996 to 2024 (Figure 16.2)
  - Seasonal resource selection: Bathurst herd 2009 to 2024 (Figure 16.11); Dolphin and Union herd 2015 to 2024 (Figure 16.12)
  - Dolphin and Union herd seasonal migration routes from Brownian Bridge Movement Analysis, 2015 to 2024 (Figure 16.9)

  - Kitikmiut Knowledge of island caribou migration, winter distribution and ocean crossing locations, reproduced from the Project-specific Inuit Knowledge report (Figures 16.8 and 16.10)
- **Climate.** The baseline covers 1991–2020. Projections are given for the 2030s (2021–2050), 2050s (2041–2070) and 2080s (2071–2100) under the high (SSP5-8.5) and intermediate (SSP2-4.5) emissions scenarios, for the Grays Bay, Ulu and Jericho-Lupin regions (Volume 5, Section 12; Appendix 12A). Station records extend further: precipitation extremes at Kugluktuk for 1977–2024 and at Lupin for 1982–2024 (Volume 5, Appendix 12A, Tables 5.17 and 5.18). The potential effects of climate change on each VC are assessed in that VC's climate change subsection. Refer to the response to NIRB 111 (IR-589).

Volume 4, Section 9.3 states that baseline conditions "*establish the condition against which future VC conditions are evaluated*" (Volume 4, Section 9.3, Page 9-8). Section 9.5 (Monitoring and Adaptive Management) states that "[f]ollow-up measures specify indicators to be monitored for understanding VC conditions and management measures' effectiveness, and reflect preliminary input obtained from Inuit," and that "*[i]f follow-up and monitoring is not proposed for a VC, rationale is provided to justify the exclusion*" (Volume 4, Section 9.5, Page 9-18).

Each VC assessment sets out its follow-up and monitoring in a Follow-up and Monitoring subsection. Follow-up and monitoring are set out in the Follow-up and Monitoring subsection of each VC assessment and in the Volume 11 plans. The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process. They will be further developed as the review progresses. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 116. (IR-594)

Subject

Description of Ecosystemic and Socio-Economic Environments and Baseline Information

Issue / Concern

Reviewer Comments / Reasoning: The IS proposes monitoring and adaptive management through Volume 11 plans. Some plans are preliminary and contain placeholders or commitments to refine later.

Missing Information / Gap: The link between baseline datasets, monitoring design, thresholds, and adaptive management is incomplete for several VCs.

Information Request

Provide a monitoring design crosswalk showing how each baseline dataset will be used in follow-up monitoring, including sampling locations, parameters, methods, frequency, reference/control design, action thresholds, reporting, data accessibility, and adaptive management.

Proponent Response

See response to NIRB 115 (IR-593).

NIRB 117. (IR-595)

Subject

Impact Assessment Approach

Issue / Concern

Reviewer Comments / Reasoning: The IS describes the assessment approach and includes VC-specific, holistic, cumulative, and transboundary sections.

Missing Information / Gap: The assessment does not always demonstrate how community objectives, s. 35 rights concerns, and interrelations changed the residual effects or significance conclusions.

Information Request

Provide an integrated assessment traceability matrix linking each community objective, s. 35 rights-related concern, and cross-VC interaction to the relevant effect pathway, mitigation, residual effect, significance conclusion, and monitoring commitment.

Proponent Response

WKR's consolidated response to request for an integrated assessment traceability matrix is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Proponent Response Package. Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase.

NIRB 118. (IR-596)

Subject

Impact Assessment Approach

Issue / Concern

Reviewer Comments / Reasoning: The IS summarizes engagement and incorporates concerns in VC sections. However, the degree to which each concern is assessed, scoped out, or resolved is not always transparent.

Missing Information / Gap: No consolidated issue-by-issue technical assessment register shows whether each concern was carried into effects assessment, scoped out, or addressed through mitigation/monitoring.

Information Request

Provide a community concern assessment register identifying each concern, source, VC/pathway, assessment location, whether assessed or scoped out, rationale, mitigation/monitoring response, and residual uncertainty.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

Whether a concern was carried into the effects assessment, and the rationale where it was not, is recorded at the point in each Valued Component (VC) assessment where the concern was considered. Volume 4, Section 9.4.1.1 provides that the description of potential effects and effects pathways includes concerns identified through Inuit, Indigenous, and Community Knowledge, with rationale provided where a pathway was not carried forward, and Section 9.4.1.2 provides that the mitigation sections record “how Inuit, Indigenous, and Community Knowledge or engagement has informed the development of mitigation measures for the Project, and rationale for why some proposed measures were not selected.”

Volume 3, Table 6.2 summarizes the key issues raised during engagement, the organizations that raised them, WKR’s response, and where each issue is addressed in the Impact Statement (IS). Volume 3, Section 5.4.3 states that “[a] summary of this feedback along with WKR’s response to the feedback and whether and how it has been further integrated into the IS is included in each VC baseline conditions section,” and Section 5.4 identifies the assessment stage at which each input was applied.

Volume 4, Section 9.4.4 provides that each VC assessment includes a statement of the gaps, assumptions, and uncertainties bearing on the assessment and assigns a level of confidence to the conclusions reached.

Please also see the preamble to NIRB's IRs for further context regarding the request for a register that summarizes issues, responses and conclusions for the IS.

NIRB 119. (IR-597)

Subject

Impact Assessment Approach – Individual VC Analysis

Issue / Concern

Reviewer Comments / Reasoning: The IS uses a project activity/effects table with construction and operations/maintenance activities and checkmarks.

Missing Information / Gap: The interaction table does not explicitly address final closure, post-closure, reduced operation, care and maintenance, or induced development as separate interaction categories.

Information Request

Provide updated VC interaction tables covering all NIRB phases and induced development. Where closure/post-closure or care and maintenance is omitted, provide a VC-specific rationale and identify any monitoring or contingency measures that would apply.

Proponent Response

Please refer to the response to NIRB 84. (IR-562).

NIRB 120. (IR-598)

Subject

Impact Assessment Approach – Holistic Discussion

Issue / Concern

Reviewer Comments / Reasoning: The IS includes a Holistic Assessment organized around Land and Freshwater, Ocean, and Human Environment holistic VCs. It is intended to synthesize interconnections.

Missing Information / Gap: The Holistic Assessment is mainly a synthesis and does not clearly re-run significance determinations based on system-level thresholds or community desired outcomes.

Information Request

Provide a revised holistic assessment table identifying system-level pathways, community objectives, desired outcomes, system-function indicators, thresholds, mitigation, monitoring, and whether holistic analysis changes any VC-level residual effect or significance conclusion.

Proponent Response

Please see responses to information request NIRB 2 (IR-480) and NIRB 6 (IR-484).

NIRB 121. (IR-599)

Subject

Impact Assessment Approach – Holistic Discussion

Issue / Concern

Reviewer Comments / Reasoning: The IS describes values and desired outcomes in narrative form, and the Holistic Assessment references avoiding unacceptable effects and enhancing benefits.

Missing Information / Gap: The IS does not provide a clear design/mitigation/monitoring change log linked to each community objective or desired outcome.

Information Request

Provide a community objectives implementation table identifying: 1. objective/desired outcome; 2. community/group; 3. related VC/system; 4. future-use consideration; 5. project design response; 6. mitigation/monitoring response; 7. unresolved concern; and 8. reporting/follow-up commitment.

Proponent Response

The IR asks for a community objectives implementation table. For each objective or desired outcome, it would identify the community or group, the related valued component (VC) or system, future-use considerations, and the Project design response. It would also give the mitigation and monitoring response, any unresolved concern, and the reporting or follow-up commitment.

Section 7.4 (Impact Assessment Approach – Holistic Discussion) of the NIRB Final Impact Statement Guidelines (January 2026) requests WKR to compile a holistic discussion and analysis, in addition to the individual VC assessments. It must describe community values, objectives, and desired outcomes, including future use of an area, and how the Project could affect them. It must also describe any associated mitigation measures or monitoring programs.

WKR believes that we have addressed these requirements in the following sections of the IS:

- Volume 3, Section 5 (Integrating Inuit, Indigenous, and Community Values and Perspectives)
- Volume 3, Section 6 (Public Engagement)
- Volume 10, Section 31 (Holistic Valued Component Assessment)
- The "Influence of Engagement and Inuit, Indigenous, and Community Knowledge on the Assessment" subsection and the related engagement feedback table in each VC assessment in Volumes 5 to 9.
- Volume 11, Section 37.1.5 (Follow-up and Adaptive Management) and Tables 37.1 and 37.2

We believe that the following are outside the scope of the guidelines:

- A separate implementation table, or a change log for design, mitigation, and monitoring, organized by objective and community. Section 7.4 asks for community objectives and desired outcomes to be *described* within the holistic discussion, together with the related mitigation and monitoring. It does not prescribe a table, change log, or other format.
- A register of unresolved concerns and reporting commitments for each objective. Section 7.4 does not ask for these to be compiled by objective. Ongoing engagement and follow-up are addressed in Volume 3, Sections 6.3.5 and 6.3.6, and in Volume 11, Section 37.1.5.

NIRB 122. (IR-600)

Subject

Impact Prediction

Issue / Concern

Reviewer Comments / Reasoning: Volume 4 states that impact prediction draws on engagement, Inuit Knowledge, scientific evidence, Indigenous Knowledge, and Community Knowledge.

Missing Information / Gap: The IS does not consistently show, for each effect prediction, which knowledge source informed the prediction and whether the prediction changed because of that knowledge.

Information Request

Provide an impact-prediction evidence table for each VC/effect pathway showing scientific evidence, engineering data, IQ/IK/CK, engagement input, how each source influenced prediction, and where sources were not used or were weighted differently.

Proponent Response

WKR's consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge is provided in Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase.

NIRB 123. (IR-601)

Subject

Impact Prediction

Issue / Concern

Reviewer Comments / Reasoning: Well-being and community values are discussed in human-environment and holistic sections.

Missing Information / Gap: The method for translating values and desired outcomes into impact predictions is not consistently documented, especially for cross-VC effects such as wildlife access, perceived contamination, and cultural continuity.

Information Request

Provide a values-to-prediction traceability table identifying community values/desired outcomes, effect pathways, prediction metrics, significance considerations, and monitoring indicators.

Proponent Response

WKR's consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge is provided in Addendum, Appendix D, Engagement and Knowledge Supplement, of this Information Request Response Package. Addendum, Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase.

NIRB 124. (IR-602)

Subject

Impact Prediction

Issue / Concern

Reviewer Comments / Reasoning: Each VC includes a confidence/uncertainty discussion and Volume 4 provides a general framework.

Missing Information / Gap: Uncertainty treatment is not standardized across VCs, and uncertainty does not always clearly translate into additional mitigation, follow-up intensity, or conservative significance conclusions.

Information Request

Provide a standardized uncertainty register for each predicted effect, including data limitations, model uncertainty, mitigation uncertainty, future condition uncertainty, confidence rating, implications for significance, and associated follow-up/adaptive management.

Proponent Response

See NIRB 5 (IR-483) for the response.

NIRB 125. (IR-603)

Subject

Impact Prediction

Issue / Concern

Reviewer Comments / Reasoning: The IS states that Inuit Knowledge and engagement informed assessments and that rationale is provided where concerns or pathways are not carried forward.

Missing Information / Gap: There is no consolidated reconciliation table identifying differences between scientific/engineering findings and Inuit, Indigenous, or Community Knowledge, or how disagreement was addressed.

Information Request

Provide a knowledge-source reconciliation table identifying: 1. topic/VC; 2. scientific/engineering conclusion; 3. IQ/IK/CK or community conclusion; 4. difference or uncertainty; 5. Proponent's preferred interpretation; 6. rationale; 7. mitigation/accommodation/monitoring adopted; and 8. unresolved issues.

Proponent Response

With respect, the IS Guidelines do not require a knowledge-source reconciliation table of this nature to be provided. WKR has nevertheless taken substantive steps to demonstrate how IK was meaningfully integrated throughout the IS and how potential disagreements were addressed. The reconciliation of scientific and engineering findings with Inuit Knowledge, Indigenous Knowledge, and Community Knowledge is addressed in the Impact Statement (IS) at the level of the individual Valued Component (VC) assessments rather than in a single consolidated table. The governing approach for this is set out in Volume 3, Section 5.5 and Volume 4, Section 9.4.1; the topic-by-topic record is provided in the VC knowledge and engagement feedback tables and in the effects assessment text of each VC.

Topic and VC-level record. The topic-level record is provided within each VC assessment. As noted in Volume 3, Section 5.4.3 a summary of feedback provided along with WKR's response to the feedback and whether and how it has been further integrated into the IS is included in each VC baseline conditions section. Further, Volume 3, Table 6.2 provides the corresponding record at the engagement level, identifying the issue, the organizations that raised it, WKR's response, and where it is addressed in the Impact Statement.

Treatment of differences and of matters not carried forward. Volume 4, Section 9.4.1 describes how Inuit Knowledge, scientific evidence, Indigenous Knowledge, and Community Knowledge informed the prediction of impacts, “including discussion on any differences.” Volume 3, Section 5.4 describes how those inputs were applied at each stage of the assessment, including the assessment of Project effects (Section 5.4.4), significance of effects (Section 5.4.6), and development of mitigation, management, and enhancement measures (Section 5.4.7). Where an effect pathway or a concern was not carried forward, the rationale is provided in the relevant VC assessment.

As further stated in Volume 3, Section 5.5, WKR “recognizes that western knowledge and perspectives, which have been the foundation for current Canadian and provincial legislation, policy, regulation and institutions, have the potential to constrain how Inuit Knowledge, Indigenous Knowledge, and Community Knowledge are incorporated in project planning,” and that WKR “has a responsibility to bring forward and evaluate all views shared to inform project design and planning, and to acknowledge and strive to reconcile disparities or matters of disagreement between WKR and Kitikmiut, other Indigenous groups, or other potentially affected communities”.

Continuing engagement on various matters raised is described in Volume 3, Section 6.3.4 and Table 6.3, and relevant mitigation and monitoring commitments are consolidated in Volume 1, Appendix B Mitigations and Commitments.

See also response to information request NIRB 18 (IR-496).

NIRB 126. (IR-604)

Subject

Impact Prediction

Issue / Concern

Reviewer Comments / Reasoning: The IS includes direct/indirect residual effects, cumulative effects, and transboundary assessment. Induced development is considered in cumulative effects.

Missing Information / Gap: Induced impacts and s. 35 rights-related pathways are not consistently assessed in detailed VC sections, and the link between induced development and community/rights impacts is not fully traceable.

Information Request

Provide an induced and rights-related effects addendum identifying direct, indirect, induced, cumulative and transboundary pathways, affected Indigenous groups/rights/interests, assumptions, mitigation, monitoring, residual effects, and significance rationale.

Proponent Response

WKR respectfully submits that the information requested in this IR is already provided in the IS through the direct, indirect, induced, cumulative and transboundary pathways that affect Indigenous groups asserting section 35 rights. It does this mainly through the Traditional Land, Marine, and Resource Use (TLMRU) Valued Component (VC), together with the cumulative effects and transboundary assessments (Volume 9, Section 24).

In keeping with the effects assessment methodology (Volume 4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate induced and rights-related effects addendum.

NIRB 127. (IR-605)

Subject

Impact Prediction

Issue / Concern

Reviewer Comments / Reasoning: Accidents and malfunctions are assessed separately in Volume 10. The VC interaction matrix focuses on normal construction and operations activities. Missing Information / Gap: Accident/malfunction effects are not integrated into every VC interaction table, and emergency response plans include sections to be developed.

Information Request

Provide a VC-by-VC accident and malfunction interaction matrix linking credible scenarios to affected VCs, unmitigated effects, mitigation/response measures, residual effects, uncertainty, significance, and monitoring/reporting.

Proponent Response

The IR asks for an accident and malfunction interaction matrix organized by valued component (VC). It would link credible scenarios to:

- the VCs affected
- unmitigated effects
- mitigation and response measures
- residual effects
- uncertainty
- significance
- monitoring and reporting

Section 8.4 (Accident and Malfunctions Assessment) of the NIRB Final Impact Statement Guidelines (January 2026) requests WKR to compile a hazard identification and risk assessment of accidents and malfunctions across all Project phases. This includes how scenarios were identified, their likelihood, potential consequences, and how each scenario would be managed through design safeguards, contingency and emergency response measures, training, and communication. Section 7.4.1 (Impact Prediction) requests that impacts on each VC from each Project phase, including those arising from accidents and malfunctions, be identified.

WKR believes that we have addressed these requirements in the following sections of the IS:

- Volume 4, Section 9.2.1 (Valued Components), which directs accidents and malfunctions to Volume 10
- Volume 10, Section 34 (Accidents and Malfunctions)
- Volume 11, Section 37 (Management Plans), Table 37.2 (Summary of Management Plans for the Project)
- Volume 11, Risk Management and Emergency Response Plan and Spill Contingency Plan

We believe that the following are outside the scope of the guidelines:

- A separate matrix organized by VC. Section 8.4 calls for accidents and malfunctions to be assessed by scenario, with consequences and management measures described. Neither Section 8.4 nor Section 7.4.1 prescribes a matrix or other format.
- Adding accident and malfunction effects to every VC interaction table. The Guidelines do not ask for accident scenarios to be repeated in each VC's interaction table. The IS assesses them together in Volume 10, Section 34, which links scenarios to the affected VCs through the effects pathways in Section 34.5.

NIRB 128. (IR-606)

Subject

Impacts of the Natural Environment on the Project

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies a range of natural hazards and climate risks. The Project design considers permafrost, drainage, climate resilience, and Arctic conditions.

Missing Information / Gap: The assessment does not provide a detailed, auditable hazard-by-component design response table with final design assumptions, monitoring triggers, and residual risk.

Information Request

Provide a natural hazard assessment table covering each required hazard, affected component, scenario assumptions, design criteria, likelihood/consequence, monitoring, action threshold, maintenance/adaptive response, and residual risk.

Proponent Response

The final guidelines issued to WKR from the NIRB request WKR to *discuss* the potential effects of the environment on the Project (Section 7.4.2, p. 40). They list the factors to consider:

- geotechnical hazards;
- unfavourable geological conditions;
- permafrost;
- severe weather events;
- sea ice, sea level, subsidence and climate change.

WKR believes that we have comprehensively addressed this IR here:

- Volume 10, Section 35 (Effects of the Environment on the Project);
- Volume 5, Section 12 and Appendix 12B (Climate Change Risk Assessment Technical Data Report);
- Volume 6, Section 14 (Terrain, Soils, and Permafrost);
- the design considerations in Volume 2, Section 2.1.

We believe that 1) creating an additional table is outside the scope of the guidelines.

NIRB 129. (IR-607)

Subject

Impacts of the Natural Environment on the Project

Issue / Concern

Reviewer Comments / Reasoning: The IS describes major and minor crossings and hydrological considerations. Some drainage equalization structures and final crossing designs remain subject to detailed design and field verification.

Missing Information / Gap: Final crossing inventory, design hydrology, climate allowances, icing controls, and monitoring thresholds are not fully consolidated.

Information Request

Provide a water-crossing resilience addendum identifying all bridges, culverts, and equalization structures; design flows; climate factors; fish passage criteria; icing/debris assumptions; inspection frequency; action thresholds; and design-change reporting.

Proponent Response

Please refer to the response to KAA-69 (IR-69) and for the design approach for culverts and bridge-culverts, refer to the response to NRCan-IR 04 (IR-212).

NIRB 130. (IR-608)

Subject

Climate Change – Project Contributions to Climate Change

Issue / Concern

Reviewer Comments / Reasoning: The IS quantifies Project GHG emissions and references federal climate guidance. Diesel power is part of the Project assumptions, with possible renewable components described.

Missing Information / Gap: The record does not provide a complete net-zero pathway to 2050, detailed BAT/BEP evaluation, emissions intensity for every operations year, carbon sink/source assessment, or firm reporting/mitigation commitments.

Information Request

Provide a GHG and decarbonization addendum including annual net GHG by phase, equation terms, emissions intensity, carbon sink/source effects, BAT/BEP options assessment, renewable/hybrid feasibility, net-zero pathway for a 75-year design life, reduction targets, and reporting schedule.

Proponent Response

A net-zero plan that contains much of the requested information will be developed for the Project, following the guidance of the Strategic Assessment of Climate Change. Given the time needed to produce a net-zero plan, that deliverable will be provided as part of the Technical Questions responses. An estimate of the carbon sink impact is provided in ECCC-IR 20 (IR-180).

NIRB 131. (IR-609)

Subject

Climate change as a cumulative-effects driver, not only a baseline condition

Issue / Concern

Reviewer Comments / Reasoning: Arising from KHTO-IR-002. The IS treats climate change largely as a baseline condition and applies a single climate projection rather than a range of scenarios.

Missing Information / Gap: Climate change is not carried through as a cumulative stressor interacting with Project effects; temporal boundaries are not climate-informed; no vulnerability assessment of VCs or traditional-use areas under a range of future climate scenarios.

Information Request

Provide: (a) the cumulative-effects assessment re-run with climate change as an interacting stressor (not solely a baseline condition), using models spanning the range of plausible future climate scenarios as required by Guideline s. 7.4.2.1; (b) climate-informed temporal boundaries and the rationale for them; (c) assessment of interactions between Project effects and climate-driven change, specifically sea-ice loss and permafrost thaw; and (d) a vulnerability assessment of ecosystemic VCs and Inuit land use under those scenarios.

Proponent Response

WKR believes that we have comprehensively addressed this IR in the Impact Statement (IS), as it considers climate change across a range of scenarios and time horizons. It covers how climate change may affect the Project, the valued components (VCs) and traditional land use.

The IS does not rely on a single climate projection. The Climate Profile (Volume 5, Appendix 12A) presents baseline conditions for 1991–2020. It also presents projections for three future periods under two Shared Socioeconomic Pathway (SSP) emissions scenarios:

- SSP5-8.5, the high-emissions scenario;
- SSP2-4.5, the intermediate-emissions scenario.

The three periods are the 2030s (2021–2050), 2050s (2041–2070) and 2080s (2071–2100). Projected changes in temperature and precipitation for the Grays Bay and Jericho-Lupin regions are summarized for SSP5-8.5 in Table 12.3 and for SSP2-4.5 in Table 12.4 (Volume 5, Section 12.3.2, Pages 12-15 to 12-18).

The Climate Change Risk Assessment (CCRA) also assessed risks under both scenarios. The main report focuses on SSP5-8.5, which "provides a conservatively high estimate of climate change that may occur" (Volume 5, Section 12.5, Page 12-29). Probability and risk scores under SSP2-4.5 are presented in Appendix 12B, Appendices A and B.

Each VC assessment considers how climate change may affect the VC and how it may interact with Project effects. Volume 5, Section 12.1.1 (Table 12.1) points to where these discussions are found.

The approach to the cumulative effects assessment is described in Volume 4, Section 9.4.3. Residual Project effects are assessed together with past, present and reasonably foreseeable physical activities, in the VC-specific cumulative effects assessments.

The IS sets temporal boundaries by Project phase. Operations and Maintenance begins in 2035 and continues indefinitely, because the Project components are permanent infrastructure (Volume 4, Section 9.2.4, Page 9-5).

The climate projection periods were chosen to cover the life of the Project:

- 2030s: aligned with the Construction phase;
- 2050s: aligned with mid-century Operations and Maintenance;
- 2080s: aligned with end-of-century Operations and Maintenance.

(Volume 5, Appendix 12B, Time Horizons)

The temporal limit of the cumulative effects assessment is 20 years into the future. This "is assumed as an approximate extent to which reasonably foreseeable future and induced development activities can be predicted with a level of certainty that allows for assessment" (Volume 4, Section 9.4.3, Page 9-14).

Interactions between Project effects and climate-driven change (sea-ice loss and permafrost thaw)

- **Permafrost thaw.** Permafrost thaw is one of the climate hazards assessed in the CCRA. It is identified as a highest-risk hazard for the road, Jericho Station, Port landside facilities and the aerodrome (Volume 5, Section 12.5, Tables 12.11 to 12.15). Interactions with terrain, soils and permafrost are assessed in Volume 6, Section 14.3.6.
- **Sea ice.** Sea ice cover and concentration are among the climate parameters covered in the Climate Profile (Volume 5, Table 12.2). Sea ice ride-up was assessed for the Port assets (Volume 5, Section 12.5, Table 12.13).

Vulnerability of ecosystemic VCs and Inuit land use

Inuit, Indigenous, and Community Knowledge informed which climate hazards were selected for assessment. Concerns raised included:

- the rapid pace of permafrost thaw;
- thinner ice and earlier melting of ice in rivers, lakes and along the coast;
- lower water levels;
- freezing rain and its effect on caribou foraging;
- changes in the wind regime;
- changes in snow quality.

(Volume 5, Section 12.5)

The effects of climate change on ecosystemic VCs and on TLMRU are discussed in the VC sections listed under (a), including Volume 9, Section 24.3.8 for TLMRU.

NIRB 132. (IR-610)

Subject

Climate Change – Project Impacts on VCs in Climate Context

Issue / Concern

Reviewer Comments / Reasoning: The IS considers climate change and some climate-sensitive VCs, particularly permafrost, hydrology, and infrastructure.

Missing Information / Gap: Climate vulnerability and interaction analysis is not consistently presented for every relevant VC, and the influence of climate scenarios on mitigation and monitoring is not uniformly traceable.

Information Request

Provide a VC climate vulnerability matrix identifying selected climate models/scenarios, rationale, uncertainty, projected VC vulnerabilities, Project-climate interaction pathways, IK/engagement input, mitigation implications, and monitoring/adaptive triggers.

Proponent Response

WKR believes that we have addressed this IR in the Impact Statement (IS). The Climate Profile (Volume 5, Appendix 12A) gives baseline conditions for 1991–2020 and projections for the 2030s, 2050s and 2080s. The projections cover two Shared Socioeconomic Pathway (SSP) scenarios:

- SSP5-8.5 (high emissions)
- SSP2-4.5 (intermediate emissions)

The Climate Profile also describes the downscaled ensemble of climate models used, the reasons for choosing these two scenarios, and the levels of confidence in the projections (Volume 5, Appendix 12B, Section 4; Volume 5, Section 12.3.2, Table 12.2 note).

Projected changes in temperature and precipitation are summarized in Volume 5, Table 12.3 (SSP5-8.5) and Table 12.4 (SSP2-4.5) (Volume 5, Section 12.3.2, Pages 12-15 to 12-18).

The Climate Change Risk Assessment (CCRA) concentrates on SSP5-8.5, which "provides a conservatively high estimate of climate change that may occur" (Volume 5, Section 12.5, Page 12-29). Results under SSP2-4.5 are given in Appendix 12B, Appendices A and B.

Projected VC vulnerabilities and Project–climate interaction pathways

The effects of climate change on climate-sensitive VCs, and how they interact with Project effects, are discussed in the VC assessments. Volume 5, Table 12.1 points to these sections:

- terrain, soils, and permafrost: Volume 6, Section 14.3.6
- caribou: Volume 6, Section 16
- birds: Volume 6, Section 17
- other terrestrial wildlife: Volume 6, Section 18
- freshwater resources: Volume 7, Section 19.3
- Traditional Land, Marine, and Resource Use: Volume 9, Section 24.3.8

Climate hazards to Project infrastructure and operations are assessed in the CCRA. It assessed fourteen climate hazards for all asset groups, plus relative sea level change, wave activity, and sea ice ride-up for the Port. The highest-risk interactions for each asset group are listed in Volume 5, Tables 12.11 to 12.16 (Volume 5, Section 12.5, Pages 12-29 to 12-40).

Inuit, Indigenous, and Community Knowledge and engagement input

Volume 5, Section 12.1.1 and Table 12.1 summarize the engagement feedback and Inuit, Indigenous, and Community Knowledge on climate change. Table 12.1 also shows where each item is addressed in the IS.

This knowledge also guided which climate hazards the CCRA assessed. The concerns raised included:

- how fast permafrost is thawing
- thinner ice and earlier melting of ice on rivers, lakes, and along the coast
- lower water levels
- freezing rain and its effect on caribou foraging
- changes in wind patterns
- changes in snow conditions

(Volume 5, Section 12.5)

Mitigation implications

The CCRA made adaptation recommendations for the high-risk climate hazard–asset interactions. It also made Operations and Maintenance recommendations on monitoring, responding to, and adapting to climate-related hazards (Volume 5, Section 12.5).

Monitoring and adaptive triggers

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of engineering design. They will be developed further as the review progresses, including criteria or thresholds that would trigger mitigation where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

Please also see the preamble to NIRB's IRs for further context regarding the request for a matrix that summarizes issues, responses and conclusions for the IS.

NIRB 133. (IR-611)

Subject

Cumulative Effects Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS describes CEA scoping, uses a Project Inclusion List, and includes VC-specific CEA subsections. Missing Information / Gap: The CEA scoping rationale is not fully consolidated across VCs, and the method screens in CEA based on adverse residual overlap, which may not capture community priority issues or system-level cumulative effects.

Information Request

Provide a CEA scoping matrix by VC/system identifying selection/exclusion criteria, boundaries, baseline conditions, engagement/IK input, community priority issues, residual effect screen result, and rationale for each inclusion/exclusion.

Proponent Response

Please refer to the response to NIRB 71 (IR-549).

NIRB 134. (IR-612)

Subject

Cumulative Effects Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS includes a PIL and describes reasonably foreseeable induced activities. It uses a 20-year future temporal limit for cumulative effects while the Project has a 75-year design life. Missing Information / Gap: The assumptions for RFI and induced mines/roads/traffic/shipping /labour/fuel are dispersed and may not adequately test high/low development scenarios or the full design life.

Information Request

Provide a consolidated RFI and induced-development assumptions appendix with quantitative assumptions, data sources, timing, uncertainty ranges, credible causal links, traffic/shipping/workforce/fuel disturbance estimates, and sensitivity scenarios over both 20-year and longer-term Project life horizons.

Proponent Response

Information regarding assessment of potential cumulative effects is provided throughout the Impact Statement (IS). Volume 10 Section 32 Cumulative Effects Assessment Overview describes content, location and summary of this information. This is supplemented in Appendix A Cumulative Effects Assessment Addendum in response to this Information Request NIRB-134.

The CEA included the assessment of a “reasonably foreseeable induced” scenario. This generally is based on the possible operation of three mines utilizing the Project road and port in support of transport and storage of ore concentrate. Detailed description of these physical activities, including assumed road and marine vessel traffic, is provided in Volume 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, and summarized in Volume 10 Section 32 Cumulative Effects Assessment Overview and Appendix A Cumulative Effects Assessment Addendum in response to this Information Request NIRB-134.

Regarding timelines mentioned in the request, Section 32 Cumulative Effects Assessment Overview identifies these and discusses their basis. What is mentioned there as the 20 years (2035-2055) for the Future Induced Mine Construction and Operation is reflective of the limits of availability of information and its certainty and confidence as one advances further ahead in time. As such, that the Project engineering design life is much longer (75 years), and that the Project lifespan is indefinite (in perpetuity), does not correspond to assessing effects over such extended periods of time. Doing so would represent a high degree of uncertainty and exceed temporal durations for which predictions of effects and human development may reasonably be accomplished.

NIRB 135. (IR-613)

Subject

Cumulative Effects Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS describes cumulative effects pathways and overlap with physical activities. Missing Information / Gap: The interaction methodology does not consistently show additive versus interactive effects, climate-change interactions, or cumulative system responses across VCs.

Information Request

Provide a cumulative interaction methodology addendum explaining how additive, synergistic, antagonistic, climate-related, and system-level interactions were identified, evaluated, and carried into residual cumulative effects and significance.

Proponent Response

Please refer to the response to NIRB 71. (IR-549). Regarding the various types of cumulative effects interactions mentioned in the request, the majority of such interactions, as is common for CEAs in general, are additive and treated as such in the assessments. Other types of interactions would be identified if the case; these, such as synergistic, representing less typical interactions occurring under relatively rare circumstances.

NIRB 136. (IR-614)

Subject

Cumulative Effects Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies mitigation within WKR's control and refers to management plans and regional efforts. Missing Information / Gap: There is no complete cumulative mitigation disposition table showing regional measures, collaborative measures, recommendations by parties, adoption status, and reasons for non-commitment.

Information Request

Provide a cumulative mitigation and recommendations table listing all cumulative-effects measures proposed by WKR, governments, Inuit organizations, Indigenous groups, communities, and technical reviewers; indicate adoption status, responsible party, feasibility rationale, and monitoring/follow-up linkage.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

The Impact Statement (IS) sets out cumulative effects mitigation at three levels: Project-specific measures within WKR's control; measures WKR applies to third-party users through its control of access to the infrastructure; and regional or collaborative initiatives led by others. Engagement input, including measures recommended by parties, is recorded with WKR's responses in Volume 3 and in each valued component (VC) assessment.

Where appropriate, each VC cumulative effects assessment identifies "mitigation measures, within WKR's control, that could eliminate, reduce, or control significant environmental or socio-economic cumulative effects. These may be in addition to project-specific effects management measures that WKR is implementing" (Volume 4, Section 9.4.3, Page 9-16).

Table 32.2 summarizes the mitigation basis for each VC's cumulative effects (Volume 10, Section 32.4, Page 32-15).

- For most VCs, the basis is Project-specific measures.
- For caribou, it is Project-specific measures together with regional measures.

Project mitigation and commitments are consolidated in Volume 1, Appendix B (Mitigations and Commitments).

Section 32 explains that WKR will control access to the Road and Port. This "provides the unique opportunity to require third-party users to adhere to mitigation measures (protocols and procedures) that contribute to the reduction and management of cumulative effects" (Volume 10, Section 32.5).

Please also see the preamble to NIRB's IRs for further context regarding the request for a register that summarizes issues, responses and conclusions for the IS.

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NIRB 137. (IR-615)

Subject

Cumulative Effects Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS proposes follow-up and adaptive management, and Volume 11 provides management plans.

Missing Information / Gap: Cumulative follow-up measures are not clearly linked to regional monitoring programs, cumulative thresholds, or collaborative governance.

Information Request

Provide a cumulative-effects follow-up plan identifying regional monitoring linkages, community-based monitoring opportunities, cumulative indicators, thresholds, data-sharing arrangements, adaptive responses, responsible parties, and reporting to NIRB and affected parties.

Proponent Response

Information regarding assessment of potential cumulative effects is provided throughout the Impact Statement (IS). Volume 10 Section 32 Cumulative Effects Assessment Overview describes content, location and summary of this information. This is supplemented in Appendix A Cumulative Effects Assessment Supplement in response to this Information Request.

Environmental Management Measures (EMMs) specific to addressing cumulative effects, versus those addressing direct effects of the Project, are largely dependent on available programs from government initiatives. The regional nature of cumulative effects subject to multiple types of anthropogenic physical activities requires resources and collaborative engagement beyond the means of any individual proponent of such activities. Volume 10 Cumulative Effects Assessment Overview, Section 32.3 Regional and Future Perspectives provides a general discussion of such possibilities as may apply for the Project, such as regional monitoring.

Given above, a cumulative effects follow-up plan, as indicated in the request, must reflect a larger engagement by WKR working with other parties to address cumulative effects issues. WKR is committed to seeking such opportunities as they may arise and working collectively to address cumulative effects issues arising as a consequence of regional human activity.

NIRB 138. (IR-616)

Subject

Transboundary Impacts

Issue / Concern

Reviewer Comments / Reasoning: The IS includes a dedicated transboundary assessment and considers shared resources and harvesting rights.

Missing Information / Gap: The assessment is not consistently detailed for all pathways, especially induced development, marine shipping, harvesting rights, food security, and well-being effects outside Nunavut.

Information Request

Provide a transboundary effects matrix by VC/pathway, including affected jurisdiction/group, rights or use context, Project/RFI activity, direct/indirect/induced/cumulative pathway, mitigation, residual effect, significance, monitoring, and engagement status.

Proponent Response

See response to NIRB 106 (IR-584).

NIRB 139. (IR-617)

Subject

Indicators and Criteria

Issue / Concern

Reviewer Comments / Reasoning: The IS uses VC-specific measurable parameters and significance criteria.

Missing Information / Gap: The rationale for indicators suggested by the public/governments and those not adopted is not provided in one place.

Information Request

Provide an indicators disposition register showing all indicators proposed by WKR, communities, governments, Inuit organizations, Indigenous groups, and technical experts; adopted/not adopted status; rationale; applicable VC/system; and how indicators support Project, cumulative, transboundary, and significance assessment.

Proponent Response

See responses to NIRB 16 (IR-494) and NIRB 100 (IR-578) for how the IS was completed related to indicators and thresholds.

NIRB 140. (IR-618)

Subject

Indicators and Criteria

Issue / Concern

Reviewer Comments / Reasoning: The IS includes contaminant, water, air, fish, marine, and human-environment indicators in various sections.

Missing Information / Gap: There is no integrated exposure/bioaccumulation/or observational indicator framework linking environmental media to wildlife, country food, human health, food security, and perceived risk.

Information Request

Provide an integrated exposure and sensory indicators framework identifying contaminant pathways, bioaccumulation concerns, country food receptors, human health pathways, sensory/observational indicators identified by Inuit/community members, monitoring parameters, action levels, and communication triggers.

Proponent Response

Exposure and sensory indicators are discussed in Volume 9, Appendix 26B Human Health and Ecological Risk Assessment. The Project consists primarily of a transportation corridor and associated port infrastructure and does not include ore processing, tailings or waste rock management, chemical processing, or routine process-water or effluent discharges. As such, no anticipated contamination was identified from project activities to the aquatic or terrestrial food webs, an no subsequent contamination of country foods was identified. Potential sources associated with construction and operation, such as dust, equipment emissions, fuels and accidental spills, are addressed through the applicable environmental assessment and management measures in the Impact Statement.

In the absence of Project-related contamination and an associated exposure pathway, a separate integrated contaminant and bioaccumulation monitoring framework is not warranted. There is therefore no Project-related bioaccumulative substance for which country food monitoring parameters, contaminant-specific action levels, or communication triggers would be developed.

NIRB 141. (IR-619)

Subject

Significance Determination

Issue / Concern

Reviewer Comments / Reasoning: The methodology defines significance at the VC level and uses VC-specific thresholds. It states that Inuit Knowledge and scientific evidence inform significance where available.

Missing Information / Gap: The IS does not provide a complete NuPPAA s. 90 significance factor crosswalk by residual effect, nor a clear record of how different parties' views changed significance determinations.

Information Request

Provide a significance determination crosswalk for each residual Project, cumulative, and transboundary effect, showing NuPPAA s. 90 factors, VC thresholds, knowledge sources, community/rights-holder views, uncertainty, rationale, and final significance conclusion.

Proponent Response

Please refer to the response to KIA-IR 36 (IR-106).

NIRB 142. (IR-620)

Subject

Significance Determination

Issue / Concern

Reviewer Comments / Reasoning: The IS states that culturally relevant thresholds are highlighted where available. Missing Information / Gap: Culturally relevant thresholds are not consistently identified for all relevant VCs, and differences between knowledge sources are not consolidated.

Information Request

Provide a culturally relevant thresholds and significance addendum identifying community-defined thresholds, well-being values, knowledge source differences, how thresholds were applied, and mitigation/monitoring/accommodation measures used to address unresolved differences.

Proponent Response

WKR respectfully submits that the information requested in this IR is already provided in the IS as noted by the reviewer that "culturally relevant thresholds are highlighted where available". When culturally relevant thresholds were not identified through engagement, it is not highlighted within that VC.

In keeping with the effects assessment methodology (Volume 4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate culturally relevant thresholds and significance addendum.

NIRB 143. (IR-621)

Subject

Significance Determination

Issue / Concern

Reviewer Comments / Reasoning: The methodology states that residual positive effects are not carried forward to significance determination. This conflicts with the Guideline expectation to assess significance descriptors that include beneficial/positive effects and with the need to understand benefits and trade-offs.

Missing Information / Gap: Positive effects are not consistently characterized using residual effects criteria or significance/importance criteria, limiting evaluation of benefit optimization, distribution, certainty, and durability.

Information Request

Provide a positive-effects characterization and significance/importance addendum for all predicted benefits, including magnitude, extent, duration, frequency, reversibility, certainty, affected groups, dependency on mitigation/enhancement, monitoring indicators, and any conditions required for benefits to materialize.

Proponent Response

See response to NIRB 1 (IR-479) for positive-effects characterization.

NIRB 144. (IR-622)

Subject

Certainty

Issue / Concern

Reviewer Comments / Reasoning: The IS includes prediction confidence discussions. Some uncertainty is qualitative and varies by VC.

Missing Information / Gap: Confidence levels are not consistently tied to decision consequences, precautionary mitigation, monitoring intensity, or contingencies.

Information Request

Provide a certainty and confidence register for each predicted effect and significance conclusion, including uncertainty source, confidence rating, evidence strength, climate/technology limitations, influence on conclusion, and additional mitigation/monitoring required.

Proponent Response

WKR respectfully submits that the information requested in this IR is already provided in the IS. As requested in the NIRB Guidelines, "*the degree of uncertainty or confidence associated with each predicted effect and level or significance*" and the Proponent to "*provide a reasonable description of how uncertainties have been dealt with, through elements such as project design, monitoring and contingency plans...*" (Section 7.4.7, Final NIRB Guidelines). Therefore, uncertainty is included in the Impact Statement (IS) in three places. Each Valued Component (VC) assessment states its prediction confidence. Follow-up monitoring and adaptive management are described in the VC assessments and Volume 11 Management Plans. Measures such as thresholds, contingencies and offsets are developed further as design and permitting progress.

In keeping with the effects assessment methodology (Volume 4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate register for each predicted effect and significance conclusion.

NIRB 145. (IR-623)

Subject

Certainty

Issue / Concern

Reviewer Comments / Reasoning: The IS states that monitoring and adaptive management will verify predictions and address unanticipated effects. Volume 11 provides draft plans. Missing Information / Gap: The management plans do not consistently provide final thresholds, contingency actions, research/testing commitments, or precautionary offsets tied to high-uncertainty predictions.

Information Request

Provide an uncertainty response plan identifying high-uncertainty predictions, precautionary measures, design contingencies, monitoring thresholds, adaptive responses, research/validation commitments, possible offsets, decision authorities, timelines, and reporting commitments.

Proponent Response

As provided in response to NIRB 144 (IR-623), uncertainties where prediction confidence is low, monitoring and adaptive management are proposed in the monitoring and management plans specific to those effects. A separate uncertainty response plan is not proposed, as having measures being developed outside of the monitoring and management plans that are specific to the discipline would just introduce additional uncertainty and duplication of effort.

As the monitoring and management plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, the details on monitoring thresholds, adaptive responses, offsets, and reporting commitments will be further developed as the review progresses. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The response to GC-IR 08 (IR-155) covers aquatic monitoring. It states that the Aquatic Effects Management Plans "*will include detailed monitoring program design including monitoring endpoints and objectives, sampling design, methodology and analysis, action levels, and adaptive management triggers.*"

NIRB 146. (IR-624)

Subject

Baseline studies to determine anticipated ecosystemic impacts on the Atmospheric Environment

Issue / Concern

Reviewer Comments / Reasoning: Baseline information collected from the project area is relevant to the technical analysis of the Impact Statement because an accurate characterization of existing air quality conditions is necessary to asses the magnitude, extent, and significance of potential project-related air emissions and to evaluate the effectiveness of proposed mitigation measures. The Impact Statement indicates that no project specific baseline air quality data were collected and that the assessment relied on data from other projects, including datasets collected from other regions (Mary River Project). This raises uncertainty regarding whether the baseline conditions used in the assessment are representative of current local conditions, including existing sources of emissions, meteorological conditions, and regional variability in air quality. Consequently, the predicted effects, significance determinations, and proposed mitigation measures may not adequately reflect conditions at the proposed project sites/area.

Missing Information / Gap: 1. No project-specific baseline air quality data were collected. 2. The rationale for relying on data from other projects is unclear. 3. The representatives of external datasets, including Mary River data, has not been demonstrated. 4. Limitations and uncertainties associated with using external data are not adequately assessed. 5. The use of higher background concentrations may overstate existing conditions and mask project-related effects. 6. Baseline and reference monitoring stations have not been selected or established before development. 7. Without per-development monitoring, it may be difficult to distinguish project impacts from natural or regional variation. 8. Existing air quality conditions have not been adequately characterized to support the impact assessment.

Information Request

a) The Proponent should provide a clear rationale for not collecting project specific baseline air quality data and explain how the datasets obtained from other projects were determined to be representative of current conditions within the local study are. The Proponent should also describe the limitations and uncertainties associated with the use of these datasets and assess whether updated or site-specific baseline information is required to ensure that the potential impacts of the proposed project have been appropriately characterized. Reliance on data collected from other projects, such as the Mary River Project, may not provide reliable information to determine long term ambient air quality impacts. b) The use of higher values reported by other projects as conservative estimates of background levels should be re-evaluated as the baseline values could be much lower than what is being presented as the assumed background air quality concentrations. These values may not provide valuable information on the potential impacts of the proposed project on the atmospheric environment. c) Provide information on how air quality would be monitored to determine potential impacts if there are no baseline and /or

reference stations monitored prior to the development of the proposed project. The Air Quality Monitoring Program in Volume 11 notes that precise monitoring locations would be determined in collaboration with regulators and Inuit, etc. These stations should be selected prior to the development of the proposed project and the baseline data should collected now to inform the Impact Statement. d) An assessment of baseline air quality levels should be conducted to establish existing air quality conditions for the project.

Proponent Response

The atmospheric environment baseline is characterized in Volume 5, Section 11.2 (Baseline Conditions) and Appendix 11A (Air Quality Technical Modelling Report), Section 3. As stated in Volume 5, Section 11.2, the air quality in the Kitikmeot region can generally be classified as pristine due to the limited number of significant sources of air contaminants of potential interest (ACPI).

Ambient air quality monitoring within Nunavut is limited to a single National Air Pollution Surveillance station in Iqaluit, approximately 2,000 km from Grays Bay Port and monitoring data from this station is influenced by urban emission sources. Therefore, recent Environmental Impact Statements and Project Proposals submitted to the Nunavut Impact Review Board (NIRB) were reviewed to determine appropriate baseline ACPI levels, with priority given to projects being proposed within the Kitikmeot Region. The reviewed projects include Bathurst Inlet Port and Road Project in the Bathurst Inlet region, the Back River project, the High Lake and the Izok Corridor projects in the Kitikmeot region and the Mary River Project on North Baffin Island, in the Qikiqtani region of Nunavut. The maximum ACPI concentration values across the reviewed projects were used as a conservative estimate of ambient baseline levels for the assessment. The representative baseline concentrations for each ACPI and averaging period were selected from the Bathurst Inlet Port and Road Project, Back River Project, High Lake Project and Izok Corridor Project, all located within the Kitikmeot Region. It should be noted that the Mary River Project was reviewed but baseline ambient air quality concentrations were not selected based on this project because the baseline concentrations of the ACPI were lower than the baseline concentrations from the other reviewed projects in the Kitikmeot Region. Since the assumed baseline ACPI values were established based on measurements within the Kitikmeot Region these values would include the influence of long-range transport of the ACPI.

As described in Volume 5, Section 11.1.6, a significant adverse residual environmental effect is defined as a project-related environmental effect that degrades the quality of the ambient air such that the maximum ground-level concentrations of ACPI from the Project frequently exceeds the respective air quality standards, objectives and guidelines (SOGs). Baseline measurements are added to predicted ground-level concentrations before assessing whether the concentration is above or below the SOGs. The selection of ambient baseline levels that are higher to add to dispersion model predictions for the Project, and potentially over-stating the maximum predicted concentrations, is considered a conservative approach.

Furthermore, the maximum predicted concentrations before the addition of the baseline concentrations are presented in all tables summarizing the maximum predicted concentrations associated with the Project for both the construction phase and operations and maintenance phase allowing for the comparison of the effects of the Project exclusively (i.e., before the addition of baseline) to the SOGs.

The implementation of ambient air quality monitoring (described in Volume 11, Appendix 37C), to complement the existing Grays Bay Meteorological Station, will support the adaptive management of emissions and assess the effectiveness of mitigation measures.

NIRB-147. (IR-625)

Subject

Baseline studies to determine anticipated ecosystemic impacts on Noise

Issue / Concern

Reviewer Comments / Reasoning: The Draft IS indicates that baseline noise monitoring was conducted in September 2017 and August 2024. However, it is unclear why baseline noise data were only collected during late summer and early fall periods and whether these data are representative of noise conditions throughout the year. Noise conditions in the Project area may vary seasonally due to differences in meteorological conditions, wind regimes, snow and ice cover, wildlife activity, transportation patterns, and other natural or anthropogenic sound sources. The Draft IS does not explain why seasonal baseline monitoring was not undertaken or how the Proponent determined that data collected during two relatively similar seasonal periods are sufficient to characterize existing acoustic conditions within the study areas. Without an understanding of seasonal variability, it is difficult to assess whether the baseline characterization accurately reflects the range of existing conditions that may occur within the PDA, LAA, and RAA, and whether the subsequent noise effects assessment and associated predictions are based on representative baseline conditions when Project activities may occur. This uncertainty may affect the evaluation of Project-related changes in the acoustic environment and the effectiveness of proposed mitigation measures, making it more difficult to evaluate incremental changes relative to existing conditions.

Missing Information / Gap: 1. Baseline noise monitoring was limited to August and September, with no clear rationale for excluding other seasons. 2. The representativeness of the monitoring data for annual noise conditions within the PDA, LAA, and RAA has not been demonstrated. 3. Seasonal variability in ambient noise conditions has not been adequately assessed. 4. The use of literature, regional data, and meteorological information to support the baseline assessment is unclear. 5. Uncertainties associated with the limited seasonal monitoring periods have not been adequately evaluated or incorporated into the effects assessment. 6. Potential differences in noise levels during other seasons and their influence on Project effects and significance conclusions have not been assessed. 7. It is unclear whether additional baseline noise monitoring will be completed before construction or why the existing dataset is considered sufficient.

Information Request

The Draft IS indicates that baseline noise monitoring was conducted in September 2017 and August 2024; however, it is unclear whether seasonal variability in baseline noise conditions was evaluated. The Proponent should provide: a) A rationale for why baseline noise monitoring was limited to September 2017 and August 2024 and why monitoring was not conducted during other seasons. b) An explanation of how the Proponent determined that the collected baseline data are representative of annual noise conditions within the PDA, LAA, and RAA. c) A description of any analyses undertaken to assess seasonal variability in ambient noise conditions, including the use of literature, regional datasets,

meteorological information, or other supporting information. d) An assessment of the uncertainty associated with characterizing baseline noise conditions using data collected during limited seasonal periods and an explanation of how this uncertainty was incorporated into the noise effects assessment. e) A discussion of whether baseline noise levels during other seasons could differ materially from those measured during the August and September monitoring periods and, if so, whether this could influence the assessment of Project-related noise effects and significance determinations. f) Identify whether additional baseline noise monitoring is planned prior to Project construction and, if not, provide justification for why the existing dataset is considered sufficient to support the effects assessment and associated conclusions.

Proponent Response

a) Baseline noise monitoring was conducted during the snow-free period to characterize representative ambient sound conditions and to minimize the influence of snow cover on measured sound levels. The monitoring and data analysis followed the approach prescribed in AER Directive 038, including exclusion of periods affected by non-representative meteorological conditions such as precipitation, snow cover and wind speeds greater than 15 km/h. In addition, Health Canada allows baseline sound levels to be established through measurement or estimation and identifies 45 dBA Ldn as representative of a quiet rural environment. Seasonal monitoring was therefore not considered necessary for establishing the baseline used in the assessment. The adopted baseline of 45 dBA Ldn is comparable to the measured quiet-condition results and provides a conservative basis for evaluating Project-related noise effects.

b) The assessment did not rely solely on the monitoring data. A 45 dBA Ldn baseline, consistent with AER and Health Canada guidance for quiet rural areas and comparable to the lower-wind measured results, was applied within the LAA and RAA.

c) Seasonal meteorological conditions, particularly wind, were considered in characterizing the baseline acoustic environment. The Project area experiences consistently high wind conditions throughout the year, which can increase ambient sound levels. Two scenarios were therefore evaluated: lower wind conditions based on requirement in AER Directive 038 and all wind conditions representative of the typically windy environment. The lower-wind scenario and therefore the baseline of 45 dBA Ldn was used to establish a conservative baseline for the noise effects assessment.

d) Uncertainty associated with seasonal variability in baseline sound levels was addressed by adopting a conservative baseline sound level of 45 dBA Ldn, representative of quieter, lower-wind conditions. Higher wind conditions, which occur frequently in the Project area, generally increase ambient sound levels. Therefore, use of the quieter baseline provides a conservative basis for assessing Project-related changes in noise and potential effects.

e) Baseline sound levels may vary seasonally, particularly due to precipitation and wind conditions. However, the assessment adopted a conservative baseline of 45 dBA Ldn, representative of quieter, lower-wind conditions. Therefore, seasonal variability is not expected to materially affect the noise effects assessment or its conclusions.

f) Additional seasonal baseline monitoring is not considered necessary, as the existing monitoring is representative of the Project acoustic environment and the assessment adopted a conservative baseline of 45 dBA Ldn representing quieter conditions.

NIRB 148. (IR-626)

Subject

Use of outdated project-specific bird surveys and field studies

Issue / Concern

Reviewer Comments / Reasoning: Many of the project-specific bird surveys appear to have been completed in 2012, with the majority of surveys dating from 2004-2008. Given that ecological conditions and bird populations can change significantly over time, why were updated baseline surveys not conducted prior to the current assessment? Please explain the rationale for relying on data that are more than a decade old and describe how the proponent determined that these historical datasets remain representative of present-day conditions. This information is relevant to the technical analysis of the Impact Statement because an accurate and current characterization of baseline condition sis necessary to assess the magnitude and significance of project effects on bird populations and habitats. Reliance on baseline surveys conducted primarily between 2004 and 2008, and the most recently in 2012 raises uncertainty regarding whether present-day species occurrence, abundance and habitat use have been adequately characterized.

Missing Information / Gap: 1. The representativeness of historical datasets for current baseline conditions has not been demonstrated. 2. Updated baseline survey information has not been provided. 3. Potential changes in baseline conditions and their effects on predicted impacts, significance conclusions, and mitigation measures have not been assessed.

Information Request

The Proponent should explain how the historical datasets remain representative of current conditions or provide updated baseline survey information and an assessment of how any changes in baseline conditions could affect the predicted impacts, significance determinations, and proposed mitigation measures.

Proponent Response

The bird baseline is characterized in Volume 6, Section 17.2 (Baseline Conditions) and Appendix 17A (Birds Baseline Report), drawing on a multi-year field survey record that includes project-specific surveys completed in 2025, Inuit, Indigenous, and Community Knowledge, automated recording units (ARUs), regional datasets, and documented species ranges current to March 2025.

The bird baseline includes project-specific field surveys completed in 2025, in addition to the 2004–2012 studies referenced in the IR. For tundra breeding bird surveys, Volume 6, Section 17.2.1.3 records that "*belt transects … were completed in 2004*" the PRISM Rapid Plot method was implemented "*in 2008 and 2012*," and, "*in 2025, additional breeding bird belt transect surveys were completed within the Port PDA and the Aerodrome PDA to document species occurrence, abundance, and habitat use,*". Appendix 17A documents the 2025 program in detail: a June 2025 transect survey collecting data on "passerines,

shorebirds, and raptors during the breeding season" across the Port PDA and Aerodrome PDA, and ARUs "deployed to 54 sites within the LSA … in 2025," programmed to record "*from May 15 to August 15, 2025 (i.e., the main breeding bird season plus a one-month buffer before and after)*". The species characterization reflects "*documented species ranges until March 2025*".

Volume 6, Section 17.2.1 describes a baseline built from "*Inuit, Indigenous and Community Knowledge, species accounts, regional surveys and other regional literature, discussions with regional biologists, field surveys, and habitat classification and modelling for select species*". Appendix 17A explains that "*baseline data incorporated into this report includes both Project-specific Inuit Knowledge collection and field survey data and reflects the bird baseline studies completed intermittently since 2004*," and that data collected outside the current Project Regional Study Area were removed from Project-focused summaries while regional-level detail was retained for context. Inuit, Indigenous, and Community Knowledge — gathered through the Naonaiyaotit Traditional Knowledge Project (NTKP) database and Inuit Advisory Group workshops — was integrated with the scientific record and summarized in Appendix 17A and at Volume 6, Section 17.2.1.1, Table 17.6.

The 2025 field program described in Appendix 17A focused on the terrestrial Port PDA and Aerodrome PDA and the LSA ARU network. For the seabird/marine component, Appendix 17A records that "*seabird surveys were completed in 2004, 2008, and 2012 in different areas of the marine LSA and RSA*," and that an inquiry was made to Environment and Climate Change Canada for supplemental ARU analysis, to which "*ECCC did not have any additional information or specific programs*".

The Impact Statement addresses prediction confidence and baseline-related uncertainty for birds in Volume 6, Section 17.8 (Prediction Confidence and Uncertainty). It states that "*conservative assumptions made in the habitat evaluation are likely to result in an overestimate of the overall habitat effect,*" and, under Conservative Measures, that "*the conclusion of not significant effects is conservative. It acknowledges the potential for some level of effect while determining that it remains within acceptable limits based on current knowledge and the implementation of proposed mitigation, management and enhancement measures*". Section 17.8 further identifies "Future Environmental Conditions" as a source of uncertainty, noting that "*uncertainty exists regarding the long-term accuracy of habitat suitability predictions due to potential limitations in spatial information and the influence of future projects, climate change, and natural disturbances*".

The residual effects and significance conclusions are set out at Volume 6, Sections 17.4 and 17.7. The IS concludes: "*based on the predicted magnitude and spatial extent of the residual effects, the effectiveness of proposed mitigation and management measures, and the context of baseline conditions, the Project's residual effects on birds are determined to be not significant*" (Volume 6, Section 17.7.1).

NIRB 149. (IR-627)

Subject

Use of outdated project-specific muskox surveys and field studies

Issue / Concern

Reviewer Comments / Reasoning: The most recent project-specific muskox surveys appear to have been conducted between 2004 and 2013. Although a more recent comprehensive survey was completed in 2022, differences in survey methodology limit direct comparison with the earlier surveys and preclude the establishment of a reliable population trend. Given that ecological conditions, habitat use, distribution, and population abundance can change substantially over time, reliance on data collected more than a decade ago raises uncertainty regarding whether current baseline conditions have been adequately characterized. Inuit Knowledge provided in the Impact Statement indicates the continued presence and use of the area by muskox and contains observations regarding their abundance and distribution. However, no recent project-specific scientific surveys appear to have been conducted to validate or complement these observations, with the assessment relying primarily on surveys completed between 2004 and 2013. Given that ecological conditions and population dynamics can change over time, the absence of recent scientific data introduces uncertainty regarding whether current muskox abundance, distribution, and habitat use have been adequately characterized. The proponent should explain how Inuit Knowledge was integrated with the historical scientific datasets, describe any discrepancies or consistencies between these sources of information, and explain why additional surveys were not undertaken to confirm present-day conditions and support the assessment of potential project effects. This information is relevant to the technical analysis of the Impact Statement because an accurate and current understanding of baseline conditions is necessary to assess the magnitude and significance of potential project effects on muskox populations and habitat. Reliance on historical survey data introduces uncertainty as to whether present-day population status, distribution, and habitat use have been adequately characterized. Consequently, the predicted effects, significance determinations, and proposed mitigation measures may not fully reflect current conditions.

Missing Information / Gap: 1. The rationale for relying on survey data collected between 2004 and 2013 is unclear. 2. The adequacy and representativeness of the historical datasets for current conditions have not been demonstrated. 3. Methodological differences associated with the 2022 survey have not been adequately addressed. 4. Uncertainties related to the inability to establish a muskox population trend have not been assessed. 5. Updated scientific baseline information has not been provided to complement Inuit Knowledge. 6. The current status and resilience of the muskox population have not been adequately characterized. 7. The need for additional or updated baseline surveys has not been assessed. 8. It is unclear whether predicted effects, significance conclusions, and mitigation measures reflect present-day conditions.

Information Request

The proponent should explain the rationale for relying on survey data collected between 2004 and 2013 and describe how the adequacy and representativeness of these historical datasets were evaluated. The proponent should also explain how the methodological differences associated with the 2022 survey were considered in the assessment, identify the uncertainties associated with the inability to establish a population trend, and assess whether additional or updated baseline information is required to ensure that the potential impacts of the proposed project have been appropriately characterized. Without recent scientific data to complement Inuit Knowledge and establish current baseline conditions and population trends, there is uncertainty regarding whether the assessment has adequately characterized the current status and resilience of the muskox population and, consequently, whether the predicted effects, significance determinations, and proposed mitigation measures appropriately reflect present-day conditions.

Proponent Response

The muskox baseline is characterized in Volume 6, Section 18.2 (Baseline Conditions), with effects assessed in Sections 18.4 to 18.7, drawing on Inuit Knowledge (IK) and hunter-harvest reports, Government of Nunavut Department of Environment (GN-DOE) muskox survey data (including the 2022 MX-11 survey [Leclerc et al. 2024]), project-specific ungulate surveys, and habitat suitability modelling, with methods detailed in the Terrestrial Wildlife Baseline Report (Appendix 16A). Each of the five elements of the information request is addressed below.

Explain the rationale for relying on survey data collected between 2004 and 2013

The muskox baseline is not limited to project-specific aerial surveys from 2004–2013. Volume 6, Section 18.2 records that baseline conditions "*were determined through a review of Inuit Knowledge and hunter harvest reports from the Kitikmeot region, Government of Nunavut Department of Environment (GN-DOE) muskox survey data, the results of project-specific ungulate surveys completed in the RAA, and habitat suitability modelling*". Beyond the 2004–2013 project surveys, the assessment incorporates the GN-DOE regional survey record for the management unit in which the Project sits (MX-11), including the most recent and comprehensive survey of 2022 (Leclerc et al. 2024).

Describe how the adequacy and representativeness of these historical datasets were evaluated

The project-specific aerial survey data from 2004-2013 was not considered to adequately characterize baseline muskox population conditions on its own. Its representativeness was evaluated in terms of its consistency with IK and the regional survey record. The findings of the project-specific surveys were consistent with those of the historical and most recent survey record for MX-11 and with IK, with all three sources indicating an uneven and variable distribution of muskox but with a clumped, northern-weighted distribution. Volume 6, Section 18.2 of the IS documents the multiple points of consistency between IK and the scientific record.

How the methodological differences associated with the 2022 survey were considered in the assessment

As noted in the IS, due to differences in survey methods, area, and timing across the survey record, it was not possible to quantify a population trend for muskox within the broader muskox management unit area. This same issue was noted in the report of the GN's most recent comprehensive survey of the muskox population of MX-11 conducted in 2022 (Leclerc et al. 2024). Instead, a weight of evidence approach was used in the IS to qualify the muskox population at the Project and within the wider region as a recovering population that recolonized historical range from the 1970s onward, with continued spatial variability ("seen one year and not the next" [Banci and Spicker 2024]), an uneven and clumped distribution favouring the central and northern portions of the RAA toward Bathurst Inlet, and an apparent 2015 disease-related decline followed by continued community sightings (Volume 6, Section 18.2.2.1).

Uncertainties associated with the inability to establish a population trend

While it is not currently possible to quantify a population trend for muskox at the Project or in the wider region due to historic methodological differences, qualitatively the weight of evidence suggests a relatively stable or recovering population. Notably, within the broader management unit, Leclerc et al. (2024) concluded that, based on their 2022 survey results, "*there is no immediate conservation concern for the muskox in MX-11*" (p. 26, Leclerc et al. 2024) and their population estimate was used in part in 2023 to support an increase in the TAH for muskox in MX-11 from 225 individuals to 350 individuals. Overall Volume 6, Section 18.21 (Prediction Confidence and Uncertainty) records, as a basis for confidence in the impact assessment, "… *concordance between Inuit Knowledge and Western Science: There was generally agreement between Inuit Knowledge and western science on the indicator species' distribution, habitat use, and movement patterns within the RAA*".

Whether additional or updated baseline information is required to ensure that the potential impacts of the proposed project have been appropriately characterized

It was a recommendation of Leclerc et al. (2024) to continue to monitor the population in MX-11 every 3-5 years using the same methodology, which will result in a time series of population estimates to quantify and define the nature of muskox population trends in this management unit over the short-term, including in Stratum 3, which encompasses the Project. This additional data, along with implementation of the Project Effects Monitoring measures outlined in the Wildlife Monitoring and Mitigation Plan (WMMP) (Appendix 37B) will provide a sufficient basis for evaluating whether potential impacts of the Project have been appropriately characterized and for modifying Project activities accordingly, without the need for additional or updated project-specific baseline information.

NIRB 150. (IR-628)

Subject

Use of outdated project-specific other terrestrial wildlife surveys and field studies

Issue / Concern

Reviewer Comments / Reasoning: As with the muskox baseline surveys, project-specific information for moose, grizzly bear, and wolverine relied primarily on baseline studies conducted between 2004 and 2013 to characterize ungulates and other large mammals within the Regional Study Area. The timing and scope of these surveys were informed in part by Inuit Knowledge of migratory behaviour, desktop assessments, and satellite-collar data. Additional baseline work was completed for grizzly bear between 2021 and 2023; however, the wolverine baseline information is largely limited to desktop assessments and a DNA-based population study completed at High Lake in 2008. No comprehensive, recent field-based baseline surveys appear to have been undertaken by the Proponent to update these datasets. Given that ecological conditions, habitat use, distribution, and population abundance can change substantially over time, reliance on data collected more than a decade ago introduces uncertainty as to whether current baseline conditions for these species have been adequately characterized. This uncertainty has implications for the robustness of predicted effects, significance determinations, and the adequacy of proposed mitigation and monitoring measures.

Missing Information / Gap: 1. The rationale for not completing updated, comprehensive baseline surveys is unclear. 2. The representativeness of historical datasets for current conditions within the Regional Study Area has not been demonstrated.

Information Request

The Proponent should provide a clear justification for why updated, comprehensive baseline surveys were not completed for these species and explain how the representativeness of the historical datasets has been demonstrated in the context of current conditions within the Regional Study Area.

Proponent Response

The baseline for the Other Terrestrial Wildlife indicator species (excluding muskox, which is addressed separately in IR-627) — moose, grizzly bear, and wolverine — is summarized in Volume 6, Section 18.2, with effects assessed in Sections 18.8 to 18.19, and baseline data collection methods detailed in the Terrestrial Wildlife Baseline Report (Appendix 16A). Each of the two parts of the IR for the three species is addressed below.

Justification for why updated comprehensive baseline surveys were not completed for these species

With caribou a primary focus of the IS, the most recent project-specific field studies for terrestrial wildlife conducted in 2024-2025 were focused on the island and mainland caribou herds (Appendix 16A, Section 2.3). For the three Other Terrestrial Wildlife indicator species, it was considered that, commensurate with the relative risk to those species posed by the Project compared to caribou, a sufficiently robust characterization of baseline conditions could be compiled from the project-specific surveys of 2004-2013, more recent studies conducted in the Regional Assessment Area (RAA), relatively recent gatherings of IK, and wildlife habitat modeling that accounts for contemporary levels of disturbance.

The characterization of baseline conditions in the RAA for two of the three species include data collected after 2013. For grizzly bear, Volume 6, Section 18.2 documents that, "*… more recently, to obtain density and abundance estimates, a broad DNA-hair-snagging program was conducted across the Kitikmeot Region from 2021 to 2023 (Awan et al. 2025)".* For wolverine, Appendix 16A documents that "*…in 2018 and 2019, a DNA hair snagging study was completed in the Kitikmeot Region targeting wolverines (Awan et al. 2020)*". For moose, the characterization of baseline conditions relied on a synthesis of the historical records of moose distribution, project-specific surveys, the regional survey record (as part of the 2022 muskox survey of MX-11), and more recently gathered IK, which indicated an increase in moose numbers and distribution in recent times (Volume 6, Section 18.8 and Appendix 16A).

How the representativeness of the historical datasets has been demonstrated in the context of current conditions within the Regional Study Area

The Project's effects on these three species were assessed through habitat suitability modelling, which accounted for contemporary levels of disturbance across the RAA, and a qualitative assessment of potential effects on movement and mortality based on a synthesis of relevant literature and mortality records, where available. Prediction confidence is documented in Volume 6, Section 18.21 (Prediction Confidence and Uncertainty for Other Terrestrial Wildlife). Section 18.21 states that "… *baseline data for the indicator species in the RAA is robust relative to most Arctic regions,*" that "*…this includes the DNA-based population estimates and mark–recapture survival rates for grizzly bear and wolverine,*" that "*Inuit Knowledge aligns with the findings from the baseline studies,*" and that "*while climate-driven ecological shifts may alter baseline conditions over decades, they are unlikely to change the conclusions of the current effects assessment*".

Uncertainty in the representativeness of the synthesized baseline characterization for these three species and how well it informed the predictions of project effects will be evaluated through the Project Effects Monitoring measures outlined in the Wildlife Monitoring and Mitigation Plan (WMMP) (Appendix 37B). It is anticipated that these measures will provide a sufficient basis for evaluating whether potential impacts of the Project have been appropriately characterized and whether modification to Project activities are required, without the need for additional or updated project-specific baseline information for the three indicator species.

NIRB 151. (IR-629)

Subject

Use of data compiled from previous studies and existing data sets to characterize baseline conditions for surface water quality and sediment quality

Issue / Concern

Reviewer Comments / Reasoning: The assessment of existing conditions for surface water quality, sediment quality, water quantity, and groundwater relies on information compiled from publicly available datasets, literature sources, project-specific studies, and Inuit, Indigenous, and Community Knowledge collected between 1995 and 2023. While these information sources may provide useful historical context, the Draft IS does not clearly demonstrate that recent, comprehensive field-based baseline surveys were undertaken within the Local Assessment Area (LAA), or where appropriate within the Regional Assessment Area (RAA), to verify current environmental conditions and establish an up-to-date baseline against which Project effects can be assessed. The reliance on datasets spanning nearly three decades introduces uncertainty regarding the representativeness of baseline conditions used in the assessment. Environmental conditions, including water quality, sediment quality, hydrology, and groundwater characteristics, may have changed over time due to natural variability, climate-related influences, or other anthropogenic activities. In the absence of recent baseline data, it is difficult to determine whether the existing conditions characterization accurately reflects current conditions within the study areas or whether the effects assessment and associated predictions are based on outdated information. Furthermore, the Draft IS does not clearly describe how historical datasets collected using different methodologies, sampling objectives, spatial coverage, and temporal scales were evaluated for comparability, quality assurance, and suitability for characterizing present-day baseline conditions. Without this information, reviewers are unable to assess the reliability of the baseline characterization or the level of confidence that should be placed in subsequent impact predictions.

Missing Information / Gap: 1. Recent baseline field investigations for surface water, sediment, water quantity, and groundwater are not clearly documented. 2. The rationale for relying on historical datasets instead of recent field surveys is unclear. 3. The relevance, quality, comparability, and representativeness of datasets collected between 1995 and 2023 have not been demonstrated. 4. Potential changes from climate variability, environmental trends, and regional developments have not been adequately considered. 5. Data gaps, limitations, uncertainties, and assumptions have not been clearly identified or incorporated into the effects assessment. 6. Confidence in the baseline characterization for each aquatic valued component has not been assessed. 7. The effects of limited recent data on impact predictions, mitigation, significance conclusions, and monitoring commitments are unclear. 8. It is unclear whether additional baseline investigations will be completed before construction.

Information Request

T*he Draft IS relies on historical and compiled datasets to characterize baseline conditions for surface water quality, sediment quality, water quantity, and groundwater. However, it is unclear whether recent, comprehensive field-based baseline surveys were undertaken to confirm that these datasets remain representative of current environmental conditions within the LAA and RAA. The Proponent should provide: a) A detailed description of all baseline field investigations conducted for surface water quality, sediment quality, water quantity, and groundwater between 2020 and 2025, including sampling locations, sampling frequency, parameters measured, methodologies, and spatial coverage within the LAA and RAA. b) If recent field-based baseline surveys were not completed, provide a rationale for why existing historical datasets were considered sufficient to characterize current baseline conditions and support the effects assessment. c) An explanation of how datasets collected between 1995 and 2023 were evaluated for relevance, comparability, quality, and representativeness of current environmental conditions, including consideration of changes resulting from climate variability, long-term environmental trends, and other regional developments. d) A description of any data gaps, limitations, uncertainties, or assumptions associated with the baseline datasets and an explanation of how these uncertainties were considered in the effects assessment and significance determinations. e) An assessment of the degree of confidence in the baseline characterization for each valued component related to the aquatic environment and how the absence of recent baseline data may affect the reliability of impact predictions, mitigation measures, and monitoring commitments. f) Identify whether additional baseline investigations are planned prior to Project construction and, if so, provide the proposed scope, timing, and objectives of those investigations.*

Proponent Response

The aquatic baseline is characterized in Volume 7, Section 19.2 (Baseline Conditions) of the Impact Statement (IS). The sampling effort is summarized in Table 19.7; sampling methods, results, and QA/QC are provided in Appendix 19C; and prediction confidence and data limitations are provided in Volume 7, Section 19.6. The IS states that "monitoring data within the LAA and RAA are limited" and that "[n]o new field sampling was conducted specifically for this assessment, except for [the] Potential Water Intake Location (Nunami Stantec Limited 2024) study," and that, otherwise, "data collected as part of previous studies and monitoring programs were referenced".

Per Volume 7, Table 19.7, the water and sediment quality dataset comprises 39 water quality samples and six sediment samples:

- August 2012: 10 stream water quality and three stream sediment samples along the Izok Corridor Project road (Golder 2013) and 23 water quality samples at the High Lake Mine area (6 Kennarctic River, 15 lakes, 2 reference lake)
- August 2024: six water quality and three sediment samples at the Potential Water Intake location (PWI-1) (Nunami Stantec Limited 2024).

Volume 7, Section 19.6 documents the basis on which the existing dataset was considered sufficient to support the effects predictions, framed around Project design and predictable effect pathways. For surface water quantity, "[w]ith the large number of water and drainage crossings required for the Project, it is not financially or logistically feasible to develop a field-based baseline characterization for surface water hydrology for each crossing" . For groundwater, "the current lack of groundwater data is not expected to affect the conclusion that significant residual effects on groundwater quality are unlikely," because "the Project does not include the long-term, continuous discharges to either groundwater or surface water, and the Project incorporates design criteria to prevent the creation of preferential flow pathways".

The IS itemizes the compiled datasets by vintage and source in Volume 7, Section 19.2 (Methods), spanning 1969 to 2024. Data were screened for relevance to the assessment areas, with "[o]nly data from sites within or hydrologically connected to the RAA were included in the baseline characterization"; "[d]ata from the Izok Mine and High Lake Mine sites located in the Coppermine River watershed were excluded, as this watershed does not overlap with the RAA"; and "stream site S35/S35a from High Lake was excluded due to its low-flow, bog-like conditions, which were not representative of typical stream water quality". The IS also indicates that sampling sites "were selected to document spatial and temporal variability in water and sediment quality along the proposed roadway and adjacent areas," and that "[m]any streams in the region are ephemeral and were sampled during the open water season (May to August) when flow was present".

A consolidated comparability / quality assurance evaluation of the dataset was not completed to evaluate differing methodologies and temporal skills of the dataset, or to evaluate how climate variability and regional development bear on their representativeness. Those elements, together with the sensitivity of the effects predictions to the age of the compiled (largely 2012-era) baseline, are addressed in IR-674 (NIRB 152).

Data gaps and uncertainties are identified in Volume 7, Section 19.6 and Section 19.6.3. These limitations are carried into the significance determination: the IS concludes at Volume 7, Section 19 that, "[b]ased on these characterizations and the significance criteria outlined in Section 19.1.1.6, including criteria identified by IAG members, the residual effects on surface water quantity and quality, sediment quality, and groundwater quality are predicted to be not significant" .

Volume 7, Section 19.6 (Prediction Confidence) provides a rating by effect type:

- **Surface Water Quantity:** "Moderate, due to uncertainty in hydrologic conditions at individual crossings and potential delays in detecting localized issues in remote areas" .
- **Surface Water and Sediment Quality:** "High, based on proven mitigation measures (see Section 19.5.3) and predictable pathways" .
- **Groundwater Quality:** "Low to moderate, reflecting limited baseline data and variability in groundwater systems" .

The IS records that the residual effects are "characterized as low in magnitude, reversible, and geographically confined to the LAA (see Table 19.18)" . Volume 7, Section 19.6 records that "additional pre-construction data collection and refinement of project design will further strengthen the confidence of the effects prediction" , and that water and sediment quality monitoring "will be implemented to confirm mitigation effectiveness and support adaptive management (Section 19.7)" . The specific timing, scope, and objectives of that pre-construction data collection, and how the Project design would be updated with the new information, are addressed in IR-631 (NIRB 153).

NIRB 152. (IR-630)

Subject

Currency of surface water and sediment quality baseline

Issue / Concern

Reviewer Comments / Reasoning: Arising from KAA-IR-34. The baseline was compiled from previous studies with no new field sampling, much of it collected in 2012, while the IS itself predicts climate-driven change to hydrology, permafrost, ice regimes and contaminant pathways. Baseline adequacy is a precondition of the effects assessment, not a licensing matter. This IR overlaps with NIRB-IR-153 which asks whether recent, comprehensive field-based baseline surveys were undertaken to confirm the compiled datasets remain representative. This IR covers the SENSITIVITY of the predictions to that assumption.

Missing Information / Gap: No demonstration that the compiled 2012-era baseline remains representative of present-day conditions, nor any sensitivity analysis of the effects predictions to that assumption.

Information Request

Provide: (a) the vintage, source and spatial coverage of every surface water and sediment quality dataset relied upon; and (b) an assessment of how the effects predictions and significance conclusions would change were presentday conditions to differ from the compiled (largely 2012-era) baseline, having regard to the climate-driven changes the IS itself predicts. Where the currency question is answered under NIRB-IR-153, cross-reference rather than repeat.

Proponent Response

Refer to the response provided for IR-631 (NIRB 153) on the representativeness of datasets and the timing of additional pre-construction baseline sampling. Additional IR content is provided below.

(a) **Vintage, source, and spatial coverage of the datasets relied upon**

The surface water and sediment quality baseline is compiled from the sources described in Appendix 19C, Section 2.1, with sampling and station locations shown on Appendix 19C, Figure 1.2 (Regional Watersheds and Water Quality and Sediment Quality Stations). The datasets relied upon to characterize existing conditions are (Appendix 19C, Table 2.1):

- Izok Corridor Project access road (Golder 2013):
  - Collected August 2012
  - 10 stream water quality samples and 3 stream sediment samples along the road alignment
  - Span the Burnside, Hood, James, and Wentzel River watersheds (sediment samples X03-055A [Burnside]; X01-085 and X01-094 [Hood]).

- High Lake Mine — RC Bio (2021):
  - Collected August 2012;
  - 6 Kennarctic River water quality samples and 17 lake water quality samples (including reference lake HLC3)
  - Kennarctic River watershed and the High Lake Mine area lakes.
- Potential Water Intake lakes PWI-1 / PWI-2 (Nunami Stantec Limited 2024); Section 20, Appendix 20A:
  - Collected August 2024 (6 samples) and July 2025 (6 samples).
  - Potential Water Intake lakes (Nunami Stantec Limited 2024):
  - Collected August 2024 (3 samples, PL-SQ-01 to PL-SQ-03).

Note: the compiled dataset totals 45 surface water quality samples and 6 sediment quality samples. The totals above are the number of samples, not distinct stations.

Regional water-quality context was additionally drawn from published literature (Brown et al. 2020; Elliott et al. 2021), which informs regional characterization rather than site baseline (Appendix 19C, Sections 1.3.2 and 2.1.1). Data from the proposed Izok mine (RC Bio 2011; Coppermine River watershed) and one low-flow stream site (S35/S35a) were reviewed and excluded because they fall outside, or are not representative of, the RAA (Appendix 19C, Section 2.1.2). Sampling and analytical methods, detection limits, guideline comparisons, and QA/QC are described in Appendix 19C, Sections 2.2 and 2.3 and Appendix A.

(b) **Basis for the effects predictions and significance determination, and the bearing of baseline currency**

The significance of Project-related effects on surface water and sediment quality is informed by the baseline together with applicable regulatory guidelines (FEQG, CCME, and Health Canada) and pre-construction conditions. The IS defines a significant residual effect on surface water or sediment quality as *"a persistent, measurable change in water or sediment parameters attributable to the Project that remains after the application of avoidance and mitigation measures have been applied,"* and one that *"must exceed natural variability to the extent that could negatively impact ecological or human receptors".*

The IS determined that the residual effects on surface water and sediment quality are low in magnitude, reversible, and geographically confined to the LAA (Volume 7, Section 19.7; Table 19.18), and that they are not predicted to be significant. Predictions of surface water and sediment quality are based on qualitative assessments in the absence of a suitable predictive model for linear infrastructure projects in northern environments (Volume 7, Section 19.6.3). As average temperatures and precipitation increase over time, permafrost will continue to melt and opportunities for the mixing of surface water and groundwater will increase. This could lead to either an increase in dissolved material or dilution of shallow groundwater (Volume 7, Section 19.6.3). The IS therefore identifies the direction of potential change in water quality associated with the climate trends it predicts, while

noting that such changes to permafrost distribution from climate change are outside of WRK's control (Volume 7, Section 19.6.3).

Because the surface water and sediment quality effects were assessed qualitatively rather than through a predictive numerical model, the IS does not contain, and does not provide, the model outputs required to complete a quantitative sensitivity analysis of the effects predictions and significance determination to a present-day baseline differing from the compiled datasets.

NIRB 153. (IR-631)

Subject

Gaps and Uncertainties: Collection of preconstruction data and refinement of project design

Issue / Concern

Reviewer Comments / Reasoning: The draft IS notes that surface water quantity and groundwater quality assessments are supported by regional datasets and mine-site data, which may not fully represent PDA conditions. Potential gaps in the availability of site-specific information are expected to be addressed with pre-construction data collection and refinement of project design. No information was provided on when these data would be collected and how the project design would be updated based on the additional information collected.

Missing Information / Gap: 1. The timing for collecting additional data has not been provided. 2. It is unclear how the new information will be incorporated into the IS. 3. The updated data, predictions, and impact assessment may not be available for review before the IS is finalized.

Information Request

Provide additional information on when the additional data would be collected and how the draft IS would be updated with the new information. The data should be provided prior to the IS being finalized to ensure parties can review the updated predictions and potential impacts from the proposed project.

Proponent Response

Volume 7, Section 19.6.3 (p. 19-96) of the Impact Statement (IS) acknowledges that the existing dataset may not fully reflect Project Development Area conditions, and that qualitative assessments were used in the absence of a suitable predictive model for linear infrastructure in northern environments. Gaps in the dataset will be addressed with site-specific information as part of pre-construction data collection and refinement of the Project design.

Given the robust Project design and application of standard mitigation measures, the current lack of groundwater data is unlikely to change the conclusion that significant residual impacts on groundwater quality are unlikely Volume 7, Section 19.6.1 (p. 19-95).

The IS identifies the regulatory and monitoring processes through which further data collection is anticipated. As indicated in Volume 7, Section 19.7 (p. 19-97), this may include future lake level and streamflow data collection; a monitoring program is likely to be a condition of a future NWB Type A Water Licence. Monitoring water quality will also be included in the Water Management Plan.

The timing, scope, and objectives of pre-construction data collection are dependent on the progression of engineering design beyond the current approximately 10% (conceptual) stage and on the NWB licensing process. The scope and schedule of this data collection are expected to be defined as design advances and through the water licensing process.

NIRB 154. (IR-632)

Subject

Baseline studies not completed for hydrologic studies at the port intake lakes and outlet streams

Issue / Concern

Reviewer Comments / Reasoning: The Draft IS states that hydrologic studies have not been undertaken for the proposed port intake lakes or associated outlet streams and that lake recharge rates and the hydrologic characteristics of outlet streams are currently unknown. Despite this acknowledged information gap, the assessment relies on these waterbodies as potential Project water sources and presents conclusions regarding the magnitude and significance of Project-related effects on the aquatic environment. Without site-specific hydrologic information, it is difficult to evaluate the sustainability of proposed water withdrawals, the capacity of the lakes to support Project water demands, or the potential effects of water removal on lake levels, downstream flows, water quality, aquatic habitat, and connected ecosystems. Information regarding recharge rates, seasonal water balance, hydrologic connectivity, and outlet stream characteristics is necessary to understand how the lakes function within the broader watershed and to assess the potential consequences of Project-related water use. The absence of these data introduces uncertainty into the baseline characterization and limits the ability of reviewers to assess whether potential effects on aquatic resources have been adequately identified, quantified, and mitigated. It is therefore unclear how the Proponent determined that sufficient information exists to support the effects assessment and associated conclusions regarding water withdrawal and aquatic ecosystem effects.

Missing Information / Gap: 1. The rationale for not completing hydrologic investigations at the port intake lakes and outlet streams is unclear. 2. The sustainability of proposed water withdrawals has not been demonstrated using site-specific recharge, water balance, connectivity, or streamflow data.
3. The assumptions, datasets, models, and surrogate information supporting the assessment are not clearly described. 4. Uncertainties resulting from the lack of site-specific hydrologic data have not been adequately assessed or incorporated into the effects assessment. 5. Potential effects on lake levels, downstream flows, water quality, fish habitat, aquatic ecosystems, and other water users have not been adequately demonstrated. 6. The scope, timing, and use of planned hydrologic studies have not been provided. 7. If no additional studies are planned, the adequacy of the existing information to support effects predictions and Project approval has not been justified.

Information Request

The Proponent should provide the following for review: a) A detailed rationale for why hydrologic investigations were not undertaken at the proposed port intake lakes and associated outlet streams prior to completion of the Draft IS. b) An explanation of how the Proponent assessed the sustainability of proposed water withdrawals in the absence of information regarding lake recharge rates, seasonal water balance, hydrologic connectivity, and outlet stream characteristics. c) A description of the assumptions, datasets, models, or surrogate information used to support the assessment of potential effects associated

with water withdrawal from the port intake lakes. d) An assessment of the uncertainty associated with the absence of site-specific hydrologic information and how this uncertainty was incorporated into the effects assessment and significance determinations. e) Information demonstrating that proposed water withdrawals will not adversely affect lake water levels, downstream flows, water quality, fish habitat, aquatic ecosystems, or other water users within the PDA and LAA. f) Details of any planned hydrologic studies for the port intake lakes and outlet streams, including study objectives, methodology, timing, and how the results will be used to refine the effects assessment, mitigation measures, water management plans, and monitoring programs. g) If hydrologic studies are not proposed, provide justification for why the existing information is considered sufficient to support Project approval and effects predictions related to water withdrawal.

Proponent Response

The Impact Statement identifies the port intake lakes as potential water sources, and acknowledges that site-specific hydrologic studies of these lakes and their outlet streams have not been undertaken, and assesses potential effects of withdrawal using regional hydrometric data and the regulatory environmental flow needs (EFN) framework applied through Nunavut Water Board (NWB) licensing (Volume 7, Sections 19.2.2, 19.3.2, and 19.7).

The port intake lakes are identified as the waterbodies that will be used for potable water during operation of the Port, as the demand for potable water will be low due to the permanent workforce at the Port to be approximately 42 people (Volume 2, Section 2.5.2.3). A full hydrological assessment on these waterbodies have not been completed to date, however bathymetry, water quality, and fish and fish habitat assessments of these waterbodies has been completed to assess whether or not they were appropriate sources of potable water.

Further assessments of these two waterbodies will be completed prior to the Nunavut Water Board Water Licence application for the Port to confirm the watershed recharge and quantity of water withdrawals required to provide adequate potable water supply for operation of the Port. Water withdrawals will conform to the 10% withdrawal threshold is the cumulative-withdrawal threshold established by Fisheries and Oceans Canada (DFO) in the *Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada* (DFO 2013a), which the Impact Statement (IS) adopts in the absence of a territorial-specific environmental flow needs (EFN) policy. Additionally, under-ice withdrawals for the Project will follow the DFO *Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut* (DFO 2010).

Monitoring and reporting of withdrawals will be completed as part of the NWB water licence requirements.

NIRB 155. (IR-633)

Subject

Incomplete paragraphs

Issue / Concern

Reviewer Comments / Reasoning: Sections of volume 6 appears to have been cut and pasted from another report with sentences not being complete. As an example, on p. 18-22 it states the following: "However, due to differences in methodology (as described in Gunn 1990). This best estimate cannot be directly compared with prior studies to establish a population trend."

Information Request

Review and ensure the draft IS is complete

Proponent Response

WKR acknowledges the error in punctuation. The correct statement is “However, due to differences in methodology (as described in Gunn 1990), this best estimate cannot be directly compared with prior studies to establish a population trend”. WKR is confident that the Impact Statement is complete.

NIRB 156. (IR-634)

Subject

Project Environment and Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS contains discipline-specific baseline and effects assessments and supporting management plans. However, the effects information is distributed across volumes and not consistently consolidated by pathway, receptor, and management-plan dependency.

Missing Information / Gap: No single effects-to-mitigation-to-monitoring matrix shows, for each ecosystemic VC, the predicted effect, supporting evidence, mitigation relied upon, residual effect, monitoring program, threshold, and adaptive action.

Information Request

Provide a consolidated Section 8 effects matrix for all ecosystemic VCs identifying: 1. project activity and phase; 2. effect pathway; 3. baseline receptor; 4. predicted effect; 5. mitigation; 6. residual effect and significance; 7. monitoring indicator; 8. threshold/action level; and 9. management plan responsible for implementation.

Proponent Response

The Final Impact Statement Guidelines require each VC assessment to link predicted effects to project components and activities, using a matrix or table to identify those interactions. They also require baseline conditions, mitigation, residual effects and significance determinations for each VC. Mitigation is to be addressed in the corresponding management plans (§7.4). WKR has met these requirements:

- Each ecosystemic VC assessment in Volumes 5 to 8 has a Project interaction table by phase, using the template in Volume 4, Table 9.1.
- Each assessment also sets out baseline conditions, effects pathways, mitigation, residual effects characterization, significance, and follow-up and monitoring.
- Mitigation and commitments are consolidated in Volume 1, Appendix B.
- Cumulative outcomes are summarized by VC in Volume 10, Table 32.2.

The Guidelines don't require a single matrix across all ecosystemic VCs combining these elements. They leave the methods and presentation of information to the Proponent and favour cross-referencing over repeating content (§2.1.1; §3.3). Rebuilding content already in the VC assessments as one cross-volume matrix would re-process existing information, not supply information the Guidelines require.

Monitoring indicators and threshold or action levels (fields 7 and 8) belong in the monitoring and management plans (§11.3), not the effects assessment. Those plans will be developed further on the schedule WKR committed to in Volume 11 (p. 37-6).

NIRB 157. (IR-635)

Subject

Ecosystemic Environment and Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Baseline and effects are presented for construction and operations, and some temporary construction areas are addressed. The assessment is weaker for reduced operations, temporary closure/care and maintenance, final closure, and post-closure for permanent infrastructure.

Missing Information / Gap: Effects and monitoring for temporary closure, final closure, post-closure, and long-term stewardship are not carried through consistently across ecosystemic VCs.

Information Request

Provide a phase-completeness addendum for Section 8.1 showing how each ecosystemic VC is assessed for pre-construction, construction, operations, reduced operations, temporary closure/care and maintenance, final closure/decommissioning, reclamation, and post-closure monitoring. Identify any phase not assessed and provide a technical rationale.

Proponent Response

WKR believes that we have comprehensively addressed this IR in the Impact Statement (IS). Two Project phases for the ecosystemic valued component (VC) assessments were identified: Construction, which includes pre-construction, and Operations and Maintenance (Volume 4, Section 9.2.4, Page 9-5). Each phase listed in the Information Request is addressed below.

Pre-construction and construction

The Construction phase covers both pre-construction and construction. It is expected to span about five years: onsite works begin in 2029 and major construction starts in 2030 (Volume 4, Section 9.2.4). Each ecosystemic VC assessment identifies Project interactions by activity for this phase, using the template in Volume 4, Table 9.1.

Operations and maintenance

Volume 4, Section 9.2.4 states that "the Operations and Maintenance phase [is] projected to begin in 2035 and continue indefinitely." Each ecosystemic VC assessment covers this phase. Volume 4, Table 9.1 lists the Operations and Maintenance activities considered. Examples include port operations, road maintenance and use, quarry operations, and winter road construction and use.

The IS states that "the Project may be placed in a state of temporary care and maintenance if there is an unexpected period of time where third-party users are not yet prepared to use the Project infrastructure. The temporary care and maintenance phase is not assessed in the IS, as it is assumed that the activities occurring would be similar to operations and maintenance, but at lower levels" (Volume 4, Section 9.2.4, Page 9-5).

How Project components would be managed during temporary shutdown scenarios, "including reduced operations or suspension of activities," is described in the Progressive Reclamation Plan (Volume 11, Appendix 37F (Draft)).

Temporary construction areas will be reclaimed. These include temporary borrow sources and quarries, camps, workspaces and laydowns. Reclamation activities include erosion stabilization, revegetation, restoring natural drainage patterns and preventing future vehicle access (Volume 4, Table 9.1).

This activity is included in each ecosystemic VC interaction table. The approach is described in the Progressive Reclamation Plan (Volume 11, Appendix 37F (Draft)).

The IS states that "as the Project components are considered permanent infrastructure, there are no plans for closure and reclamation, other than areas used solely for pre-construction/construction activities that are not required for ongoing operations and maintenance" (Volume 4, Section 9.2.4, Page 9-5).

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process. They will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 158. (IR-636)

Subject

Ecosystemic Environment and Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS describes interactions and effects pathways in individual VC assessments and includes risk-assessment-related material, but a clearly presented integrated Conceptual Site Model linking sources, pathways, receptors, ecological risk, and human health risk is not evident as a stand-alone tool across Section 8.

Missing Information / Gap: The source-pathway receptor relationships are not consolidated across air, dust, water, sediment, vegetation, wildlife, country foods, freshwater, marine, and human health receptors.

Information Request

Provide an integrated Conceptual Site Model showing: 1. contaminant and non-contaminant sources; 2. transport pathways through air, water, soil, sediment, ice/snow, vegetation, wildlife, fish, and marine biota; 3. ecological and human receptors; 4. exposure routes; 5. risk endpoints; 6. monitoring locations; and 7. which IS sections and management plans address each pathway.

Proponent Response

WKR believes that we have comprehensively addressed this IR in the HHERA (Appendix 26B). The HHERA (Appendix 26B) identified no Project-related contamination of soil, surface water, or groundwater and, consequently, no operable exposure pathways through these media or through country foods. Therefore, an integrated conceptual site model is not warranted as there is no spatial or temporal extent of contaminant exposure to characterize for these pathways. The operable human health exposure pathways identified in the HHERA are associated with common air pollutants and noise, for which the spatial extents are described in Section 26.3.8 of the Impact Statement.

NIRB 159. (IR-637)

Subject

Ecosystemic Environment and Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: VC indicators and significance criteria are described in the methodology and VC sections. The linkage between community-defined thresholds, significance criteria, and monitoring triggers is not consistently traceable.

Missing Information / Gap: Community involvement in selecting indicators and thresholds is described generally, but the IS does not consistently show which community inputs established or modified technical thresholds.

Information Request

Provide a threshold traceability table for all ecosystemic VCs identifying: 1. indicator; 2. threshold or benchmark; 3. source of threshold; 4. community/IK input considered; 5. monitoring method; 6. adaptive management trigger; and 7. how exceedances will affect significance or mitigation.

Proponent Response

WKR respectfully submits that the information requested in this IR is already provided in the IS for each ecosystemic VC, the indicators, significance thresholds, threshold sources and community input are recorded in that VC's assessment.

In keeping with the effects assessment methodology (Volume 4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate culturally relevant thresholds and significance addendum.

Monitoring methods and adaptive management triggers are set out in the VC follow-up sections and the Volume 11 management plans, which are being developed further as the review progresses.

NIRB 160. (IR-638)

Subject

Ecosystemic Environment and Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies future and induced development scenarios, including third-party use and regional mineral development, and includes cumulative effects assessment. It is less clear how mitigation and monitoring would be coordinated if induced developments proceed.

Missing Information / Gap: No implementation framework is provided for aligning monitoring data, thresholds, reporting, or adaptive management with future third-party or induced developments.

Information Request

Provide a regional coordination framework for induced development identifying: 1. foreseeable induced activities; 2. affected ecosystemic VCs; 3. shared monitoring opportunities; 4. data-sharing expectations; 5. cumulative effects triggers; 6. responsibilities of WKR and future users; and 7. how NIRB and affected communities will be notified if induced development materially changes predictions.

Proponent Response

See the response to NIRB 133. (IR-611) for a discussion of the approach to assessing cumulative effects, the response to NIRB 137. (IR-615) for cumulative effects follow-up and monitoring, and the response to NTI-8 (IR-405) for the obligations of third-party users with respect to use of the Project.

NIRB 161. (IR-639)

Subject

Air Quality

Issue / Concern

Reviewer Comments / Reasoning: The IS provides baseline and modelled air-quality information, but the remote project area has limited site specific long-term ambient monitoring and relies substantially on representative/modelled conditions.

Missing Information / Gap: Baseline monitoring representativeness, seasonal variability, and uncertainty are not fully translated into monitoring commitments for the construction and operations periods.

Information Request

Provide an air-quality baseline sufficiency addendum that identifies: 1. all baseline monitoring locations and periods; 2. parameters measured; 3. seasonal representativeness; 4. data gaps; 5. uncertainty in using modelled or regional data; and 6. how baseline limitations will be addressed through preconstruction and operational monitoring.

Proponent Response

The air quality baseline is drawn from representative regional data, including monitoring programs for the Mary River and Back River projects (Volume 5, Appendix 11A, Section 3). The selected baseline concentrations are summarized in Appendix 11A, Table 3.9, which describes them as "considered conservative of the existing conditions". Prediction confidence for estimated emissions is rated low to moderate, with emissions expected to be over-estimated. An ambient air quality monitoring program will be developed and implemented for all phases of the project (Volume 5, Appendix 11A, Section 5.3.

A meteorological station has operated at the Grays Bay Port site since August 2024. Ambient particulate matter monitoring "will be implemented to provide an understanding of site ambient concentrations, and to determine the need for additional mitigation" (Volume 5, Section 11.3.2.3). The Air Quality Monitoring and Management Plan (AQMMP; Volume 11, Appendix 37C) proposes the following during Construction and Operations and Maintenance (AQMMP Sections 3.1, 3.2 and 3.4):

- continuous ambient PM (TSP, PM10, PM2.5) monitoring at Grays Bay Port
- continuous NO2 monitoring at the Port Camp
- passive dustfall monitoring at 3 to 5 locations along the road corridor
- continued meteorological monitoring

Precise monitoring locations will be determined in collaboration with regulators, Inuit, other Indigenous groups, and potentially affected communities (AQMMP Section 3.2).

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

Refer also to the responses to NIRB 299 (IR-777) and NIRB 420 (IR-898).

Each ecosystemic VC assessment in Volumes 5 to 8 has a Project interaction table by phase, using the template in Volume 4, Table 9.1.

NIRB 162. (IR-640)

Subject

Air Quality

Issue / Concern

Reviewer Comments / Reasoning: The assessment includes emissions from major construction and operations sources. However, several emissions depend on future design, final traffic/shipping assumptions, quarry sequencing, future third-party use, and operational controls. Missing Information / Gap: Emission estimates are not fully traceable to final design assumptions for all future-ready facilities, thirdparty use, and induced traffic scenarios.

Information Request

Provide an updated emissions inventory by phase and source category, including: 1. equipment, vehicle, aircraft, vessel, generator, incinerator, quarry, road, and wind erosion sources; 2. activity rates and emission factors; 3. mitigation/control efficiencies; 4. design assumptions; 5. third-party or future-use assumptions; and 6. sensitivity cases for higher traffic and quarry activity.

Proponent Response

1. The emissions inventory used in the air quality assessment is presented in the Air Quality Technical Modelling Report (Volume 5, Appendix 11A, Section 4), and emission sources and emissions are summarized in the Air Quality assessment chapter (Volume 5, Section 11.3.2.2). The Project activities that generate air contaminants of potential interest (ACPI) are described in Appendix 11A, Section 4.2 and in the Project Description (Volume 2). The emission inventory is presented by phase and by source category for the worst-case Construction year (Year 2) and the worst-case Operations and Maintenance year (Year 7), in the following tables:

   Construction phase: Volume 5, Section 11.3, Table 11.8 (Northern Domain, Year 2) and Table 11.9 (Southern Domain, Year 2); reproduced in Appendix 11A as Table 4.1 and Table 4.2.

   Operations and Maintenance phase: Volume 5, Section 11.3, Table 11.10 (Northern Domain, Year 7), Table 11.11 (Southern Domain, Year 7), and Table 11.12 (Project annual, Year 7); reproduced in Appendix 11A as Table 4.3 and Table 4.4.

2 and 3. The detailed emission calculations and the assumptions used for each source are provided in Appendix 11A, Appendix A (Construction Phase Emissions) and Appendix B (Operations and Maintenance Phase Emissions). The presented information includes activity rates and emission factors as well as mitigation/control efficiencies applied for each source category.
The mitigation/control efficiencies applied for each source category are also described in Appendix 11A, Section 4.3.

4. The Grays Bay Port is comprised of marine-based infrastructure and landside infrastructure with the size and configuration designed according to intended use and informed by input from anticipated industrial, government, and Inuit users. The siting of facilities will be determined during final design, as informed by the environmental assessment process, Inuit Knowledge, site geotechnical, oceanographic, hydrology, meteorological, environmental and regulatory conditions, and further engagement with interested parties. The conceptual Project layout considers the needs of immediate users, such as community resupply vessels, government vessels and the public while also supporting potential future needs of proposed commercial operations, including potential for third-party use areas.

5. The Project emissions inventory covers Project activities. The Project activities during the Construction and Operations and Maintenance phases are listed in the Final Scope List for the Grays Bay Road and Port Project Proposal ([NIRB Final Scope List]; NIRB File No.: 24XN038, NPC File No.: 150467). Consistent with the NIRB Final Scope List distinction between the scope of the proposed Project and the scope of the assessment, use of the Project by third parties is excluded from the scope of the proposed Project. As stated in the NIRB Final Scope List, Section 2) Project Components, Sub-section 4. Exclusions from the Scoping List:

   > *"WKR has stated that the scope of the physical works, activities, and/or undertakings assessed under this project proposal does not include the use of the proposed project by third parties (e.g., mines and utilities such as power and communication) or additional road width for other purposes beyond its current design. However, planning in the proposed project area has included identification of potential third-party infrastructure. It is WKR's position that any future project proposals that would use the proposed project will require a separate assessment, including any expansion of fuel storage facilities or other storage areas that would be used by these third parties."*

   Third-party operational emissions are therefore not carried in the Project inventory. Emissions associated with reasonably foreseeable (RF) and reasonably foreseeable induced (RFI) development are addressed in the cumulative effects assessment (Volume 5, Section 11.4). As discussed in Volume 10, Section 32 Cumulative Effects Assessment Overview, each proponent of a RFI project is responsible for meeting all applicable regulatory requirements and, consistent with their regulatory assessment responsibilities, for assessing and managing the effects of their own activities. Access to WKR's infrastructure is provided under agreement, and all proponents must comply with their operational mitigations and commitments established to manage and reduce cumulative effects. The proponents of the RFI mines will be conducting environmental assessments for regulator and stakeholder review that will assess the emissions generated by their activities.

6. The emissions inventory underlying the air quality assessment was based on anticipated project activities and the conceptual layout of the Project. The prediction confidence associated with the estimated combustion emissions and estimation of fugitive dust emissions is low to moderate with emissions expected to primarily be over-estimated based on conservative assumptions. For this reason, an ambient air quality and meteorology monitoring program is recommended during construction to confirm that the emission predictions are conservative for the worst-case project phase.

NIRB 163. (IR-641)

Subject

Air Quality

Issue / Concern

Reviewer Comments / Reasoning: The modelling predicts exceedances for certain contaminants/averaging periods, including NO2 and PM metrics near the port and along Grays Bay. The assessment discusses mitigation but does not fully convert exceedance predictions into receptor-specific exposure controls and adaptive management.

Missing Information / Gap: Predicted exceedance areas are not fully integrated with land use, TLMRU, small craft activity, camps, wildlife receptors, monitoring station siting, or action thresholds.

Information Request

Provide revised air-quality model outputs and receptor analysis including: 1. isopleths for all relevant contaminants/averaging periods; 2. overlays with TLMRU, marine use, camps, roads, port, and wildlife areas; 3. receptor specific exposure discussion; 4. monitoring station rationale; 5. action levels for NO2, PM10, PM2.5, TSP, SO2, CO, VOCs, and metals; and 6. operational responses to exceedances.

Proponent Response

The air quality dispersion modelling, model outputs and receptor predictions are presented in the Air Quality Technical Modelling Report (Volume 5, Appendix 11A) and summarized in Volume 5, Section 11. How the modelled concentrations were used to assess human exposure is presented in the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26B).

NIRB 164. (IR-642)

Subject

Air Quality

Issue / Concern

Reviewer Comments / Reasoning: The IS compares modelled concentrations to applicable standards and discusses air quality effects. The connection to human health, country food confidence, vegetation, wildlife, and monitoring is not sufficiently consolidated. Missing Information / Gap: Air contaminants, dust deposition, and metals are not presented in one pathway analysis linking air-quality changes to vegetation, water, wildlife, country foods, and human health monitoring.

Information Request

Provide an air-quality pathway addendum linking predicted concentrations and dust deposition to: 1. human receptors; 2. land users and marine users; 3. vegetation and country foods; 4. wildlife and birds; 5. surface water and snowmelt; 6. monitoring parameters and locations; and 7. public communication procedures for exceedances.

Proponent Response

Air quality pathways are discussed in Volume 9, Appendix 26B Human Health and Ecological Risk Assessment. Construction and operation of the project roadway does not include ore processing, tailings or waste rock management, chemical processing, or other activities that would routinely release metals or other persistent contaminants to air. Accordingly, there is no identified Project source that would result in atmospheric deposition of metals and subsequent contamination of soil, vegetation, surface water, wildlife, or country foods. Potential human health effects associated with Project-related air emissions are addressed through comparison of predicted concentrations with applicable health-based air quality criteria from inhalation exposure.

Construction and road use may generate fugitive dust, including from exposed surfaces and vehicle travel. Dust generation and deposition are expected to be localized and are addressed through the air quality assessment and applicable dust management measures in the Impact Statement. In the absence of a Project-related source of elevated metals or other persistent contaminants, deposition of this dust does not establish a contaminant pathway.

NIRB 165. (IR-643)

Subject

Climate and Meteorology

Issue / Concern

Reviewer Comments / Reasoning: The IS includes a climate profile and regional climate projections. Because long-term site-specific climate observations are limited, technical review requires clear documentation of data sources and uncertainties for each project area and shipping route. Missing Information / Gap: The degree to which nonsite-specific meteorological data affects design, modelling, air quality, noise, hydrology, marine conditions, and climate risk is not clearly summarized.

Information Request

Provide a climate and meteorology data-source table identifying: 1. each station/model/data product used; 2. period of record; 3. distance and representativeness; 4. parameters; 5. uncertainty; 6. application in each VC; and 7. implications for design and effects predictions.

Proponent Response

Climate data sources, representativeness, uncertainty, and application in the IS vary based on climate parameter, location/region of interest, time horizon, and IS application. As a result, a climate data source table as requested would result in a more complex table, requiring nuance statements, and not a simple, easily digestible summary table. The Climate Profile (Volume 5, Appendix 12A) was developed as a central document to provide information on data sources, climate projection scenario selections, uncertainty in climate projections, representative location selection, and relevant climate parameters to the IS as well as the baseline and projected values. In the Climate Profile, information on data sources is provided in Section 2 and information on representative locations is provided in Section 3. In Section 5 of the Climate Profile climate data are presented with data sources used indicated, respectively.

The Climate Change Risk Assessment (CCRA; Volume 5, Section 12.5 and Appendix 12B) assessed climate-related risk to the Project's permanent infrastructure and considered time horizons throughout the 21st century (2030s, 2050s, and 2080s). Uncertainty in climate data sources and representativeness is considered in the CCRA methodology and during the analysis through the use of a probability scale (Section 6.1 in Appendix 12B). The ranges used in the probability scale are generally larger than the variability of a given parameter in the climate change projection data and, therefore, account for data specific uncertainties. Additionally, cross-verification between climate information sources was conducted, where possible, to identify potential discrepancies between data sources used and improve confidence in the climate change projections. One of the recommendations of the CCRA was that it be revisited and updated when new climate data is available (e.g., subsequent IPCC releases) to update probability scores where applicable. Revisiting and updating the CCRA results will allow for the determination of whether climate-related risks are appropriately considered for future asset and infrastructure development and services and in the operations and maintenance of existing assets. Additionally, revisiting the CCRA

provides insight into the effectiveness of adaptation strategies implemented and levels of residual risk and allows for further calibration to conditions experienced by the permanent infrastructure of the Project.

The CCRA includes adaptation measure recommendations to address high-risk climate hazard-asset interactions identified in the CCRA and to improve the resilience of the Project. The adaptation recommendations include design recommendations for evaluation and consideration in the detailed engineering design stage (the Project is currently at approximately 10% [conceptual] engineering design stage). Further consideration of climate and implications in the design will be undertaken during subsequent detailed engineering design phases.

NIRB 166. (IR-644)

Subject

Climate and Meteorology

Issue / Concern

Reviewer Comments / Reasoning: The IS describes climate trends and future projections. The analysis does not consistently translate all high-risk climate hazards into specific monitoring triggers, asset-level design criteria, and residual risk for the full Project life. Missing Information / Gap: Climate-risk implementation is not fully traceable from hazard to design standard, monitoring indicator, maintenance action, and residual risk.

Information Request

Provide an asset-by-asset climate resilience table for road, water crossings, port, fuel systems, airstrip, quarries, camps, water/wastewater, and winter road. Include climate variables, design criteria, climate allowance, monitoring indicator, inspection frequency, action threshold, maintenance/adaptation response, and residual risk.

Proponent Response

See response to NIRB 57. (IR-535).

NIRB 167. (IR-645)

Subject

Climate and Meteorology

Issue / Concern

Reviewer Comments / Reasoning: The IS quantifies GHG emissions and discusses climate risk. The assessment provides limited detail on a long-term decarbonization pathway for a permanent/long-life infrastructure project, and on how emissions management will adapt over time.

Missing Information / Gap: Mitigation beyond tracking, equipment management, and conventional controls is not supported by a detailed reduction pathway, performance targets, or review schedule.

Information Request

Provide a GHG management and decarbonization plan including: 1. annual emission estimates by phase and source; 2. diesel-generation alternatives considered; 3. feasible renewable/hybrid options; 4. reduction targets or justification for not setting them; 5. reporting commitments; 6. review triggers for technology changes; and 7. treatment of third-party users and future expansion.

Proponent Response

A net-zero plan containing the requested information for the Project will be developed following the guidance of the Strategic Assessment of Climate Change. Given the time needed to produce a net-zero plan, that deliverable will be provided as part of the Technical Questions responses.

Note that a net-zero plan for the Project considers on the GHG emissions related to Project operation. GHG emissions from third parties that are not connected to the Project, such as future mining operations, will not be part of the net-zero plan.

NIRB 168. (IR-646)

Subject

Noise and Vibration

Issue / Concern

Reviewer Comments / Reasoning: The IS includes a noise and vibration VC and discusses receptors across disciplines. Baseline noise/vibration information is not fully integrated across terrestrial, freshwater, marine, and human use receptors. Missing Information / Gap: The assessment does not provide a consolidated receptor-based baseline and sensitivity table for people, caribou, birds, fish, marine mammals, and TLMRU users.

Information Request

Provide a receptor-based noise and vibration baseline table identifying: 1. baseline values and locations; 2. seasonal variability; 3. sensitive species/receptors; 4. sensitive periods; 5. applicable thresholds; 6. uncertainty; and 7. how baseline conditions will be verified before construction.

Proponent Response

Baseline noise assessment and applicable noise and vibration criteria are provided in Volume 5, Appendix 13A (Acoustic Baseline Report) and the Noise and Vibration Technical Modeling Report. The noise and vibration assessment focuses on human receptors, including permanent and seasonal accommodation and TLMRU areas. Information relevant to underwater noise is provided in the Marine Mammals and Marine Fish and Fish Habitat VCs (Volume 8, Sections 23 and 22). Effects on wildlife are assessed in Volume 6, Sections 16 to 18 (Volume 5, Appendix 13B).

NIRB 169. (IR-647)

Subject

Noise and Vibration

Issue / Concern

Reviewer Comments / Reasoning: The IS addresses major atmospheric and underwater noise sources, but final source levels and scenarios depend on detailed design, final traffic, blasting, quarry development, pile-driving/dredging decisions, and vessel schedules.

Missing Information / Gap: The current record does not provide a single source inventory with maximum, typical, seasonal, and worst-case source levels for all Project noise and vibration activities.

Information Request

Provide an updated source inventory and modelling basis for noise and vibration including: 1. source sound/vibration levels; 2. operating assumptions; 3. simultaneous activity scenarios; 4. seasonal timing; 5. terrestrial and underwater propagation assumptions; 6. blasting/piledriving/dredging confirmation; and 7. maps of predicted exceedance or disturbance zones.

Proponent Response

WKR believes that we have comprehensively addressed this IR. The noise and vibration source inventory and modelling basis are in the Noise and Vibration Technical Modelling Report (Volume 5, Appendix 13B) and in Volume 5, Section 13. The underwater noise sources are described in the Marine Mammals assessment (Volume 8, Section 23).

NIRB 170. (IR-648)

Subject

Noise and Vibration

Issue / Concern

Reviewer Comments / Reasoning: The assessment spreads receptor effects across multiple volumes and management plans. A technical reviewer must track how noise results feed into caribou disturbance, bird disturbance, fish blasting effects, marine mammal injury/behavioural thresholds, and TLMRU experience.

Missing Information / Gap: Cross-volume noise pathways are not consolidated, and management thresholds differ or are not finalized across plans.

Information Request

Provide a consolidated noise/vibration effects crosswalk showing: 1. source; 2. receptor; 3. threshold/guideline; 4. predicted effect area; 5. mitigation; 6. monitoring; 7. shutdown or adaptive trigger; and 8. where the conclusion is assessed in the IS.

Proponent Response

WKR believes that we have addressed this IR. Noise and vibration effects are assessed across several VCs because the applicable exposure pathways, receptors, effect endpoints, thresholds, and mitigation measures differ among human/TLMRU, terrestrial wildlife, fish, and marine mammal receptors. Volume 5, Section 13 and Appendix 13B provide the assessment of noise and vibration effects on human and TLMRU receptors. The assessment states that underwater noise and vibration effects are assessed in the Marine Mammal VC (Volume 8, Section 23) and the Marine Fish and Fish Habitat VC (Volume 8, Section 22). Effects on wildlife are assessed in Volume 6, Sections 16 to 18 (Volume 5, Appendix 13B).

NIRB 171. (IR-649)

Subject

Terrestrial Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS provides terrain, soils, and permafrost assessment and discusses sensitive terrain. Paleontological and palaeobotanical resources are less clearly addressed, and heritage resources are partly dependent on future data and surveys.

Missing Information / Gap: Paleontological/palaeobotanical screening, survey requirements, and integration with terrain disturbance planning are not clearly presented as part of the terrestrial environment baseline.

Information Request

Provide a terrestrial baseline addendum that includes: 1. mapping of eskers, wetlands, fragile landscapes, ice-rich terrain, thaw-sensitive slopes, taliks, and sensitive landforms; 2. protected/special areas; 3. paleontological/palaeobotanical potential; 4. survey requirements; 5. avoidance buffers; and 6. implications for final road, quarry, camp, and infrastructure siting.

Proponent Response

WKR believes that we have comprehensively addressed this IR. The terrestrial baseline is presented in the Terrain, Soils, and Permafrost Baseline Report (Volume 6, Appendix 14A) and summarized in Volume 6, Section 14. Wetlands are part of the Vegetation VC, in Volume 6, Section 15.

The Heritage Resources assessment states that palaeontological study requirements, if any, "will be addressed with the regulators as part of the data gap analysis upon confirmation of a PDA" (Volume 9, Section 30). The Heritage Resources Management Plan (Volume 11, Appendix 37G (Draft)) states the same approach.

For information on the engineering design and further survey requirements, including implications for final road, quarry, camp, and infrastructure siting, see the response to NIRB 48 (IR-526).

For this reason, WKR has not consolidated this information into a separate terrestrial baseline addendum.

NIRB 172. (IR-650)

Subject

Treatment of wetlands as a valued component

Issue / Concern

Reviewer Comments / Reasoning: Arising from KAA-35. Wetlands are not carried as a distinct VC despite their hydrological, sediment-trapping and contaminant-filtering functions, which are closely coupled to shallow groundwater and seasonal flow in permafrost terrain.

Missing Information / Gap: No wetland mapping for the Project area and no rationale for excluding wetlands as a distinct VC; consequent uncertainty in hydrological and ecological effects predictions.

Information Request

Provide: (a) mapping of wetland extent within the PDA, LAA and RAA; (b) characterisation of wetland function and sensitivity, including linkage to shallow groundwater and seasonal flow; (c) the rationale for not carrying wetlands as a distinct valued component, having regard to the VC-selection criteria applied elsewhere in the IS; and (d) if wetlands are not adopted as a VC, an explanation of where wetland functions and effects upon them are assessed.

Proponent Response

See response to information request KAA-35 (IR-35). WKR believes that we have comprehensively addressed this IR within the IS as part of the Vegetation Valued Component (Volume 6, Section 15).

NIRB 173. (IR-651)

Subject

Terrestrial Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies terrain and permafrost effects and acknowledges localized permafrost degradation. However, site-specific mitigation, final quarry/borrow design, culvert placement, and monitoring thresholds remain partly deferred.

Missing Information / Gap: Long-term permafrost, erosion, and drainage performance is not fully supported by a complete monitoring network with defined thresholds and corrective actions.

Information Request

Provide a terrain/permafrost monitoring and adaptive management plan including: 1. monitoring locations; 2. ground-temperature and settlement instrumentation; 3. ice-rich terrain and slope monitoring; 4. erosion and ponding indicators; 5. thresholds for corrective action; 6. inspection frequency; 7. climate-change review triggers; and 8. reporting to regulators and communities.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

Terrain stability control measures "will be regularly inspected to confirm they are performing as intended and as described in the ESCP" (Volume 6, Section 14.3.4.3). The assessment identified the following as measurable parameters for terrain stability (Table 14.2):

- ground temperature
- active layer depth
- ground surface elevation
- visual observations of thaw settlement, ponding and thermokarst

Road inspections. During Operations and Maintenance, the Road Management Plan (Volume 11, Appendix 37A) provides for inspections on a regular schedule (RMP Section 5.2.1):

- Summer inspections will focus on evidence of seasonal freeze and thaw at the toe of the road embankment, including longitudinal cracking and thaw settlement on ice-rich soils.
- Ponding on or alongside the road will be tracked and addressed.
- Inspection frequency will increase before and during freshet and after heavy rainfall.

Erosion inspections. Areas identified during detailed design as having higher potential for soil erosion, stream bank erosion and erosion at water crossings will be managed through the Erosion and Sediment Control Plan (Volume 11, Appendix 37H, Attachment H2). Refer to the response to NIRB 265 (IR-743). The draft ESC Plan provides for the following inspections (ESC Plan Section 5.2):

- daily inspections during construction
- inspections within 24 hours after significant rainfall (12 mm or more) or snowmelt events
- weekly formal inspections
- monthly inspections after construction until ESC measures are no longer required

Site-specific ESC plans will be developed by a Certified Professional in Erosion and Sediment Control (ESC Plan Section 1.1).

NIRB 174. (IR-652)

Subject

Landscape-scale, climate-driven permafrost degradation beyond infrastructure footprints

Issue / Concern

Reviewer Comments / Reasoning: Arising from KHTO-IR-004. The IS assesses permafrost principally at infrastructure sites for geotechnical stability and does not present numerical permafrost modelling across the corridor.

Missing Information / Gap: No landscape-scale numerical modelling of climate-driven permafrost degradation along the road corridor and surrounding terrain; no projection of ground thaw, terrain instability, or consequent surface-water change beyond the footprint.

Information Request

Provide: (a) numerical permafrost/thaw modelling at landscape scale along the full road corridor and surrounding terrain, under the range of climate scenarios, as required by Guideline s. 8.1.4.2(vii); (b) projections of ground thaw, terrain instability, thermokarst and surface-water change beyond infrastructure footprints; (c) the resulting effects on VCs; and (d) monitoring triggers and response measures for thaw-related change outside the footprint. If landscape-scale modelling was not undertaken, provide the rationale and the basis on which effects were nonetheless predicted.

Proponent Response

Please see response to KIA-IR5 (IR-75) and NRCan-IR 01 (IR-209).

NIRB 175. (IR-653)

Subject

Terrestrial Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS discusses country foods and pathways in multiple sections. The required country food exposure information is not sufficiently consolidated with contaminant lists, consumption frequency, and ecological/human health monitoring.

Missing Information / Gap: No single country-food contamination pathway table links Project contaminants to soil, water, vegetation, wildlife, fish, harvested parts, consumption frequency, and monitoring.

Information Request

Provide a country-food exposure and monitoring addendum that identifies: 1. country foods consumed in the potentially affected area; 2. parts consumed and frequency where available; 3. contaminants of potential concern; 4. exposure pathways; 5. baseline contaminant data; 6. monitoring species/tissues; 7. communication protocols; and 8. adaptive actions if concentrations or concerns increase.

Proponent Response

Country-food exposure pathways are discussed in Volume 9, Appendix 26B Human Health and Ecological Risk Assessment. Construction and operation of the Project roadway does not involve ore processing, tailings or waste rock management, chemical processing, or routine discharges that would introduce bioaccumulative contaminants into soil, water, vegetation, wildlife, fish, or other country foods. As such, no anticipated contamination was identified from project activities to the aquatic or terrestrial food webs, an no subsequent contamination of country foods was identified. Accordingly, this would not warrant a separate country-food exposure and monitoring framework.

The proposed roadway is located along a primarily undeveloped area and is not a contaminated site for which “baseline contaminant” concentrations require characterization. Trace metals and other naturally occurring substances may be present in soil, water, vegetation, fish, and wildlife as part of natural background conditions; their presence does not indicate existing or baseline contamination. In the absence of a Project source and operable contaminant pathway, additional contaminant-specific baseline data, consumption-frequency data, tissue monitoring, action levels, or adaptive actions for country foods are not warranted.

NIRB 176. (IR-654)

Subject

Terrestrial Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses habitat alteration and sensory disturbance by VC. Cross-VC terrestrial system interactions are discussed but not always carried into significance determinations. Missing Information / Gap: System-level terrestrial effects involving terrain, vegetation, dust, hydrology, caribou movement, birds, predators, and access are not consistently integrated.

Information Request

Provide a terrestrial systems interaction matrix showing: 1. landform/permafrost changes; 2. hydrology and wetland changes; 3. vegetation and forage effects; 4. dust/contaminant pathways; 5. wildlife habitat and movement effects; 6. access/hunting pathways; and 7. how these interactions affect residual effects, mitigation, and monitoring.

Proponent Response

Refer to response provided for NIRB-6 (IR-484). Volume 10, Sections 31.2 and 31.3.1 of the IS identify interactions among terrestrial VCs and how these interactions collectively may affect land and freshwater systems. Mitigation and monitoring programs as described in Volumes 5 to 9 of the IS will reduce adverse effects on terrestrial VCs and help inform adaptive management strategies as needed. Ongoing engagement with Kitikmiut, other Indigenous groups, and potentially affected communities will complement ecosystemic and socio-economic monitoring programs and provide important feedback on potential collective system impacts such that WKR can develop the Project in consideration of community values and objectives to achieve desired outcomes. These feedback mechanisms may also identify the need for supplemental mitigation, management and enhancement measures that may involve broader application and participation of other agencies and organizations.

NIRB 177. (IR-655)

Subject

Geological Features, Surficial and Bedrock Geology and Geochemistry

Issue / Concern

Reviewer Comments / Reasoning: The IS includes geology, terrain, permafrost, and quarry/borrow planning information. However, quarry sources are not fully finalized and geochemical testing/management is partly deferred to future quarry specific planning. Missing Information / Gap: The record does not provide a final quarry-by-quarry geochemical inventory and ARD/ML classification for all borrow and quarry materials that may be disturbed or used near water.

Information Request

Provide a quarry and borrow geochemistry addendum including: 1. all proposed and contingency source areas; 2. lithology and material volume; 3. sampling density and results; 4. ARD/ML classification; 5. uncertainty for untested sources; 6. handling restrictions; 7. placement restrictions near water/high-water marks; and 8. monitoring and contingency measures.

Proponent Response

See responses to KAA-40 (IR-40), KIA-IR58 (IR-128), and NRCan-IR 02 (IR-210) for additional information on quarry and borrow geochemistry.

NIRB 178. (IR-656)

Subject

Geological Features, Surficial and Bedrock Geology and Geochemistry

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies terrain and geohazard risks and waterresource interactions. Fault/fracture controls on contaminant transport and quarry-related drainage pathways require clearer sitespecific analysis. Missing Information / Gap: Potential subsurface contaminant transport pathways from fractured bedrock, taliks, and quarries are not fully characterized at the level needed for detailed water-quality and spill-risk review.

Information Request

Provide a geologic contaminant transport assessment identifying: 1. faults/fractures near fuel, waste, quarry, water, and road infrastructure; 2. potential hydraulic connections to surface water; 3. talik interactions; 4. spill and seepage pathways; 5. monitoring wells or surface-water stations proposed; and 6. contingency actions.

Proponent Response

See response to the information request KIA-IR22 (IR-92) for a discussion on taliks, hydrostatigraphy, permafrost and potential for contamination transport.

NIRB 179. (IR-657)

Subject

Geological Features, Surficial and Bedrock Geology and Geochemistry

Issue / Concern

Reviewer Comments / Reasoning: The IS provides project design and environmental baseline information, but some geotechnical and geochemical investigations are described as future or continuing with design advancement.

Missing Information / Gap: Detailed design may alter infrastructure locations, material sources, and mitigation requirements, which could affect the assessment conclusions.

Information Request

Provide a design-uncertainty register for geology/geochemistry showing: 1. remaining investigations; 2. affected components; 3. potential design changes; 4. environmental effect implications; 5. decision thresholds requiring reassessment; and 6. when final results will be provided to NIRB.

Proponent Response

Please see responses to KIA-IR7 (IR-77) through KIA-IR10 (IR-80).

NIRB 180. (IR-658)

Subject

Hydrological Features and Hydrogeology

Issue / Concern

Reviewer Comments / Reasoning: The IS contains water resources baseline information and crossing descriptions. The number, size, and location of some drainage equalization structures are still design-dependent.

Missing Information / Gap: Uncertainty in culvert/equalization structure locations affects drainage, wetland connectivity, fish passage, icing, permafrost, and road stability predictions.

Information Request

Provide an updated water crossing and drainage inventory including: 1. all bridges, culverts, equalization structures, and in-stream works; 2. watershed/drainage area; 3. fish-bearing status; 4. design flow; 5. climate allowance; 6. icing risk; 7. permafrost/talik considerations; and 8. design status.

Proponent Response

See responses to KIA-IR17 (IR-87) for discussion on drainage changes and infrastructure and NRCan-IR 04 (IR-212) for further description of water crossing structures.

NIRB 181. (IR-659)

Subject

Hydrological Features and Hydrogeology

Issue / Concern

Reviewer Comments / Reasoning: The IS considers hydrology and water crossings, but technical review requires final design criteria, climate-change allowance, and contingency procedures for blocked or undersized crossings.

Missing Information / Gap: The assessment does not fully specify adaptive responses if culverts cause ponding, erosion, icing, fish-passage obstruction, or altered wetland hydrology.

Information Request

Provide crossing design criteria and contingency protocols including: 1. design storm/freshet events; 2. freeboard and capacity; 3. debris/ice management; 4. fish passage; 5. inspection schedule; 6. failure indicators; 7. emergency repair procedures; and 8. reporting requirements.

Proponent Response

See response to NRCan-IR 04 (IR-212) for further description of water crossing structures and design criteria. As the Grays Bay Road and Port Project Impact Statement (IS) is based on approximately 10% (conceptual) engineering design, the engineering design memos and drawing used to complete the IS are provided in Appendix C of the Addendum for reference.

NIRB 182. (IR-660)

Subject

Hydrological Features and Hydrogeology

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses water withdrawals, runoff, and drainage effects. The Water Management Plan and AEMP still require final monitoring locations, thresholds, and adaptive actions. Missing Information / Gap: Source-specific withdrawal limits, under-ice withdrawal constraints, and watershed monitoring thresholds are not fully defined for all potential water sources.

Information Request

Provide source-specific water management details including: 1. water source location; 2. expected daily/seasonal withdrawal; 3. EFN and under-ice volume calculations; 4. cumulative use assumptions; 5. monitoring locations; 6. shutdown thresholds; 7. alternate source contingency; and 8. reporting.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 183. (IR-661)

Subject

Hydrological Features and Hydrogeology

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies permafrost, talik, and icing considerations in several sections. It does not consistently provide crossing specific talik/icing risk and monitoring triggers.

Missing Information / Gap: Potential interactions among culvert placement, ponding, winter icing, taliks, frost bulb formation, and permafrost degradation are not fully evaluated for each high-risk crossing.

Information Request

Provide a crossing-specific permafrost/icing risk table identifying: 1. talik potential; 2. frost bulb and icing risk; 3. ponding/drainage risk; 4. monitoring indicators; 5. inspection timing; 6. design or maintenance controls; and 7. adaptive response thresholds.

Proponent Response

See response to NRCan-IR 04 (IR-212) for further description of water crossing structures and design criteria related to permafrost, icing, taliks and drainage risk. As the Grays Bay Road and Port Project Impact Statement (IS) is based on approximately 10% (conceptual) engineering design, the engineering design memos and drawing used to complete the IS are provided in Appendix C of the Addendum for reference.

NIRB 184. (IR-662)

Subject

Groundwater and Surface Water Quality

Issue / Concern

Reviewer Comments / Reasoning: The IS presents surface water and sediment baseline information. Groundwater baseline information appears more limited, reflecting permafrost and design-stage constraints.

Missing Information / Gap: Groundwater monitoring wells, hydraulic conductivity, detailed groundwater budget, potentiometric contours, and groundwater/surface water interactions are not fully presented for all infrastructure areas.

Information Request

Provide a groundwater and surface water baseline addendum including: 1. all drinking/recreational/ harvesting water sources; 2. baseline chemistry and detection limits; 3. seasonal summary statistics; 4. groundwater monitoring well inventory or rationale if none exist; 5. hydraulic conductivity and groundwater budget; 6. potentiometric maps where applicable; and 7. groundwater-surface water interaction assessment.

Proponent Response

WKR respectfully submits that the information requested in this IR regarding groundwater and surface water baseline are already provided in Volume 7, Appendix 19C (Freshwater and Sediment Quality Data Summary Report). Seasonal hydrology is presented in Volume 7, Section 19.2 (Tables 19.11 and 19.12) and Appendix 19A (Hydrology Baseline Report).

The response to ECCC-IR 06 (IR-166) covers the limitations of the surface water quality dataset, including seasonal coverage. That response states that "t*he dataset relies on historical samples collected primarily at a single point in time.*" It also states that the dataset "*will be supplemented through the pre-Construction and ongoing monitoring programs developed under the Aquatic Effects Management Plan (Volume 11, Appendix 37D) and confirmed through the NWB Type A Water Licence process.*"

Please see response to both KIA-IR48 (IR-118) and CIRNAC-IR4 (IR-159) for information regarding drinking water sources on the land and effects of altered drainage on drinking water locations.

No groundwater monitoring wells have been installed for the Project. Volume 7, Section 19.2.2.4 explains how permafrost shapes groundwater in the Project area.

The IS states that potential gaps in site-specific information "*are expected to be addressed through preconstruction data collection and refinement of Project design*".

NIRB 185. (IR-663)

Subject

Groundwater and Surface Water Quality

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies potential waterquality pathways and management measures, but source-pathway-receptor detail is not consolidated for fuel, chemicals, explosives, wastewater, quarry materials, road dust, incineration, and waste.

Missing Information / Gap: No complete COPC sourceterm map/table links each contaminant source to likely release pathways, receiving waters, groundwater/surface-water interactions, and monitoring.

Information Request

Provide a water-quality COPC source-pathway-receptor table and maps for: 1. fuel systems; 2. chemical storage; 3. explosives/nutrient sources; 4. wastewater; 5. waste facilities; 6. quarry/borrow and road dust; 7. incineration deposition; 8. spills along transportation routes; and 9. monitoring stations and response actions.

Proponent Response

See response to NIRB 244 (IR-722) for discussion on how COPC are discussed within the IS.
See response to information request CIRNAC-IR 03 (IR-158) for discussion on wastewater treatments, monitoring and management.

NIRB 186. (IR-664)

Subject

Groundwater and Surface Water Quality

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies these pathways, but many mitigation and monitoring details are in draft management plans and are not finalized.

Missing Information / Gap: The assessment relies on future plan completion for several key pathways, including dust-on snow/meltwater, blasting nutrients, wastewater, and spill monitoring.

Information Request

Provide pathway-specific water-quality monitoring and mitigation tables for under-ice withdrawals, wastewater, road dust/snowmelt, quarry runoff, blasting residues, erosion/sediment, spills, incineration deposition, and camps. Include monitoring locations, parameters, timing, thresholds, and corrective actions.

Proponent Response

A Water Management Plan will be developed as part of the Environmental Protection Plan. Water quality will also be managed based on the area where it occurs (e.g., Borrow Pit and Quarry Management Plan, Explosives Management Plan, Road Management Plan, Port Management Plan) or as a component of the Aquatics Effects Management Plan. These are described in Volume 11, Section 37 of the IS.

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The IS manages the effects of under-ice withdrawal by limiting how much water can be taken from ice-covered waterbodies. Under-ice withdrawals will follow the DFO Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut. The Nunavut Water Board will set withdrawal sources, volumes and monitoring requirements through water licence conditions. The IS also states that licence conditions "will consider authorized withdrawal and discharge points, maximum daily withdrawal volumes and maximum daily withdrawal rates based on system capacity," and that "Monitoring requirements are commonly included as a condition of the licenses to confirm compliance with limits" (Volume 7, Section 19.3.2.3).

NIRB 187. (IR-665)

Subject

Sediment Quality

Issue / Concern

Reviewer Comments / Reasoning: Freshwater and marine sediment quality data are presented, but sedimentation rates, dispersion patterns, and modelling rationale are not consistently developed for all affected waterbodies and marine areas.

Missing Information / Gap: The basis for where sediment modelling is or is not required is not clearly summarized for road crossings, quarry runoff areas, wastewater discharges, port construction, dredging/infill, and shipping-related disturbance.

Information Request

Provide a sediment baseline and modelling rationale addendum identifying: 1. sampled freshwater and marine sediment locations; 2. physical/chemical results; 3. sedimentation and dispersion information; 4. potential sediment source areas; 5. modelling completed or rationale for not modelling; and 6. monitoring locations and thresholds.

Proponent Response

1. Baseline sediment quality information has been collected for both freshwater and marine environments and is presented in Volume 7 (Freshwater Environment) and Volume 8 (Marine Environment) of the Impact Statement (IS). Freshwater sediment sampling was completed in August 2024 at stations PL-SQ-01, PL-SQ-02, and PL-SQ-03 at Potential Water Intake Lake 1 (PWI-1), supplemented by freshwater aquatic baseline investigations throughout the Burnside River, Hood River, James River, Kennarctic River, and Wentzel River watersheds. Marine sediment quality sampling was completed in August 2024 at 19 stations (SED01-SED20) distributed throughout the marine Project Development Area (PDA), Local Assessment Area (LAA), and Regional Assessment Area (RAA) in Grays Bay. Freshwater sediment and aquatic baseline sampling locations are described in Volume 7, Sections 19 and 20 and supporting freshwater baseline reports (Appendix 19A, Appendix 19C, and Appendix 20A). Marine sediment sampling locations are provided in Volume 8, Figure 21.4 and Appendix 21A (Marine Water and Sediment Quality Baseline Report).

2. Physical and chemical sediment quality results are provided in the freshwater and marine baseline reports as referenced above. Marine sediments in Grays Bay were predominantly fine-grained, with clay generally the dominant sediment fraction and silt and sand forming secondary components. However, locally coarser, sand-dominated sediments occurred near the Kennarctic River. Marine sediment chemistry identified elevated concentrations of arsenic, chromium, and copper relative to applicable sediment quality guidelines. Baseline sediment characteristics and chemistry were considered in assessing Project activities that could disturb, resuspend, or redistribute existing marine sediments and sediment-associated constituents.

3. Freshwater inputs, tides, wind, waves, and local circulation influence existing sediment transport and dispersion in Grays Bay. Freshwater discharge from the Kennarctic River contributes suspended sediment to Grays Bay and produces a lower-salinity surface layer whose distribution is influenced by wind and tide. The predominantly fine-grained nature of sediments across much of Grays Bay is also relevant to the potential for disturbed sediment to become suspended, transported, and subsequently deposited. Project-related activities that could contribute to sediment suspension or redistribution include dredging, blasting, infilling, marine infrastructure installation, landside runoff, and vessel activity. Vessel propeller wash and wake may also result in localized sediment resuspension, erosion, and scour.

   Separate preliminary modelling was completed to assess dilution and dispersion of the combined wastewater and desalination effluent. This modelling informs the assessment of effluent dispersion but is distinct from modelling of suspended sediment transport and deposition.

4. Potential sediment source areas associated with Project activities include road and stream crossing construction, quarry and borrow source development, earthworks and drainage infrastructure, port and harbour construction activities, dredging and infilling areas, wastewater discharge infrastructure, and vessel operations.

5. Project-specific sediment transport modelling was not completed for the IS. Potential sediment transport and deposition were assessed qualitatively using available information on sediment characteristics, freshwater inputs, tides, waves, circulation, and Project-specific sediment disturbance pathways. At the approximately 10% design stage, key inputs required to characterize construction-related sediment releases, including final dredging and infilling requirements, construction methods, material quantities, and detailed marine infrastructure design, had not been finalized. As Project design advances, the need for additional sediment transport assessment or modelling can be considered based on the finalized construction methods and regulatory and environmental management requirements.

   Separate preliminary modelling was completed for the combined wastewater and desalination discharge to characterize effluent dilution and dispersion in the marine receiving environment. A summary of the modelling results is provided in Section 21.3 of the IS.

6. Monitoring is anticipated to focus on areas adjacent to the marine environment and other locations where Project activities have the potential to generate and transport sediment to the marine environment. This may include active construction areas, watercourse crossings, borrow pits and quarries, dewatering discharge locations, and marine construction areas. Monitoring requirements, including monitoring locations, thresholds, and action levels, will be developed through the Aquatic Effects Management Plan, Environmental Protection Plan, Erosion and Sediment Control Plan, Water Management Plan, and Borrow Pit and Quarry Management Plan. Monitoring is expected to include inspections of erosion and sediment control measures, erosion and drainage conditions, discharge locations, and water quality and sediment quality monitoring at exposure and reference locations, as appropriate. Monitoring results will be evaluated against established action levels and thresholds to support adaptive management and implementation of additional mitigation where required.

NIRB 188. (IR-666)

Subject

Sediment Quality

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses sediment quality effects and relies on erosion/sediment controls and AEMP monitoring. Some final design components, especially crossings, drainage structures, and marine construction details, remain uncertain.

Missing Information / Gap: Sediment monitoring and corrective action thresholds are not fully defined for freshwater receiving areas and marine construction/operations areas.

Information Request

Provide a sediment effects and monitoring table by pathway and location, including road dust, runoff, crossings, wastewater discharge, quarry/borrow areas, port construction, dredging/infill if applicable, and shipping. Include thresholds, sampling frequency, methods, and adaptive responses.

Proponent Response

A sediment effects and monitoring plan is not being developed for the project. Monitoring of the mitigation measures will be completed as per the Erosion and Sediment Control Plan and the Aquatics Effects Management Plan. Additional management plans as described in Volume 11, Section 37 further describe how the road, port, borrow pits and quarries, and water will be managed.

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 189. (IR-667)

Subject

Freshwater Aquatic Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS provides freshwater fish and habitat baseline information. Some fish-bearing determinations and habitat functions may depend on field verification and final crossing design.

Missing Information / Gap: Technical review requires a clear table confirming fish bearing status, habitat function, and survey confidence for each affected watercourse/waterbody crossing.

Information Request

Provide a waterbody/crossing fish habitat inventory identifying: 1. fishbearing status; 2. survey method and date; 3. habitat type/function; 4. species and life stages; 5. spawning/rearing/overwintering potential; 6. IK/community information; 7. confidence rating; and 8. whether additional field verification is required.

Proponent Response

See response to KAA-69 (IR-69) regarding a complete inventory and mapping of water course crossings.

NIRB 190. (IR-668)

Subject

Freshwater Aquatic Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses freshwater fish and habitat effects. Several pathways depend on future management plans, final crossing design, final watersource selection, and offsetting/authorization decisions.

Missing Information / Gap: Effects conclusions rely on mitigation that is not fully specified in the AEMP and water/crossing design documents.

Information Request

Provide a freshwater fish effects pathway table linking each activity to fish, habitat, water quality, sediment, passage, and mortality risk. Include mitigation, timing windows, residual effects, monitoring, thresholds, and contingencies for ineffective mitigation.

Proponent Response

Pathways of effects relevant to fish and fish habitat are introduced in the Impact Statement (IS) in Volume 7, Section 20.1.3, particularly within Table 20.2, which describes applicable pathways and project effects. A single table is not produced for freshwater fish effects due to the volume of information required to fully characterize each pathway. Areas where information can be found related to pathways of effects is outlined below to facilitate review.

A detailed assessment of identified pathways of effects is provided in Volume 7, Section 20.3.2 (change in fish habitat) and Section 20.3.3 (change in fish health, growth or survival). These sections describe in detail the project effect pathways, which link project activities to effects on fish and fish habitat including water quality and sediment as they relate to fish health, and fish habitat (e.g., fish passage) considerations.

Volume 7 Section 20.3.2.3. and Section 20.3.3.3 list measures to be implemented to mitigate or avoid these effects. Timing windows are considered in these mitigation measures:

> *Conduct in-water construction activities outside of the restricted activity timing windows for the protection of fish and fish habitat (DFO 2013b), as follows, unless otherwise approved by DFO:*
>
> - *May 1 to July 15, for spring spawning in Nunavut watercourses and waterbodies with Arctic grayling and other spring spawners present (e.g., longnose suckers, slimy sculpin).*
> - *August 15 to June 30, for fall spawning in Nunavut watercourses and waterbodies with Arctic char, lake trout, whitefish, and other fall spawners present.*

Residual effects for the two identified pathways are detailed in Volume 7 Section 20.3.2.4 and Section 20.3.3.4. For the change in fish habitat pathway this includes a detailed description of residual effects for change in riparian habitat, habitat below the high water mark, fish passage and alteration of water quantity. For the change in fish health, growth or survival pathway this includes a detailed description of residual effects for change in water quality, death of fish, introduction of invasive species, and increased fishing pressure. A summary of project residual effects is provided following these detailed assessments in Volume 7, Section 20.3.4.

The Project includes several management plans (Volume 11) that are relevant to monitoring, including thresholds and adaptive management of freshwater fish habitat, including:

- Road Management Plan (Appendix 37A) provides the operational framework for road maintenance including watercourse crossings. This plan will include monitoring locations, inspection frequencies, maintenance triggers, and adaptive management responses.
- Environmental Protection Plan (Appendix 37H) and its Attachment H2 (Erosion and Sediment Control Plan) provide the operational framework for erosion and sediment control at watercourse crossings.
- Aquatic Effects Management Plan (AEMP) (Appendix 37D) provides the monitoring framework applicable to Project effects on freshwater fish and fish habitat and water resources, including watercourse crossings. Adaptive management is a key component of the AEMP with measures developed and refined on an ongoing basis throughout the life of the monitoring plan.

These management plans were submitted in draft form with the IS and will be refined through subsequent regulatory processes, and with continued engagement with Kitikmiut and other Indigenous groups as part of the adaptive management framework. Additionally, the Project will follow DFO *Fisheries Act* requirements (i.e., mitigation and monitoring requirements outlined in an authorization and/or avoid and mitigate letters), which are expected to include requirements for monitoring and adaptive management for freshwater fish habitats.

The next revision of these management plans will include detailed monitoring program designs, including monitoring endpoints and objectives, sampling design, methodology and analysis, action levels, and adaptive management triggers. As Project design and construction details are refined, pathways of effects will also be refined, including monitoring requirements related to those pathways of effects. The AEMP will be developed in detail through the regulatory processes that follow the NIRB Project Certificate, including the Nunavut Water Board (NWB) Water Licence process, the DFO *Fisheries Act* authorization process, the Kitikmeot Inuit Association (KIA) land use licence process, and *Canadian Environmental Protection Act* authorizations, where applicable.

NIRB 191. (IR-669)

Subject

Freshwater Aquatic Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies fish passage and water crossing considerations, but final crossing designs and drainage structures are not all finalized.

Missing Information / Gap: Fish-passage risk under extreme low/high flows, icing, debris blockage, and climate-change conditions is not fully documented for each crossing.

Information Request

Provide a fish-passage assessment for each water crossing including: 1. fishbearing status; 2. design flow and velocity; 3. low-flow and high-flow passage; 4. climate allowance; 5. icing/debris risk; 6. maintenance requirements; 7. monitoring methods; and 8. corrective actions.

Proponent Response

See response to KAA-69 (IR-69) regarding a complete inventory and mapping of water course crossings.

NIRB 192. (IR-670)

Subject

Freshwater Aquatic Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS addresses contaminants and management measures. The quantitative link between Project-generated contaminant loadings, fish health, country food consumption, and ecological risk is not fully transparent.

Missing Information / Gap: Freshwater contaminant risk is not consolidated with fish tissue monitoring, dust/snowmelt pathways, blasting residues, and human consumption of fish.

Information Request

Provide a freshwater ecological risk addendum identifying: 1. COPCs; 2. predicted exposure concentrations; 3. fish/invertebrate receptors; 4. toxicity benchmarks; 5. fish tissue monitoring; 6. country food relevance; 7. invasive species prevention measures; and 8. adaptive management triggers.

Proponent Response

The link between Project-generated contaminant loadings, fish health, country-food relevance, and ecological risk is documented in the Impact Statement (IS) across the Freshwater Fish and Fish Habitat assessment (Volume 7, Section 20), the Ecological Risk Assessment (ERA) component of the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26B), and the draft Aquatic Effects Management Plan (Volume 11, Appendix 37D). The following sections describe where this information can be found in the IS for each of the eight elements listed.

An ERA was completed as part of the Human Health and Ecological Risk Assessment Technical Data Report (Appendix 26A). The ERA applied a problem-formulation and exposure-pathway screening approach and reviewed Project-related emissions and considered how wildlife might be exposed to these emissions in the air, soil, water, and food. While some emissions are expected during Project construction and operation, these emissions are limited in magnitude and managed through standard controls and mitigation measures. Importantly, the assessment did not identify Project-related contaminants of potential concern (COPCs) to the air, soil, and water. As a result, there are no exposure pathways by which wildlife would come into contact with Project-related emissions at concentrations that would constitute an ecological risk. The assessment concludes that Project-related emissions are likely to result in a negligible ecological risk to terrestrial wildlife (e.g., caribou, birds, other terrestrial animals), aquatic wildlife (e.g., freshwater and marine fish, marine mammals, and other aquatic wildlife), and vegetation.

1. **Chemicals of Potential Concern (COPCs)**

   Potential COPCs were evaluated through the problem-formulation step of the ERA (Volume 9, Appendix 26A, Section 4.2.2, Identification of Chemicals of Potential Concern). The ERA's exposure-pathway screening concluded that "no COPCs were identified in the environmental media. As a result, this component of risk is absent for every exposure pathway considered, and none of the pathways meet the criteria to be an operable exposure pathway. Accordingly, every considered exposure pathway is inoperable for the purposes of the ERA" (Volume 9, Appendix 26A, Section 4.2.3, Table 4.4). Therefore, no Project-related COPCs were identified in surface water or sediment.

2. **Predicted exposure concentrations**

   The primary predicted change to water quality is from total suspended sediment, dustfall, release of nitrogen from blasting residues, and leachate from ML/ARD materials used for embankments and road bases, which are assessed in the Freshwater Fish and Fish Habitat VC (Volume 7, Section 20). Because the ERA identified no chemical COPCs in surface water or sediment, predicted chemical exposure concentrations for ecological receptors were not carried forward (Volume 9, Appendix 26A, Section 4.2.3).

3. **Fish and invertebrate receptors**

   Freshwater fish and invertebrate receptors are defined and assessed in the Freshwater Fish and Fish Habitat VC (Volume 7, Section 20) and include fish and fish habitat as defined by the *Fisheries Act* which includes aquatic vegetation and benthic invertebrates, as applicable to freshwater. In the ERA, ecological receptors are also identified at the problem-formulation stage (Volume 9, Appendix 26A, Section 4.2.1, Ecological Receptors); however, because no operable exposure pathways were identified, receptor-specific quantitative exposure evaluation was not required.

4. **Toxicity benchmarks**

   Thresholds for water quality parameters for freshwater fish and fish habitat within the assessment were applied from the CCME Water Quality Guidelines for the Protection of Freshwater Aquatic Life (Volume 7, Section 20.1.2 and Table 20.2). For chemical toxicity to ecological receptors, the ERA did not require toxicity reference values (TRV) as there were no complete exposure pathways for ecological receptors, TRVs for ecological receptors were not necessary (Volume 9, Appendix 26A, Section 5).

5. **Fish tissue monitoring**

The Aquatic Effects Management Plan (AEMP) (Appendix 37D) provides the monitoring framework applicable to freshwater fish and fish habitat and water resources. The study areas, sampling locations, study design, monitoring parameters, and endpoints will be developed in the final AEMP during the permitting phase of the Project (e.g., *Fisheries Act* authorization) through engagement and collaboration with regulatory agencies and interested parties (e.g., Kitikmiut and other Indigenous groups). Given the results of the Human Health Ecological Risk Assessment conclusions (Volume 9, Appendix 26A) and the Project includes infrastructure, not development of a mine, fish tissue monitoring is not proposed.

6. **Country-food relevance**

The country-food (fish consumption) pathway was evaluated in the Human Health Risk Assessment component and screened as inoperable on the same basis as the ERA. Uptake of contaminants into vegetation, fish, and terrestrial wildlife would require the presence of chemical pollutants in soil or water from Project activities. Based on the assessments in Sections 4.2.2 (Surface Water and Groundwater) and 4.2.3 (Soil Quality), the Project is not expected to contaminate soils or waterbodies and therefore, no source of chemical contamination is expected that could lead to accumulation of contaminants in country foods. The broader freshwater-fish harvesting and country-food context is provided in the Traditional Land, Marine, and Resource Use assessment (Volume 9, Section 24.3.3) and the Food Security and Food Sovereignty assessment (Volume 9, Section 25).

7. **Invasive species prevention measures**

Introduction of aquatic invasive species is identified and assessed as a project effect pathway under change in fish health, growth, or survival (Volume 7, Section 20.3.3.2). The potential introduction of aquatic invasive species and disease will be limited with the implementation of mitigation measures and BMPs, outlined in Section 20.3.3.3 and the Environmental Protection Plan (Appendix 37H) including the following:

- Only clean machinery, equipment, and vehicles will be used in water. Any equipment arriving at the site in a dirty condition will be cleaned and re-inspected prior to use. Cleaning equipment before use around watercourses will help to remove hydrocarbons, aquatic invasive species, and pathogens potentially present on the equipment.
- Watercourse crossings will be constructed in the winter to the extent possible, when many watercourses are likely to be dry or frozen to bottom, reducing the need for in-water works and the potential for introduction of invasive species.
- Regular inspection will be undertaken to identify noxious/invasive weed occurrences during construction and apply weed management through mowing to reduce introduction and spread of weeds in the right-of-way and surrounding natural vegetation.
- The Project will implement a Road Management Plan that will control access to the road through user agreements with organizations and individuals, which will limit potential introduction of aquatic invasive species by third-party users.

8. **Adaptive management triggers**

Adaptive management for the aquatic environment is established through the AEMP (Appendix 37D). The AEMP annual reporting will be used to evaluate the effectiveness of mitigation measures and indicate if revisions or additional mitigation measures are necessary based on monitoring results to address potential Project environmental effects. The next revision of the AEMP will include detailed monitoring program designs, including monitoring endpoints and objectives, sampling design, methodology and analysis, action levels, and adaptive management triggers. The AEMP will be developed in detail through the regulatory processes that follow the NIRB Project Certificate, including the Nunavut Water Board (NWB) Water Licence process, the DFO *Fisheries Act* authorization process, the Kitikmeot Inuit Association (KIA) land use licence process, and Canadian Environmental Protection Act authorizations, where applicable.

NIRB 193. (IR-671)

Subject

Vegetation

Issue / Concern

Reviewer Comments / Reasoning: The IS provides vegetation baseline and identifies vegetation SOCC, including rare plant concerns. Baseline contaminant information in plants consumed by wildlife/humans is not fully linked to future monitoring.

Missing Information / Gap: Vegetation contaminant baseline and country-food pathway monitoring are not sufficiently consolidated for lichen, berries, medicinal plants, and forage species.

Information Request

Provide a vegetation baseline addendum for species used by wildlife and people, including:
1. species/location; 2. baseline chemistry where available; 3. soil/vegetation association; 4. Inuit use;
5. sensitivity to dust/metals; 6. monitoring species; and 7. action thresholds.

Proponent Response

Vegetation contaminant baseline and country-food pathways are discussed in Volume 9, Appendix 26B Human Health and Ecological Risk Assessment. Construction and operation of the Project roadway does not involve ore processing, chemical processing, or routine effluent discharges that would introduce metals or other persistent contaminants to soil or vegetation. Accordingly, no Project-related vegetation contaminant pathway has been identified for lichen, berries, medicinal plants, forage species, or other vegetation consumed by wildlife or people. In the absence of a Project-related contaminant source, there are no contaminant-specific action thresholds upon which a vegetation contaminant monitoring program would be based.

The Vegetation VC (Volume 6, Chapter 15) considers a broader range of vegetation-related effects, including community and species diversity and wetland function, rather than serving as an inventory for plant species used as country foods. Vegetation species used by Inuit, together with fish, wildlife, and other resources harvested or used for traditional purposes, are described in the Traditional Land, Marine, and Resource Use VC (Chapter 5, Section 24). A separate vegetation contaminant baseline and country-food pathway monitoring addendum is therefore not warranted, as there are no identified contaminants that bioaccumulate or biomagnify in the food chain.

NIRB 194. (IR-672)

Subject

Vegetation

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses vegetation loss and alteration, but interactions with dust deposition, permafrost, drainage, wetlands, and invasive species management require more operational detail.

Missing Information / Gap: Monitoring and management thresholds for dust-related vegetation effects, invasive species, wetland change, and forage quality are not fully specified.

Information Request

Provide a vegetation monitoring plan including: 1. dustfall/metal monitoring near roads, quarries, and port; 2. vegetation condition plots; 3. wetland vegetation monitoring; 4. invasive species inspection and cleaning procedures; 5. forage quality monitoring; 6. thresholds; and 7. adaptive actions.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

Invasive species. All equipment arriving at the PDA must be cleaned and decontaminated before arrival to avoid introducing invasive species. Weed management will be applied as per the Environmental Protection Plan, including periodic inspection and removal as necessary (Volume 6, Section 15.3.3.3).

Dust. Section 15 anticipates indirect effects of dust deposition on vegetation up to 40 m from the PDA. The draft AQMMP proposes dustfall monitoring at 3 to 5 locations along the road corridor, including sensitive receptor areas (AQMMP Table 3.2).

Reclamation monitoring. The Progressive Reclamation Plan (Volume 11, Appendix 37F) proposes reclamation monitoring of vegetation community structure and diversity, wetland function, and the presence of non-native and invasive plant species. Reclamation criteria and thresholds are to be developed (PRP Section 3.2), within a tiered adaptive management framework (PRP Section 3.3).

NIRB 195. (IR-673)

Subject

Vegetation

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies effects on plant SOCC and indicates potential mitigation such as avoidance, surveys, transplanting or seed collection. The effectiveness and enforceability of these measures are not fully demonstrated.

Missing Information / Gap: For rare plants, including long-stalked draba, the assessment lacks detailed avoidance feasibility, transplant/seed collection protocols, success criteria, and contingency measures.

Information Request

Provide a rare plant mitigation plan including: 1. pre-construction survey design; 2. avoidance hierarchy; 3. micro-siting procedures; 4. seed collection/transplant protocols; 5. qualifications of botanists; 6. success criteria and monitoring duration; 7. contingency measures; and 8. revised significance if avoidance is not possible.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

Section 15.3.3.3 states that "To reduce the risk of project effects on SOCC, WKR will conduct a pre-construction site survey within the Project's footprint, to confirm select occurrences of rare plants. Where feasible, project design will avoid SOCC occurrences." Based on the pre-disturbance site surveys, additional mitigation "may include transplant or seed collection of observed rare or vulnerable plant species" (Volume 6, Section 15.3.3.3). The location and characteristics of SOCC occurrences are provided in Appendix 15A and Section 15.8.2, Table 15B.1.

Refer also to the response to NIRB 194 (IR-672).

NIRB 196. (IR-674)

Subject

Vegetation — significance determination logic for plant Species of Conservation Concern (long-stalked draba)

Issue / Concern

Reviewer Comments / Reasoning: The IS assigns a "not significant" residual-effect rating to plant SOCC including longstalked draba, but (a) occurrence within the PDA is not confirmed by field survey, and (b) the mitigation on which the rating appears to rely (avoidance, micro-siting, transplant/seed collection) is proposed but not committed. Per Guidelines s. 7.4.6, a significance determination must not rest on unverified baseline or uncommitted mitigation. This is the VEG-2 non-conformance. Existing NIRB-IRs #193 and #195 address the vegetation baseline addendum and a rare plant mitigation plan but do not test the significance determination logic itself. Following review of parties' IRs: ADNLC-IR-13 asks the equivalent question for caribou and specifies a clearer output — a table showing, for each mitigation measure relied upon, the significance rating BEFORE mitigation, how the measure was determined to change the effect, and how that change was weighted in the final determination. That format is adopted here for plant SOCC. See also BQCMB-IR-006 paras. 2-4.

Missing Information / Gap: The reasoning chain from residual effect to "not significant" is not traceable, and the ratings apparent dependence on uncommitted mitigation and unconfirmed occurrence is not disclosed.

Information Request

Provide the explicit significance-determination reasoning for each plant SOCC, showing: the residual effect before and after mitigation; whether the "not significant" rating depends on mitigation that is not yet committed; and how unconfirmed PDA occurrence was treated (precautionary presence assumption vs. confirmed absence by survey). If the rating depends on uncommitted mitigation, either formally commit to that mitigation or revise the significance rating accordingly. Present the result as a table with one row per mitigation measure relied upon, showing: (i) the residual-effect rating BEFORE that mitigation; (ii) the evidence that the measure changes the effect and by how much; (iii) whether the measure is a committed Project commitment or only proposed; and (iv) how the change was weighted in the final significance determination. Where the IS already contains this information, cross-reference the section for each row.

Proponent Response

This response sets out the significance-determination framework applied to plant Species of Conservation Concern (SOCC), addresses the three matters raised (treatment of PDA occurrence; residual effect before and after mitigation; and the dependence of the rating on mitigation status), and identifies the mitigation measures relied upon as they are documented in the filed Impact Statement (IS). The significance determination for potential effects on vegetation is made for the VC as a whole and is not made for each individual effect.

1. Table IR-674 (Addendum Appendix F) provides effects characterization results for each plant SOCC observed in the RAA both with and without mitigation. The assessment is based on observed plant SOCC occurrences and does not predict potential occurrences. Additional occurrences may be present in unsurveyed areas of the PDA, LAA, and RAA. Further survey within the PDA will be conducted during construction. A breakdown of effects characterization by mitigation technique (i.e., avoidance, transplant, seeding, or propagation) is not provided as project design is not sufficiently advanced to determine the preferred mitigation option for each project affected species. The preferred mitigation option will be based on project engineering flexibility, publicly available knowledge of species biology and ecology, and consequences of mitigation measures to other valued components, such as wildlife. Mitigation measures will be detailed in a project plant SOCC mitigation plan, where appropriate (i.e., plant SOCC are potentially lost from the LAA or RAA because of the Project), prior to construction.
2. Change in effects characterization is primarily to the duration of effect, going from short-term with mitigation to long-term without mitigation.. Plant SOCC mitigation measure success, including transplants, and seeding, is variable and few studies have evaluated the long-term success (Bellis et al., 2024; Godefroid et al., 2011, 2016; Maschinski et al., 2023). Pre-planting preparation (e.g., evaluation of needed conditions and helpful protection measures), adaptive management, and monitoring are identified in literature as measures to improve success (Godefroid et al. 2016; Maschinski et al., 2023). Successful mitigation will address the direct loss of plant SOCC from direct effects and reduce effects from indirect effects such as dust. Adaptive management will be applied, where required, to improve the success of plant SOCC mitigation, with an Inuit co-developed monitoring program.
3. The mitigation measures outlined in Volume 6, Section 15.3.3.3 of the IS represent a suite of possible mitigation options. As mentioned above, the preferred mitigation option will be based on project engineering flexibility, publicly available knowledge of species biology and ecology, and consequences of mitigation measures to other valued components, such as wildlife. In addition, Adaptive management will be applied, where required, to improve the success of plant SOCC mitigation, with an Inuit co-developed monitoring program.
4. Change in plant SOCC was not weighted for the determination of significance. A significant effect was concluded if a plant SOCC species was likely to be lost from the RAA because of project effects.

References

Bellis, J., O. Osazuwa-Peters, J. Maschinski, M. J. Keir, E. W. Parsons, T. N. Kaye, M. Kunz, et al. 2024. Identifying predictors of translocation success in rare plant species. Conservation Biology 38: e14190. doi: https://doi.org/10.1111/cobi.14190.

Godefroid, S., C. Piazza, G. Rossi, S. Buord, A. Stevens, R. Aguraiuja, C. Cowell, et al. 2011. How successful are plant species reintroductions? Biological Conservation 144: 672–682. doi: https://doi.org/10.1016/j.biocon.2010.10.003.

Godefroid, S., S. Le Pajolec, and F. Van Rossum. 2016. Pre-translocation considerations in rare plant reintroductions: implications for designing protocols. Plant Ecology 217: 169–182. https://research.ebsco.com/linkprocessor/plink?id=8187d835-8992-3f06-a11b-16bda6a944e5.

Maschinski, J., D. Coates, L. Monks, R. Dillon, S. Barrett, J. Possley, J. Lange, et al. 2023. Rare and Threatened Plant Conservation Translocations: Lessons Learned and Future Directions. Edited by S. Florentine, P. Gibson-Roy, K. W. Dixon and L. Broadhurst. Springer International Publishing. doi:10.1007/978-3-031-25412-3_8.

NIRB 197. (IR-675)

Subject

Vegetation

Issue / Concern

Reviewer Comments / Reasoning: Progressive reclamation is addressed, but permanent infrastructure means large areas will remain disturbed or inaccessible for reclamation. Reclamation objectives and success criteria require more detail for temporary construction areas, quarries, roadsides, and laydowns. Missing Information / Gap: The IS does not fully define vegetation end-points, success criteria, monitoring duration, seed/plant material sources, and long-term responsibilities.

Information Request

Provide progressive reclamation and revegetation details including: 1. disturbance types and areas; 2. soil salvage and storage; 3. revegetation methods; 4. seed/propagule sources; 5. invasive species controls; 6. success criteria; 7. monitoring schedule; and 8. contingency actions if revegetation fails.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The Progressive Reclamation Plan (Volume 11, Appendix 37F) sets out the following:

- **Reclamation objectives (PRP Section 2.2):** realigning landforms with the surrounding topography; replacing soil, where present, to maintain equivalent land capability; re-establishing native plant species and equivalent vegetation communities using active and natural revegetation techniques; and maintaining natural drainage patterns.
- **Reclamation approaches (PRP Section 3.1):** methods that address site-specific conditions, including soil salvage, stockpiling and replacement; erosion and sedimentation control; revegetation; and removal of temporary infrastructure.
- **Reclamation monitoring (PRP Section 3.2):** monitoring of vegetation, soil and permafrost, and landscape parameters, including non-native and invasive species. Reclamation criteria will be drawn from regulatory guidelines, site-specific baseline data, and Inuit, Indigenous, and Community Knowledge. Monitoring will continue until defined success criteria are met.
- **Adaptive management (PRP Section 3.3):** a tiered framework whose management actions may include contingency revegetation programs.

Refer also to the responses to NIRB 260 (IR-738) and NIRB 422 (IR-900) for additional details.

NIRB 198. (IR-676)

Subject

Terrestrial Wildlife and Wildlife Habitat

Issue / Concern

Reviewer Comments / Reasoning: The IS provides extensive wildlife baseline, especially for caribou and birds. Some information is inherently uncertain due to changing caribou ranges, cyclic populations, collar availability, and regional cumulative pressures.

Missing Information / Gap: Baseline uncertainty for caribou range shifts, migration timing, population status, collardata coverage, predator-prey dynamics, and harvesting pressure is not fully converted into precautionary thresholds.

Information Request

Provide a wildlife baseline uncertainty table identifying: 1. dataset/source; 2. temporal/spatial coverage; 3. limitations; 4. affected prediction; 5. confidence; 6. monitoring needed; and 7. precautionary mitigation triggered by uncertainty.

Proponent Response

WKR agrees with the NIRB that a wildlife baseline uncertainty table has value to support this IR. Table IR-676.1 summarizes wildlife baseline uncertainty.

Table IR-676.1 Wildlife Baseline Uncertainty

Data Source	Spatiotemporal Coverage	Limitations	Affected Prediction	Confidence	Monitoring Needed	Mitigation Triggered
Population Status	Bathurst Caribou Herd (BCH): 1970s onwards for population size estimate and composition. Dolphin and Union Herd (DUH): Late 1990s onwards for population size estimates. Observations by Inuit and Indigenous communities have occurred far longer for both herds.	Herd size estimates rely on calving ground based aerial surveys (or photos). Composition estimates rely on fall/spring aerial survey estimates.	None.	Moderate to high confidence in government-reported trends in the BCH and DUH.	None.	None.

Data Source	Spatiotemporal Coverage	Limitations	Affected Prediction	Confidence	Monitoring Needed	Mitigation Triggered
Caribou Collar Data; BCH Seasonal Ranges (GNWT-ECC)	BCH (1996 to 2024; BCH Range Assessment Area 1 [BCH-RAA1]) DUH (1987 to 2024; DUY Regional Assessment Area [DUH-RAA]	Collared animals encompass a small proportion of each herd (~1%/year).	Change in Habitat (selected seasonal habitat); Change in Movement (local movements and broad scale migration)	Moderate to high confidence given the broad spatial and temporal (decadal) coverage; not relying on a single year of data. See Volume 6, Section 16.8.2 for further details. BCH seasonal ranges were developed by GNWT-ECC using decades of collar data. DUH mainland range covers a vast extent beyond core use; see Volume 6, Section 16.1.4.1 (document page 16-18).	The WMMP (Volume 11, Appendix 37B) proposes other methods (e.g., remote cameras, active monitoring) to supplement collar observations. Though unlikely, any shifts in range use or migration timing will be captured by ongoing monitoring.	"Regional monitoring from continuous review of GPS collar data (see Section 8.2.1.2), and local-scale monitoring along the Project Road by dedicated Environmental Monitors (see Section 8.3.1), will provide early warning systems as part of the caribou trigger action response plan (TARP)." (Volume 11, Appendix 37B, Section 8.8.3, document page 28) Adaptive management approach will allow modifications to mitigations if range use and migration timing are altered.

Data Source	Spatiotemporal Coverage	Limitations	Affected Prediction	Confidence	Monitoring Needed	Mitigation Triggered
Spatial Environmental Variables for Resource Selection Functions	See Appendix A (Section A.1.4) of Volume 6, Appendix 16A for details on all variables.	Remote-sensing based products. Coarse resolution (30x30m).	Change in Habitat	Moderate to high confidence; model validation procedures demonstrated strong predictive capabilities (see Volume 6, Section 16.8.3.1).	None.	None.
Direct and Indirect Landscape Disturbances	BCH-RAA1 and DUH-RAA; see Volume 4, Section 9, Appendix 9A for a detailed list of all past/present, reasonably foreseeable, and reasonably foreseeable induced physical activities.	Future physical activities are assumed.	Change in Range Disturbance; Change in Habitat	Low to moderate confidence for future conditions (see Volume 6, Section 16.8.6), but not past/present conditions.	None.	As stated in the assessment: “Some regional-level coordination among the Project and RFI physical activities is expected during key time periods, such as BCH spring migration, calving, and post-calving” (Volume 6, Section 16.5.4.2, document page 16-138)

Data Source	Spatiotemporal Coverage	Limitations	Affected Prediction	Confidence	Monitoring Needed	Mitigation Triggered
Harvest Pressure: Documented and Total Allowable Harvest (TAH) Rates	See Volume 6, Section 16.2.2.3 for further details. Present rates, not historic rates are relevant for the assessment.	Estimated resident harvest rates (where relevant) rely on a tag system; Inuit and Indigenous harvest rely on self reporting. Regardless, TAHs are set for both herds.	Change in Mortality	Moderate to high confidence that TAHs are being enforced and met.	None.	As stated in the assessment: "Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and an Inuit Wildlife Organization (HTA), and these permits are expected to align with the current tagging system and TAH" (Volume 6, Section 16.4.4.4, document page 16-113).
Predator–Prey Dynamics	BCH-RAA1 and DUH-RAA	Qualitative knowledge on herd predators and predation risk. No baseline mortality rates from predation.	Change in Mortality	Low to moderate confidence in predation risk and rates.	Remote cameras and active monitoring can help fill knowledge gaps of predator occurrence.	None. The proposed mitigation measures are expected to prevent any opportunities for facilitated predation. Refer to the response to Information Request IR-289 (GN-IR-09) for further details.

NIRB 199. (IR-677)

Subject

Terrestrial Wildlife and Wildlife Habitat

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses caribou effects and provides mitigation concepts including road management and a TARP. The operational details of caribou protection measures are central to the not-significant conclusion and require further specificity.

Missing Information / Gap: The caribou TARP and access controls are not yet sufficiently detailed for enforceability, decision authority, data sources, thresholds, closure/reopening criteria, and monitoring/reporting.

Information Request

Provide the complete caribou TARP and road access protocol including: 1. herd-specific triggers; 2. collar-data and observation procedures; 3. closure, speed, convoy, blasting, aircraft, and work restrictions; 4. decision authority; 5. reopening criteria; 6. community/regulator notification; 7. illegal harvest monitoring; and 8. annual reporting.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The Wildlife Mitigation and Monitoring Plan (WMMP; Volume 11, Appendix 37B) provides the following for caribou:

- **Herd-specific sensitive periods and triggers.** Sensitive time periods are defined for the Bathurst and Dolphin and Union herds (Table 6.1).
    - A site alert is triggered when a group of at least 25 caribou is identified within sight of the Project (Section 6.3).
    - A temporary shutdown may be required when caribou are calving on or near the road or other infrastructure. It may also be required when at least 10 caribou cows with calves are moving onto or toward the road or other infrastructure during the summer season (Section 6.4).
- **Collar data and observation.** WKR will form data-sharing agreements with the GN and GNWT for caribou collar data (Section 8.2.1.2). Environmental Monitors will conduct daily active monitoring during herd sensitive periods and weekly monitoring at other times (Section 8.3.3).

- **Restrictions (Table 7.1)**:
  - speed limits
  - wildlife right-of-way, with a 30 km/h limit and a 20-minute stop when wildlife show intent to cross
  - Mobile Caribou Conservation Measures that inform adaptive road closures
  - suspension of road construction and quarry blasting when caribou groups are present
  - a minimum aircraft cruising altitude of 610 m
- **Decision authority and reopening criteria.** A temporary shutdown can be initiated by the Site Manager (Section 6.4). Road closures are lifted once road monitoring, supported by collar data, shows that cows and calves or groups of caribou have moved out of the road area (Table 7.1).
- **Illegal harvest.** Project-related mortality events will be investigated. If an investigation identifies an unforeseen circumstance that may increase mortality risk (e.g., illegal harvesting or poaching), adaptive management is triggered in consultation with the Kitikmeot Inuit Association, the GN and the GNWT (Section 8.2.2).
- **Notification and annual reporting.** An Annual Report will be distributed to governing bodies, Inuit and other Indigenous governments and organizations, and potentially affected communities (Section 10.3).

Access to the Grays Bay Road will be controlled through security gates operated by WKR staff, with sign-in and logging of all vehicles (Road Management Plan, Section 5.1.1). KIA/HTO permits authorize access to Project infrastructure for harvesting purposes only; harvesting itself remains governed by existing Nunavut Hunting Regulations. Specific caribou-related triggers will be included in the Final WMMP, determined in consultation with the Kitikmeot Inuit Association, the GN and the GNWT (WMMP Section 8.3.3).

NIRB 200. (IR-678)

Subject

Terrestrial Wildlife and Wildlife Habitat

Issue / Concern

Reviewer Comments / Reasoning: The IS recognizes improved access and proposes controlled road access, but the governance of harvesting access and enforcement is not fully defined.

Missing Information / Gap: Roles, authority, funding, monitoring, denial/appeal processes, and coordination with KIA, HTOs, GN, and enforcement bodies are not fully specified.

Information Request

Provide an access and harvest management framework identifying: 1. who can access the road; 2. harvesting approval process; 3. role of KIA/HTOs/GN/WKR; 4. enforcement authority and funding; 5. monitoring of traffic and harvest pressure; 6. response to illegal harvest or meat wastage; and 7. protection of Inuit rights and emergency access.

Proponent Response

Access to the Grays Bay Road is managed through the Road Management Plan (Volume 11, Appendix 37A). Harvest-related effects on caribou and on traditional land, marine, and resource use (TLMRU) are assessed in Volume 6, Section 16 and Volume 9, Section 24. Each sub-part is addressed below.

1. **Who can access the road**

   Grays Bay Road is a controlled-access road. Access is managed through agreements with user groups and through security gates operated by WKR staff at Grays Bay Port and Jericho Station. Users sign in and make radio check-ins at the gates. WKR keeps logs of every vehicle entering and leaving, and unauthorized use may be reported to local authorities (Volume 11, Appendix 37A, Section 5.1.1). User groups have the following access:

   - Mining users: tolled access under agreements with WKR.
   - Security and other public government users: access under agreements with the relevant department or agency.
   - Community users: free access for travel and transportation, if they agree to follow safe operating procedures.

   Before using the road, all commercial users and Community Users must sign an Access and/or Code of Conduct Agreement. The agreement sets out the road rules, including wildlife protection measures (Volume 11, Appendix 37A, Section 6).

2. **Harvesting approval process**

   Anyone seeking to use the road for harvesting needs a permit issued jointly by the Kitikmeot Inuit Association and the Hunters and Trappers Association. WKR will check that permits and licences are in place before allowing road access for harvesting. The application and permit process will be set up through discussions with those organizations (Volume 11, Appendix 37A, Section 5.1.1).

3. **Roles of KIA, HTOs, GN, and WKR**

   WKR: holds overall responsibility and accountability for carrying out the Road Management Plan, including making sure adequate financial, human, and logistical resources are allocated. WKR also leads engagement with Inuit and Indigenous Peoples and consultation with regulatory agencies on the plan (Volume 11, Appendix 37A, Section 7.1).

   Kitikmeot Inuit Association and Hunters and Trappers Association: issue harvesting permits jointly (Volume 11, Appendix 37A, Section 5.1.1).

   Government of Nunavut: its responsibilities during emergencies will be defined in the Risk Management and Emergency Response Plan (Volume 11, Appendix 37A, Section 5.1.3).

4. **Enforcement authority and funding**

   WKR controls access at the security gates and will report unauthorized use to local authorities (Volume 11, Appendix 37A, Section 5.1.1). WKR is responsible for making sure adequate resources are allocated to carry out the Road Management Plan (Volume 11, Appendix 37A, Section 7.1). Enforcement of wildlife harvesting regulations stays with the responsible authorities.

5. **Monitoring of traffic and harvest pressure**

   Traffic: gate logs record every vehicle entering and leaving the road (Volume 11, Appendix 37A, Section 5.1.1).

   Wildlife reporting: caribou and muskox sightings, wildlife carcasses on or near the road, and wildlife incidents are reported to WKR's environment department. They will also be documented in the Wildlife Mitigation and Monitoring Plan (WMMP) annual report (Volume 11, Appendix 37A, Section 6).

   Assessment and monitoring: the effects of increased access on mortality risk are assessed in Volume 6, Sections 16.4.4 and 16.5.5. Follow-up and monitoring are described in Section 16.9 and in the WMMP (Volume 11, Appendix 37B).

6. **Response to illegal harvest or meat wastage**

The Access and/or Code of Conduct Agreement requires Community Users not to harvest without permission (Volume 11, Appendix 37A). Unauthorized use may lead to security alerts and reports to local authorities (Section 5.1.1). Project personnel may not hunt wildlife while working on the Project (Section 6). The Road Management Plan will be reviewed every year and updated through adaptive management, drawing on WMMP results (Section 7.2).

7. **Protection of Inuit rights and emergency access**

Inuit harvesting rights are established under the Nunavut Agreement; the Project's access framework neither grants nor restricts those rights.. Effects on access to harvesting areas, and the related mitigation, are assessed in Volume 9, Section 24.3.5 and Table 24.15. Effects on cultural practices, laws, and governance systems are assessed in Section 24.3.6. For emergencies, WKR will provide emergency response capability on the road, including medical facilities at Grays Bay Port and Jericho Station. Third-party users, including local communities, may use Project facilities to support their own emergency response (Volume 11, Appendix 37A, Section 5.1.3).

NIRB 201. (IR-679)

Subject

Terrestrial Wildlife and Wildlife Habitat

Issue / Concern

Reviewer Comments / Reasoning: The IS addresses wildlife movement and predation pathways. However, predator mobility along the road corridor and packed snow/linear access effects require clearer monitoring and adaptive management triggers.

Missing Information / Gap: The assessment does not fully define how predator use of roads, snowbanks, quarries, camps, or waste areas will be monitored and mitigated in relation to caribou vulnerability.

Information Request

Provide a predator-prey monitoring plan including: 1. road and snow compaction monitoring; 2. predator track/camera surveys; 3. waste/attractant controls; 4. caribou proximity triggers; 5. road-closure or snow-management measures; 6. thresholds for increased predator activity; and 7. reporting to wildlife co-management bodies.

Proponent Response

Please refer to the response to Information Request IR-019 (KIA-IR39) for a discussion on the current "early design stage" of the Wildlife Mitigation and Monitoring Plan (WMMP, Volume 11, Appendix 37B). WKR commits to developing detailed methods for monitoring the Project road and snow compaction, predator occurrence (e.g., remote cameras and active monitoring), caribou proximity and predator activity thresholds/triggers, road closure and snow-management measures, waste/attractant controls and compliance, and reporting protocols through consultation with co-management parties.

Please also refer to the response to Information Request IR-289 (GN-IR-09) for further details regarding ambush-style predation of caribou and the mitigations proposed to minimize that risk. However, facilitated predation through predator use of the road corridor is not a risk to caribou, as stated in the Impact Statement:

> "*The Project is unlikely to facilitate predator hunting efficiency as seen in southern ecosystems (Dickie et al. 2017, 2020). Linear features in Arctic tundra do not confer the same level of predator risk to caribou. The Project occurs in an open landscape (i.e., movements are unobstructed by trees), and snow compaction on roads is unlikely to provide greater benefit to predators than the hardened snow present across the landscape. Predators like wolves tend to avoid linear features with substantial human use (Muhly et al. 2011; Muhly 2010), instead preferring those with low human activity (Ehlers et al. 2014). Traffic on the Project Road is likely low and may not deter predators entirely, but use of the road would be very limited in an open landscape. If roads alter caribou movements sufficiently to aggregate individuals near roads, predators may take advantage of the opportunity to depredate them*" (Volume 6, Section 16.4.4.2, document page 16-109).

NIRB 202. (IR-680)

Subjest

Caribou — Dolphin and Union (DU) herd population projection not run/reported for the Endangered herd (not covered by any other party following review of parties' IRs)

Issue / Concern

Reviewer Comments / Reasoning: Following review of parties comments, it is noted that BQCMB-IR-006 para. 6 asks whether the behavioural/energetic assumptions were validated for the Bathurst, Beverly/Ahiak or DU herds or transferred from other herds (covers the Central Arctic Herd calf-survival transfer); BQCMB-IR-006 paras. 2-3 ask why predicted population change, demographic risk and calf survival did not inform the "not significant" determination; KAA-24 and KAA-27 cover parameter uncertainty and model validation history. What remains uncovered by any party is a request that the DU population sub-model actually be RUN and REPORTED for the Endangered herd. GoC-IR 02 addresses herd selection and spatial scope, not the population model.

Missing Information / Gap: No party IR requires the DU herd population/demographic projection to be produced and reported under Project and cumulative scenarios. Parties ask how the model results were used, weighted and validated — not for the DU projection itself.

Information Request

Provide the Dolphin and Union herd population/demographic projection outputs from the Caribou Herd Vulnerability Model (Appendix 16B) under (a) baseline, (b) Project-only, and (c) cumulative scenarios including the Slave Geological Province Road/Corridor scenario, reported at the same level of detail as presented for the Bathurst herd. State explicitly whether the population sub-model was run for the DU herd and, if it was not, provide the rationale. Re-state the significance determination for the DU herd (COSEWIC Endangered) in light of those outputs. Cross-reference BQCMBIR-006 paras. 2, 3 and 6 rather than duplicating them.

Proponent Response

Clarifying Purpose of the Caribou Herd Vulnerability Model

The purpose of the Caribou Cumulative Effects (CCE) model—referred to as the Caribou Herd Vulnerability Model (CHVM) in Volume 6, Section 16—is to identify the main drivers of change of caribou herds (e.g., climate, development-related disturbance), particularly the Bathurst Caribou Herd (BCH), in order to make inferences about potential Project-related and cumulative effects, and to identify the potential effectiveness of mitigations in reducing those effects. The intent of the CHVM is not to quantify and predict the exact outcomes of every possibility or scenario.

As an extension to this argument, please refer to the response to IR-402 (NTI-5) for a discussion of how the CHVM drastically overestimates exposure, changes to body condition, and population vital rates in all the scenarios assessed in Volume 6, Appendix 16B. The more accurate exposure levels calculated in the caribou assessment (Volume 6, Section 16), though still overestimates, are considerably lower and are unlikely to result in levels that would result in population changes that would be deemed significant, as per the definition used in the assessment.

Dolphin and Union Caribou Herd Modelling Outcomes

The Impact Statement (IS) explicitly states that "*The relative effects of NU-based human development on the DUH's hypothetical herd dynamics are negligible (see Appendix 16B), resulting in no expected changes to body condition or herd vital rates*" (Volume 6, Section 16.6.3.2, document page 16-155). This statement directly links to the conclusion made in Caribou Herd Vulnerability Model report: "*For the Dolphin and Union herd, the simulated effects of GBRP were minimal. The observed reductions in body weight—56 grams for cows and 308 grams for calves—resulted in negligible changes to pregnancy and calf survival. As a result, population modeling was not conducted for the Dolphin and Union herd under the parameters of this study*" (Volume 6, Appendix 16B, document page 3).

Overall, residual Project effects and residual cumulative effects on the Dolphin and Union Caribou Herd (DUH) are determined to be not significant.

NIRB 203. (IR-681)

Subject

Predator-prey effects of linear infrastructure and snow compaction

Issue / Concern

Reviewer Comments / Reasoning: Arising from KHTO-IR-006. The IS does not assess how the road as a linear feature, and associated snow compaction, may increase predator mobility and predation pressure on caribou during sensitive periods. Overlaps YKDFN and NIRB wildlife IRs.

Missing Information / Gap: No assessment of altered predator-prey dynamics attributable to linear infrastructure and snow compaction along the corridor.

Information Request

Provide an assessment of the potential for the road corridor and associated snow compaction (including snow banks, plough windrows and compacted travel surfaces) to facilitate predator movement and access, and the resulting change in predation pressure on caribou during calving, post-calving and winter periods. Include the evidentiary basis, any zone of influence applied, and the consequences for the herd-level effects conclusions.

Proponent Response

The Impact Statement acknowledges that ambush-style predation is a possibility: "*The Project may also facilitate indirect caribou mortality … through predator ambush (e.g., using road banks as cover to depredate caribou)*" (Volume 6, Section 16.1.3.4, page 16-15). The risk of ambush-style predation is reduced by designing the road using a low profile over the landscape where possible, such that when approaching and crossing the road caribou are likely to have greater visibility over top of the road with fewer concealed areas for wolves. Please refer to NIRB 201 (IR-679) for further details. For these reasons, predator use of the Project road corridor is not likely to have herd-level effects on mainland and island caribou.

NIRB 204. (IR-682)

Subject

Effects of enabled mine and mine-site infrastructure on caribou

Issue / Concern

Reviewer Comments / Reasoning: Arising from KHTO-IR-008. The Project is premised on enabling mineral development, but the IS does not assess mine and mine-site infrastructure effects on caribou.

Missing Information / Gap: Mine and mine-site activities enabled by the Project are not assessed for caribou habitat loss, sensory disturbance or access effects.

Information Request

Provide an assessment of the potential effects on caribou of the mine and associated mine infrastructure that the Project is intended to enable, during construction and operation, addressing habitat loss and alteration, noise, dust, vibration and increased access. Where such developments are excluded from the Project Inclusion List, provide the rationale for exclusion against the reasonably-foreseeable test.

Proponent Response

Volume 6, Section 16.5 considers potential effects on caribou associated with induced mines, including potential effects from habitat direct habitat loss (i.e., mine-related surface disturbance), indirect habitat loss (i.e., sensory disturbance from noise, dust, and vibration), and the potential for increased access. As noted in Section 16.5.1:

> "*RFI physical activities are conditional on advancing only if the Project is first approved and then operational (see Volume 4, Section 9, Appendix 9A). RFI physical activities that may interact with Project residual effects include mines and access roads. The Project may induce three mines: High Lake Mine (size = 0.8 km²), Izok Lake Mine (size = 2.9 km²), and Hacket River Project (assumed size = 2.9 km²). Induced access roads, assumed to be 28 m wide, include the Izok Lake Access Road (length = 101 km), Hacket and Back River Access Road (length = 260.5 km), and Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border (length = 68.6 km).*" (Volume 6, Section 16.5.1, page 16-125)

Table 16.8 (Volume 6, Section 16.2.2.6) and Table 16.17 (Volume 6, Section 16.5.1.1) outline the footprint sizes (surface disturbance) and indirect buffer sizes (sensory disturbance extent) used in the caribou assessment for present and reasonably foreseeable induced (RFI) mines, respectively. A detailed discussion of the effects pathways is provided in Section 16.4.2.2 for direct and indirect habitat loss and Section 16.4.4.2 for indirect mortality risk (i.e., access-related hunting).

NIRB 205. (IR-683)

Subject

Birds and Bird Habitat

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses birds and bird habitat. The connection between terrestrial bird habitats, marine/coastal bird areas, shipping routes, and spill vulnerability requires clearer consolidation.

Missing Information / Gap: Key migratory bird sites and spill-sensitive coastal/marine bird areas along shipping routes are not summarized in one risk map tied to marine spill scenarios.

Information Request

Provide a bird habitat and spill vulnerability map set showing: 1. breeding/nesting/staging areas; 2. raptor nests and buffers; 3. marine/coastal bird concentration areas; 4. key migratory bird sites; 5. shipping routes and anchorages; 6. spill trajectory/sensitive shoreline areas where available; and 7. seasonal sensitivity.

Proponent Response

WKR respectfully submits that baseline conditions for birds, including habitat suitability mapping, is provided in the Birds Baseline Report (Volume 6, Appendix 17A). As described in Accidents and Malfunctions (Volume 10, Section 34), the Project does not anticipate a spill that would affect the environment outside of the PDA boundaries. Numerous management plans including, but not limited to, Risk Management and Emergency Response Plan, Spill Contingency Plan, Fuel Management Plan, and Waste Management Plan will be developed to help reduce the risk and mitigate the effects of Project-related accidents or malfunctions. The scope of this assessment does not include third-party accidents and malfunctions during the construction and operations and maintenance of the Project, nor construction and operations and maintenance of potential future third-party components. For this reason, WKR has not consolidated this information into a separate bird habitat and spill vulnerability map. Please refer to NIRB 4 (IR-482) for the current state of the management plans and WKR's commitments to future updates.

NIRB 206. (IR-684)

Subject

Birds and Bird Habitat

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses direct and indirect effects on birds. Flight impacts, lighting, aircraft routes, low-level flights, and energy-balance consequences for sensitive species require more operational detail.

Missing Information / Gap: Operational flight zones, low-level flight restrictions, lighting controls, and monitoring of collision/attraction effects are not fully specified.

Information Request

Provide a bird disturbance and collision management plan including: 1. flight routes and altitude restrictions; 2. low-level flight avoidance during nesting/moulting; 3. lighting specifications; 4. collision/strike monitoring; 5. nest survey and buffer procedures; 6. shutdown or activity modification triggers; and 7. reporting.

Proponent Response

The Wildlife Mitigation and Monitoring Plan (WMMP) (Volume 11, Appendix 37B of the Impact Statement) includes various measures to reduce direct and indirect effects on birds and, in particular, addresses the following numbered items identified in the Information Request:

1. Flight routes and altitude restrictions: Flights will primarily travel from Yellowknife to the aerodrome, with other flights transporting workforce from Inuit communities (e.g., Kugluktuk, Cambridge Bay). All aircraft will adhere to altitude restrictions identified in the WMMP (see Table 7.1 of the WMMP).

2. Low-level flight avoidance during nesting/moulting: Low-level flights during the nesting/moulting seasons will only occur under the following circumstances: i) during take-off or landing at the airstrip; ii) for safety reasons due to inclement weather or when operationally required (see Table 7.1). Additionally, permitted activities may involve low-level flying.

3. Transport Canada regulates lighting specifications (IR item 3) and collisions/strike monitoring (IR item 4) at aerodromes. WKR will adhere to Transport Canada's requirements for these components during the aerodrome's final design and use. Further details will be provided in the Port Management Plan (Volume 11, Appendix 37I, Section 7.12) following completion of the aerodrome final design.

4. Regarding nest survey and buffer procedures (IR item 5), the wildlife sweep protocols will follow guidelines used at other sites in Nunavut. The WMMP provides setback distances for identified wildlife features (Volume 11, Appendix 37B, Section 7.2, Pages 18-19).

5. Shutdown or activity monitoring triggers: Human activity management in relation to wildlife (see Section 6 of the WMMP) outlines requirements pertaining to migratory birds and discovery of incidental nests.

6. Reporting: Reporting will occur annually and will summarize the monitoring results from the previous year (Section 10.3 of the WMMP).

For these reasons, WKR has not created a separate bird disturbance and collision management plan. Please refer to NIRB 4 (IR-482) for the current state of the management plans and WKR's commitments to future updates

NIRB 207. (IR-685)

Subject

Birds and Bird Habitat

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies waste and attractant controls. Detailed performance requirements are needed because predator/scavenger attraction could indirectly affect migratory birds and nesting success.

Missing Information / Gap: The assessment lacks specific thresholds for raven/gull/fox/bear attraction, nesting on structures, and corrective action if attractant issues occur.

Information Request

Provide bird/predator attractant control procedures including: 1. waste handling standards; 2. inspection frequency; 3. thresholds for predator/scavenger activity; 4. nest prevention/removal procedures consistent with permits; 5. facility design measures; and 6. incident reporting.

Proponent Response

The Waste Management Plan (refer to Volume 11, Appendix 37H, Attachment H7 of the Impact Statement) will be updated to include waste handling standards (IR item 1) and specify inspection frequency (IR item 2). If predators or scavengers are identified to be accessing waste sites and facilities (IR item 3), personnel will notify the Environmental Manager and Site Manager of wildlife occurrence and will be addressed immediately. Nest prevention/removal procedures (IR item 4) will be addressed during permitting with the Government of Nunavut and Environment and Climate Change Canada. During facility design, WKR will consult with wildlife experts regarding design measures to prevent or reduce wildlife use and/or Project-related effects (IR item 5).

The Wildlife Mitigation and Monitoring Plan (WMMP) includes some design measures for the Project footprint design and lighting (see Volume 11, Appendix 37B, Table 7.1, pages 15-17). For incident reporting (IR item 6), WKR will adhere to incident reporting requirements identified in project approvals and/or permits. The GN Department of Environment, Wildlife Operations will be engaged on any problem wildlife concerns to develop corrective action strategies.

NIRB 208. (IR-686)

Subject

Birds and Bird Habitat

Issue / Concern

Reviewer Comments / Reasoning: The IS considers shipping, cumulative effects, and accidents/malfunctions. Third-party and future vessel traffic assumptions and marine-bird mitigation/monitoring remain important uncertainties.

Missing Information / Gap: Marine bird monitoring, spill response priorities, vessel disturbance thresholds, and cumulative vessel-traffic triggers are not fully defined.

Information Request

Provide a marine bird monitoring and mitigation program including: 1. vessel traffic scenarios; 2. marine bird survey methods; 3. spill-sensitive bird areas; 4. vessel disturbance mitigation; 5. collision/stranding reporting; 6. cumulative traffic thresholds; and 7. integration with Port and Spill Response Plans.

Proponent Response

Marine bird monitoring by a third party and future vessel traffic will be the responsibility of the third-party Proponent proposing vessel use at the Port, should marine bird monitoring be necessary as a follow-up monitoring program. This application focuses on developing the Port facility that will be available for future third-party use and their associated application.

The Port will have a Spill Contingency Plan (see Appendix 37H, Attachment H5) that outlines spill response and management; spill investigation, documentation and reporting; spill management and mitigation; and training. The Spill Contingency Plan will be implemented for all marine vessels that use the Port.

For cumulative effects traffic thresholds associated with Change in Mortality Risk, the cumulative effects assessment identifies the increase in vessel traffic (Volume 6, Section 17.5.3.1, Page 17-60). The cumulative effects (Volume 6, Section 17.5.3.3, Page 17-61) states the following: "*Due to the low density of birds in the RAA (see Appendix 17A for details), mortality events will likely be sporadic and affect only a limited number of individuals. The overall effects will not reach a level anticipated to put bird populations at risk; therefore, the cumulative residual effects are predicted to be low in magnitude*." Based on this understanding of bird occurrence at the proposed Port site, this Project does not require vessel disturbance thresholds. Wildlife mortality events caused by collisions are addressed in the WMMP (see Volume 11, Section 8.2.2.3, Page 25). While the term "vessels" is not stated in this section, the example of vehicle collisions causing a mortality event is implied to include vessels as well. All wildlife mortality events will be summarized in an annual report distributed to governing bodies, Inuit and other Indigenous governments and organizations, and potentially affected communities for review and input (see Appendix 37B, Section 10.3, Pages 35-36).

For these reasons, WKR has not created a marine bird monitoring and mitigation program in addition to the plans already proposed. Please refer to NIRB 4 (IR-482) for the current state of the management plans and WKR's commitments to future updates.

NIRB 209. (IR-687)

Subject

Marine Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS provides marine baseline information and physical environment characterization. Some key design elements, including final outfall, dredging/infill requirements, and detailed third-party operations, remain unresolved.

Missing Information / Gap: Baseline interpretation and effects predictions may change if final port design, outfall/diffuser configuration, dredging, or vessel operation assumptions change.

Information Request

Provide a marine design-update addendum confirming: 1. final port footprint; 2. dredging/infill requirements; 3. outfall location/design; 4. diffuser if any; 5. vessel routes/anchorages; 6. marine construction methods; and 7. whether updated marine baseline/effects analysis is required.

Proponent Response

To provide clarity on the basis of design for the Port (marine and landside), Aerodrome, and the Road, see the Reference Design Concept Memos in Appendix C, Engineering Design Memos, to the Addendum to the Information Request Proponent Response Package. Each memo includes the details on the required design scope, the site conditions that must be considered in the design, codes, standards and design guidelines, reference documents, functional requirements, constraints, risks, and interdependencies, the reference design considerations, and future expansion considerations.
The memos also include environmental commitments, risks and constraints (including climate resiliency) that must be incorporated into the advancement of the design. The Impact Statement and basis of design relied on existing baseline data, historical geotechnical information, conceptual engineering assumptions, and conservative permafrost protection measures. Additional investigations will be completed during detailed engineering design, starting in 2027, and are expected to focus on critical road sections, water crossing approaches, slopes, ice-rich or thaw-sensitive terrain, major infrastructure foundations, borrow and quarry sources, ground thermal monitoring locations, and numerical thermal modelling requirements.

NIRB 210. (IR-688)

Subject

Marine Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses marine water and sediment quality and includes preliminary effluent modelling. The AEMP and operational discharge criteria require further detail.

Missing Information / Gap: Marine monitoring stations, discharge criteria, seasonal/ice-covered conditions, and adaptive responses are not fully finalized.

Information Request

Provide a marine water/sediment monitoring program including: 1. discharge sources and criteria; 2. open-water and ice-covered season assumptions; 3. mixing zone rationale; 4. monitoring stations inside/outside mixing zones; 5. parameters including salinity, TSS, nutrients, metals, ammonia, BOD, pathogens, and treatment chemicals; 6. thresholds; and 7. adaptive responses.

Proponent Response

Please see the response to GC-IR 08 (IR-55) for response to a dedicated marine water and sediment monitoring plan.

NIRB 211. (IR-689)

Subject

Marine Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses marine fish and habitat effects, including potential habitat loss. The offsetting plan remains insufficiently developed to support the residual effects conclusion.

Missing Information / Gap: Marine habitat loss, HADD quantification, offset options, ratios, effectiveness monitoring, and contingency measures are not fully provided.

Information Request

Provide a marine fish habitat loss and offsetting addendum including: 1. final habitat-loss area by habitat type/function; 2. species and life stages affected; 3. HADD assessment; 4. offset options and rationale; 5. offset ratios and uncertainty; 6. implementation schedule; 7. monitoring; and 8. contingencies if offsets underperform.

Proponent Response

As the Grays Bay Road and Port Project Impact Statement (IS) is based on approximately 10% (conceptual) engineering design, a marine fish habitat loss and offsetting addendum has not been prepared. WKR will work with DFO to develop an acceptable offsetting plan as per the *Fisheries Authorization Act*, supported by Inuit, Indigenous, and Community feedback.

NIRB 212. (IR-690)

Subject

Marine Environment

Issue / Concern

Reviewer Comments / Reasoning: The IS includes vessel traffic and cumulative/transboundary assessment. Future third-party use and induced development may increase vessel traffic, but compliance mechanisms and cumulative thresholds are not fully specified. Missing Information / Gap: Vessel traffic forecasts, third-party controls, cumulative marine disturbance thresholds, and transboundary reporting commitments are incomplete.

Information Request

Provide a marine traffic and cumulative effects addendum including: 1. annual vessel numbers by phase and scenario; 2. vessel class/speed/season; 3. third-party use assumptions; 4. compliance mechanisms; 5. cumulative effects thresholds; 6. monitoring metrics; and 7. reporting to regulators, communities, and transboundary parties.

Proponent Response

WKR believes that we have comprehensively addressed this IR within Volume 10 Section 32 Cumulative Effects Assessment Overview describes content, location and summary of this information. This is supplemented in Appendix A Cumulative Effects Assessment Addendum in response to this Information Request NIRB-212.

The CEA included the assessment of a “reasonably foreseeable induced” scenario. This generally is based on the possible operation of three mines utilizing the Project road and port in support of transport and storage of ore concentrate. Detailed description of these physical activities, including assumed road and marine vessel traffic, is provided in Volume 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, and summarized in Volume 10 Section 32 Cumulative Effects Assessment Overview and Appendix A Cumulative Effects Assessment Addendum in response to this Information Request NIRB-212.

Further to above, compliance requirements to be met by marine vessels using the port, principally bulk ore carriers, are the responsibility of those operators. WKR has no control over the nature of such activities regarding measures that may be taken to mitigate their effects once they move beyond the localized maneuvering at the port for berthing and travel along shipping lanes. As for Project related shipping, including construction and operational support, frequency, timing and type of vessels have a low likelihood if any of interacting (cumulative) effects in the marine environment. For these vessels WKR is committed to meeting all marine traffic requirements.

For these reasons, WKR has not consolidated this information into a separate marine traffic and cumulative effects addendum. Please refer to NIRB 4 (IR-482) for the current state of the management plans and WKR's commitments to future updates.

NIRB 213. (IR-691)

Subject

Marine Wildlife

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies marine mammals and baseline information. Technical review requires clearer integration of Inuit/community observations, seasonal use, vessel routing, and sensitive periods into operational mitigation. Missing Information / Gap: The record does not fully show how marine mammal sensitive periods and Inuit/community knowledge determine vessel timing, routing, shutdown zones, or monitoring intensity.

Information Request

Provide a marine wildlife baseline integration table showing: 1. species; 2. seasonal presence; 3. sensitive areas/timing; 4. IK/community observations; 5. vessel/construction interaction; 6. mitigation; 7. monitoring intensity; and 8. uncertainty.

Proponent Response

WKR believes that we have comprehensively addressed this IR within Volume 8, Section 23. The marine mammal baseline draws on several sources weighed together:

- Project-specific field studies from 2012 and 2025
- Inuit, Indigenous, and Community Knowledge
- regional scientific literature and historical observations
- available government datasets

Volume 8, Section 23 (Assessment of Potential Effects on Marine Mammals) and Appendix 23A (Marine Mammal Baseline Report) cover the information requested, as set out below.

1. and 2. **Species and Seasonal presence:** Baseline species occurrence, habitat use, seasonal distribution and movement patterns are summarized in Volume 8, Section 23.2.2 (Baseline Overview). They are presented by species in Table 23.6 and Figure 23.5 (refer to the response to IGC-001 (IR-391) parts 1-3). Appendix 23A has detailed species accounts, survey methods and field study results.

3. **Sensitive areas and timing:** Sensitive life-history periods and habitats are described in the species accounts in Volume 8, Section 23.2.2 and Appendix 23A. Examples are ringed seal pupping and lair periods, bearded seal breeding and pupping, and whale migration periods.

4. **Inuit, Indigenous, and Community Knowledge observations:** Kitikmiut, other Indigenous groups and other potentially affected communities shared information, concerns and recommendations about marine mammals. These came through the Project engagement program delivered from 2016 to 2025 and the Project-specific Inuit Knowledge report compiled from the Naonaiyaotit Traditional Knowledge Project (NTKP) database. They are summarized by species in Table 23.5, which also shows WKR's response and where each item is addressed in the assessment (Volume 8, Section 23.2.2.1, Page 23-18).

5. **Vessel and construction interactions:**

    - **Interactions:** Project interactions with marine mammals are identified in Table 23.7 (Volume 8, Section 23.3.1, Page 23-42).
    - **Effects assessments:** Effects are assessed under:
        - Change in Habitat (Section 23.3.2, Page 23-46; Table 23.8)
        - Change in Behaviour Caused by Sensory Disturbance (Section 23.3.3, Page 23-68; Table 23.10)
        - Change in Mortality and/or Injury Risk (Section 23.3.4, Page 23-84; Tables 23.11 to 23.13)
    - **Vessel traffic:** Annual Project-related and reasonably foreseeable induced vessel traffic is summarized in Table 23.16 (Volume 8, Section 23.4.3, Page 23-110).
    - **Effects beyond the RAA:** Potential effects on marine mammals outside the RAA, including Inuvialuit Settlement Region waters, are addressed in the Transboundary Effects assessment (Volume 8, Section 23.3.6, Page 23-99; Volume 10, Section 33) (refer to the response to IGC-001 (IR-391), parts 1–3)

6. **Mitigation:**

    Mitigation, management and monitoring measures for marine mammals are summarized in Volume 8, Table 23.18. Seasonal conditions such as spring break-up, open-water access and fall freeze-up vary from year to year. Seasonal mitigation and monitoring will therefore be informed by the best available information, including:

    - satellite imagery and sea-ice forecasts
    - field observations and marine monitoring results
    - Inuit, Indigenous, and Community Knowledge

7. **Monitoring:** Follow-up and monitoring for marine mammals are described in Volume 8, Section 23.6. Related commitments in Volume 1, Appendix B are:

    - #214: underwater noise monitoring during impact pile driving
    - #215: a marine mammal monitoring program with hydroacoustic and visual monitoring during in-water activities
    - #216: sound thresholds to prevent acoustic disturbance

    Monitoring details will be refined through the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B) and the Port Management Plan (Volume 11, Appendix 37I).

8. **Uncertainty:** Uncertainty in the marine mammal assessment is addressed in Volume 8, Section 23.6 (Prediction Confidence and Uncertainty, Page 23-127)

NIRB 214. (IR-692)

Subject

Marine Wildlife

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses underwater noise and uses available thresholds. Some high-risk activities such as impact pile driving, in-water blasting, or dredging are not fully confirmed in final design.

Missing Information / Gap: Acoustic predictions and mitigation zones may change depending on final construction methods and source levels.

Information Request

Provide final activity-specific underwater noise modelling for pile driving, blasting, dredging, vessel operations, and aircraft where relevant. Include source levels, propagation assumptions, injury/behavioural zones by species group, mitigation/shutdown zones, monitoring methods, and restart criteria.

Proponent Response

As per the response to the information request DFO-IR 02 (IR-225), WKR is exploring opportunities to undertake an additional year of acoustic monitoring, to further refine the understanding of marine mammal presence, seasonal patterns, and underwater acoustic conditions within the LAA and RAA. Any future monitoring would be considered in conjunction with follow-up and adaptive management programs and discussions with regulators and Indigenous Groups.

Underwater noise modelling will be determined based on further acoustic monitoring and construction plans for the Port.

NIRB 215. (IR-693)

Subject

Marine Wildlife

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses vessel and spill risks, but remote Arctic spill response and third-party vessel compliance require greater detail.

Missing Information / Gap: Marine mammal avoidance measures, vessel speed/routing compliance, near-miss reporting, and spill response priorities are not fully operationalized.

Information Request

Provide a marine wildlife protection plan including: 1. vessel speed and routing requirements; 2. marine mammal observer procedures; 3. avoidance distances; 4. strike/near-miss reporting; 5. third-party compliance; 6. spill response wildlife priorities; 7. shoreline protection priorities; and 8. adaptive measures if displacement or strike risk increases.

Proponent Response

A Marine Mammal Management and Monitoring program will be implemented and developed as construction details become available. It will set out monitoring activities, procedures for reporting Project interactions with marine mammals, and best management practices and mitigation (WMMP Section 8.3.6). It will incorporate the following guidance:

- DFO's *Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters*, which direct that no explosive be knowingly detonated within 500 m of a marine mammal
- the DFO and BC Marine and Pile Driving Contractors Association *Best Management Practices for Pile Driving and Related Operations*

Monitoring metrics for marine mammals include species occurrence and distribution within the RAA, and vessel strikes (WMMP Table 8.1). Pile driving will use a ramp-up or soft-start technique (EPP Table 4.2). Volume 1, Appendix B also commits to the following:

- a marine mammal monitoring program with hydroacoustic and visual monitoring during in-water activities (Measure 215)
- underwater noise monitoring during impact pile driving (Measure 214)

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 216. (IR-694)

Subject

Marine Wildlife

Issue / Concern

Reviewer Comments / Reasoning: The IS includes cumulative and transboundary considerations for marine mammals. Future vessel traffic from induced development and third-party users may increase underwater noise, displacement, and strike risk.

Missing Information / Gap: No clear cumulative marine wildlife threshold or adaptive management trigger is provided for increased vessel traffic or altered seasonal use.

Information Request

Provide cumulative marine wildlife thresholds and monitoring including: 1. vessel traffic triggers; 2. acoustic monitoring triggers; 3. marine mammal sighting and behaviour indicators; 4. spatial/seasonal avoidance criteria; 5. transboundary communication; and 6. additional mitigation if monitoring shows displacement, repeated disturbance, or increased strike risk.

Proponent Response

Refer to the response to NIRB 215 (IR-693). Volume 1, Appendix B also commits to noise monitoring and mitigation during noise-generating construction activities, through sound thresholds set to prevent acoustic disturbance to marine fish and mammals (Measure 216). Adaptive management under the WMMP will be triggered when monitoring shows that objectives are not being met or that unexpected effects are arising (WMMP Section 9).

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 217. (IR-695)

Subject

Socio-Economic Environment and Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS provides a full human-environment volume with dedicated sections for TLMRU, food security, community health and well-being, employment/economy, infrastructure/services, non-traditional use, and heritage resources. The socio-economic assessment is extensive, but the implementation link between predicted effects, mitigation/enhancement, monitoring indicators, thresholds, and adaptive management is not consistently complete.

Missing Information / Gap: No single socio-economic effects-to-mitigation-to-monitoring matrix consolidates all adverse and beneficial effects by community, phase, receptor group, mitigation measure, monitoring indicator, threshold, and responsible plan.

Information Request

Provide a consolidated socio-economic effects matrix identifying: 1. each socio-economic VC and effect pathway; 2. affected communities and subpopulations; 3. project phase; 4. predicted adverse and beneficial effects; 5. mitigation/enhancement measures; 6. residual effect characterization and significance; 7. monitoring indicators; 8. thresholds/action levels; 9. responsible party; and 10. reporting/adaptive-management response.

Proponent Response

A consolidated socio-economic effects matrix has not been prepared, as this format is not required by the *Guidelines for the Preparation of an Impact Statement for the WKR Grays Bay Road and Port Project Guidelines (2026)*. Similar information was requested and addressed in the response to IR-538. The information requested is provided throughout the Impact Statement and associated appendices, as summarized below.

1. **Socio-economic valued components (VCs) and effect pathways**

   The socio-economic assessment includes the following VCs:

   - Traditional Land, Marine, and Resource Use (Volume 9, Section 24);
   - Food Security and Food Sovereignty (Volume 9, Section 26);
   - Community Health and Well-being (Volume 9, Section 26);
   - Employment and Economy (Volume 9, Section 27);
   - Infrastructure and Services (Volume 9, Section 28); and
   - Non-Traditional Land, Marine, and Resource Use (Volume 9, Section 29).

For each VC, the Scope Section includes a table identifying potential effects, effect pathways, and measurable parameters.

2. **Affected communities and subpopulations**

   Affected communities are identified within the spatial boundaries section of each VC assessment. In addition, as described in the response to IR-553, the GBA Plus assessment identified relevant subpopulations and each VC assessment included consideration of potential disproportionate effects on those groups.

3. **Project phases**

   Temporal boundaries, including applicable Project phases, are described within each VC assessment. Residual adverse effects are characterized by Project phase, where applicable.

4. **Predicted adverse and beneficial effects**

   Each VC assessment evaluates both adverse and positive residual effects, as well as adverse and positive cumulative effects.

5. **Mitigation and enhancement measures**

   Management, mitigation, and enhancement measures are identified and described for each assessed effect within the relevant VC assessment.

6. **Residual effect characterization and significance**

   For each VC, adverse residual effects and adverse cumulative effects are characterized using the applicable assessment criteria. Positive residual effects are also assessed; residual effects that are characterized as positive in direction are not characterized further. Each VC assessment includes a determination of significance of adverse residual effects.

7. **Monitoring indicators**

   Appendix 37K (Draft Socio-economic Monitoring Plan; Volume 11), Section 2, provides a monitoring framework that identifies initial monitoring indicators, data sources, and monitoring frequency/timeframes associated with socio-economic mitigation measures and commitments.

8. **Thresholds and action levels**

   Thresholds and targets associated with socio-economic monitoring commitments are described in Section 2 of Appendix 37K (Volume 11).

9. **Responsible party**

   WKR will be responsible for the development, implementation, and monitoring of the mitigation measures and commitments described in the Impact Statement and associated management plans.

10. **Reporting and adaptive management**

The reporting process is described in Section 3 of Appendix 37K (Volume 11). The adaptive management framework and response process are described in Section 4 of Appendix 37K (Volume 11).

In summary, the information requested is provided throughout the Impact Statement and supporting appendices. WKR does not intend to repackage this information into a consolidated socio-economic effects matrix.

NIRB 218. (IR-696)

Subject

Socio-Economic Environment and Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Construction and operations are assessed throughout Volume 9. However, because the Project is described as permanent infrastructure operating in perpetuity, socio-economic effects associated with reduced operations, temporary closure, care and maintenance, final closure, transfer, abandonment, or long-term post-closure stewardship are not consistently assessed.

Missing Information / Gap: The IS does not provide a complete socio-economic phase matrix for reduced operations, temporary closure, final closure, post-closure, or a scenario where permanent infrastructure ceases to operate or changes ownership.

Information Request

Provide a socio-economic phase-completeness addendum that evaluates each Volume 9 VC for: 1. pre-construction; 2. construction; 3. operations; 4. reduced operations; 5. maintenance/modifications; 6. care and maintenance; 7. final closure/decommissioning/reclamation; and 8. post-closure or long-term stewardship. Include effects, mitigation, monitoring, responsibilities, and residual conclusions for each phase.

Proponent Response

The Volume 9 Valued Component (VC) assessments follow the phase approach set out in Volume 4, Section 9.2.4 (Temporal Boundaries), and use the interaction template in Volume 4, Table 9.1. Each phase is addressed below.

Pre-construction, construction, operations, and maintenance (sub-parts 1, 2, 3 and 5). The phases assessed in Volume 9 are:

Construction: includes pre-construction and spans about five years.

Operations and Maintenance: begins in 2035 and continues indefinitely.

Each Volume 9 VC assessment covers both phases through its Project interaction table, effects assessment, mitigation, and residual effects. Examples:

- Volume 9, Section 24.3 and Table 24.5
- Volume 9, Section 27.3 and Table 27.13

Future modifications by third parties are not part of the Project. They are assessed as reasonably foreseeable induced activities in each VC's cumulative effects assessment (Volume 4, Section 9.4.3).

Reduced operations and care and maintenance (sub-parts 4 and 6). The Project may be placed in temporary care and maintenance if third-party users are not ready to use the infrastructure. This phase is not assessed separately because activities are expected to be similar to Operations and Maintenance, at lower levels (Volume 4, Section 9.2.4). Volume 11, Appendix 37F, Section 4 (Temporary Care and Maintenance Section for Temporary and Unplanned Closure) describes how Project components would be managed during temporary or unplanned closure and during reduced operations.

Final closure, decommissioning, reclamation, and post-closure (sub-parts 7 and 8). The Project components are permanent infrastructure. No closure is planned, apart from areas used only during construction that are not needed for Operations and Maintenance (Volume 4, Section 9.2.4). Reclamation of those temporary areas is included in each VC interaction table (Volume 4, Table 9.1) and described in the Progressive Reclamation Plan (Volume 11, Appendix 37F).

Monitoring and responsibilities. Socio-economic follow-up and monitoring are described in the Follow-up and Monitoring section of each Volume 9 VC assessment, for example Section 24.7. They are also covered in the Socio-economic Monitoring Plan (Volume 11, Appendix 37K) and in Volume 11, Section 37.1.5.

Change in ownership or permanent cessation. Under Guidelines Section 5.1, the Proponent reports its record of honouring commitments in the event of a change of ownership; this is described in Volume 2, Section 1.1.1. The Guidelines do not require a change of ownership or abandonment to be assessed as a phase.

A separate socio-economic addendum for each phase and VC is also not required, because phase coverage is set out in each VC assessment.

NIRB 219. (IR-697)

Subject

Socio-Economic Environment and Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS describes the mixed economy, land-based activities, wage employment, food systems, health and well-being, infrastructure, and community context. However, interactions among these components are not always carried through into residual-effects conclusions or monitoring design.

Missing Information / Gap: The link between effects on wildlife/access, food security, mental health, employment, family dynamics, infrastructure, and cultural continuity is described narratively but not consistently analyzed as an integrated socioeconomic system.

Information Request

Provide a socio-economic systems interaction matrix showing: 1. key pathways linking land/water/wildlife effects to TLMRU, food security, health, employment, and infrastructure; 2. how these interactions were considered in each residual-effects conclusion; 3. where interactions increase or reduce effect magnitude; and 4. integrated monitoring indicators for cumulative community-level effects.

Proponent Response

The IS assesses interactions between socio-economic Valued Components (VCs) at two levels: within each Volume 9 VC assessment, and as a system in the Holistic Assessment (Volume 10, Section 31). The elements the IR requests are found in the IS as follows.

1. **Key pathways linking land, water, and wildlife effects to the socio-economic VCs**

    - Volume 10, Section 31.2 (Valued Component System):
        - Table 31.1, Valued Component Summary and Relationships
        - Table 31.2, Matrix of VC Interconnections
    - **Volume 10, Section 31.3.3 (Effects on the Human Environment),** and Figure 31.4, Cumulative Effects of Port and Road Activities on the Human Environment.
    - **The Potential Effects, Pathways, and Measurable Parameters table in each Volume 9 VC assessment.** For example, Volume 9, Section 24.1.3 and Table 24.2.

2. **How interactions were considered in residual-effects conclusions.** Each Volume 9 VC assessment draws on the residual effects of the biophysical VCs it depends on. For example, the Traditional Land, Marine, and Resource Use (TLMRU) assessment covers changes in the quality, quantity, or distribution of TLMRU resources (Section 24.3.3), and changes in access (Section 24.3.5). The Holistic Assessment then re-examines the VC-level mitigation, management, and enhancement measures to see how well they address potential effects at the system level (Volume 10, Section 31.1).

3. **Where interactions increase or reduce effect magnitude.** Two parts of the Holistic Assessment in Volume 10 address this:

    - Section 31.3 discusses the potential for combined effects on a system to be greater than the effects predicted for individual VCs.
    - Section 31.4 (Collective System) and Figure 31.5, Summary of Collective System Impacts, address collective effects across systems.

4. **Integrated monitoring indicators for cumulative community-level effects.** These are covered in three places:

    - the Socio-economic Monitoring Plan (Volume 11, Appendix 37K)
    - Volume 11, Section 37.1.5 (Follow-up and Adaptive Management)
    - the Follow-up and Monitoring section of each Volume 9 VC assessment, for example Section 24.7

    The Guidelines don't prescribe a separate systems interaction matrix. The VC interconnections are presented in Table 31.2, and the system-level analysis is in Volume 10, Section 31.

NIRB 220. (IR-698)

Subject

Socio-Economic Environment and Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Several Volume 9 sections include GBA+ summaries, and some sub-population information is discussed. However, the availability, consistency, and use of gender-, age-, harvester-, household-, and vulnerable-group-specific data vary across VCs, and the consequences of data limitations are not consistently carried into confidence ratings or monitoring.

Missing Information / Gap: The IS does not provide a consolidated GBA+ data inventory showing which socio-economic indicators are disaggregated, where data are missing, and how gaps affect predictions for vulnerable or differently affected groups.

Information Request

Provide a GBA+ and sub-population data-gap table for all Section 8.2 VCs that identifies: 1. indicator; 2. source; 3. community coverage; 4. gender/age/harvester/youth/elder/household/vulnerable-group disaggregation; 5. limitations; 6. effect prediction implications; and 7. monitoring actions to fill gaps.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Volume 9 of the Impact Statement. The requested information for GBA Plus and sub-populations data gaps is provided through:

- the GBA Plus methods for each VC
- the sub-population baseline summaries
- the residual effects discussions for sub-populations identified through GBA Plus
- the People and Communities Baseline Report (Appendix 25A)

In keeping with the effects assessment methodology (Volume 4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate GBA+ and sub-population data-gap table.

To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:”

Table IR-220 Location of GBA Plus and Sub-population Information by VC

Requested Element	Description	Location in Impact Statement (Volume 9)
1. Indicator	Each VC identifies indicators in its *Potential Effects, Pathways, and Measurable Parameters* subsection, including indicators relevant to sub-populations identified through GBA Plus.	Traditional Land, Marine, and Resource Use: Section 24.1.3, Table 24.2 Food Security and Food Sovereignty: Section 25.1.3, Table 25.1 Community Health and Well-being: Section 26.1.3, Table 26.1 Employment and Economy: Section 27.1.3, Table 27.1 Infrastructure and Services: Section 28.1.3, Table 28.2 Non-Traditional Land, Marine, and Resource Use: Section 29.1.3, Table 29.2
2. Source	Baseline information was compiled from many sources: Inuit, Indigenous, and Community Knowledge; engagement and community-based interviews; Statistics Canada and territorial statistics; government and municipal sources; academic literature; and grey literature. Supporting baseline information is provided in the People and Communities Baseline Report (Appendix 25A).	Section 24.2.1.1 (Types of Information) Section 25.2.1.1 (Literature Review and Secondary Data Collection) Section 26.2.1 (Methods) Sections 27.2.1.1 and 27.2.1.2 (Secondary and Primary Data Sources) Section 28.2.1.1 (Literature Review and Secondary Data Collection) Section 29.2.1 (Methods) Appendix 25A
3. Community Coverage	Each VC's baseline section and Appendix 25A document community coverage. Community-level information is presented where available. Regional or territorial information is used for context where community-level data are not available.	Section 24.2.2 (Overview, by Indigenous group, Sections 24.2.2.2 to 24.2.2.9) Section 25.2.2 Section 26.2.2 Section 27.2.2 Section 28.2.2 Section 29.2.2 Appendix 25A
4. Sub-population Disaggregation	Sub-populations were selected using the GBA Plus and Inuit-specific GBA Plus frameworks, engagement feedback, literature on socio-economic effects of industrial development, and professional judgment. They include: Inuit; hunters and trappers; other Indigenous Peoples; Indigenous women and girls; women+; men+; low-income individuals and households; households with children; lone-parent families; people with disabilities; members of the 2SLGBTQQIA+ community; youth; and Elders. The selection rationale is consolidated in Appendix 25A.	GBA Plus methods: Sections 24.2.1.4, 25.2.1.6, 26.2.1.1, 27.2.1.4 (Table 27.3), 28.2.1.7, and 29.2.1.6 Sub-population baseline summaries: Sections 25.2.3, 26.2.2.8, 27.2.3, 28.2.3, and 29.2.2.6 Appendix 25A

Requested Element	Description	Location in Impact Statement (Volume 9)
5. Limitations	Disaggregated data by territorial region and by community are not always available. Where community-specific data are unavailable, broader Nunavut or Northwest Territories data are used as proxies for regional trends. To protect respondent confidentiality where non-binary populations are small, Statistics Canada aggregates gender information into two categories (men+ and women+). Indigenous and non-Indigenous totals may not add up to total population counts because they are based on a 25% sample.	Section 25.2.1.1 Section 26.2.1.1 Sections 27.2.1.1 and 27.2.1.4 Section 28.2.1.1 Section 29.2.1 Appendix 25A
6. Effect Prediction Implications	Each VC assesses residual effects on sub-populations identified through GBA Plus. Each VC also includes a *Prediction Confidence and Uncertainty* subsection, which evaluates how information limitations may affect the assessment conclusions. Where uncertainty could lead to effects being underestimated, a conservative approach is applied. Confidence ratings are based on the quality and availability of information, professional judgment, and community-informed knowledge.	Residual effects on sub-populations: Sections 24.3.3.4, 24.3.4.4, 24.3.5.4, 24.3.6.4; 25.3.3.4, 25.3.4.4; 26.3.3.4 to 26.3.8.4; 27.3.3.4 to 27.3.7.4; 28.3.3.4 to 28.3.6.4; 29.3.2.5 to 29.3.5.5 Prediction Confidence and Uncertainty: Sections 24.6, 25.6, 26.6, 27.6, 28.6, and 29.6
7. Monitoring Actions to Fill Gaps	Monitoring to address information gaps over the life of the Project will be implemented through the draft Socio-economic Monitoring Plan (SEMP). As currently filed, the SEMP is a conceptual framework. It identifies the initial socio-economic indicators to be monitored and provides for adaptive management and annual reporting to the Nunavut Impact Review Board. More monitoring details, including any refinements to GBA Plus and sub-population data collection, will be developed as the SEMP advances through the regulatory review process and incorporates relevant engagement feedback.	Follow-up and Monitoring: Sections 24.7, 25.7, 26.7, 27.7, 28.7, and 29.7 Draft SEMP: Volume 11, Appendix 27K

NIRB 221. (IR-699)

Subject

Economic Development and Opportunities

Issue / Concern

Reviewer Comments / Reasoning: The IS provides baseline economic and employment information and describes the traditional and wage economies. It also discusses food systems and TLMRU in separate sections. However, the baseline is not consolidated to show community-level interaction between renewable-resource use, wage income, self-reliance, country food replacement value, and macroeconomic indicators.

Missing Information / Gap: The traditional economy and wage economy are treated across multiple sections, but the economic value and dependency relationships are not fully integrated into one baseline suitable for assessing community-level economic resilience.

Information Request

Provide an integrated economic baseline table by community that includes: 1. wage economy indicators; 2. traditional/country-food economy indicators; 3. renewable-resource economic roles; 4. self-reliance indicators; 5. country food replacement value where available; 6. local and regional economic constraints; and 7. limitations in baseline data.

Proponent Response

WKR respectfully submits that the economic baseline required by Guidelines Section 8.2.1.1 is presented across three Volume 9 sections. Volume 9, Section 27 (Employment and Economy) covers the wage economy and the territorial economy. The traditional economy and country food are covered in Section 24 (Traditional Land, Marine, and Resource Use) and Section 25 (Food Security and Food Sovereignty). Community-level data are in Appendix 25A (People and Communities Baseline Report). The requested elements are found as follows:

1. **Wage economy indicators:** Volume 9, Section 27.2.2.5 (Labour Force and Employment), including labour force, employment by occupation and industry, and income by community (Tables 27.5 to 27.10); and Appendix 25A, Section 6.1 (Economic Activity)
2. **Traditional and country-food economy indicators:** Volume 9, Section 24.2.2 (Overview); Section 25.2 (Baseline Conditions); and Section 27.2.2.2, which covers the territorial and traditional economy.
3. **Economic role of renewable resources:** Volume 9, Section 27.2.2.2 and Section 24.2.2.
4. **Self-reliance indicators:** Volume 9, Section 25.2, covering the traditional and market food systems; and Section 27.2.2.

5. **Country food replacement value:** country food dependence and consumption are described in Volume 9, Section 25.2 and Appendix 25A. The IS does not estimate a dollar replacement value. The Guidelines don't require one; they require a description of the significance of traditional foods and how much residents depend on them (Guidelines, Section 8.2.6.1(iv)).
6. **Local and regional economic constraints:** Volume 9, Section 27.2.2.4 (Regional and Territorial Business Conditions); and Appendix 25A, Section 6.4 (Businesses).
7. **Limitations in baseline data:** Volume 9, Section 27.2.1 (Methods) and Section 27.6 (Prediction Confidence and Uncertainty); and Section 25.2.1 (Methods).

How the wage and traditional economies interact is also addressed in the assessment of effects on the traditional economy: Volume 9, Section 27.3.3 (Change in Economic Development and Opportunities).

For these reasons, WKR has not consolidated this information into a separate integrated economic baseline table by community.

NIRB 222. (IR-700)

Subject

Economic Development and Opportunities

Issue / Concern

Reviewer Comments / Reasoning: The IS predicts substantial economic benefits and improved economic development opportunities. However, beneficial effects are not always characterized with the same detail as adverse effects, and potential adverse consequences such as increased dependency on future mineral development, inflationary pressures, labour competition, and closure/reduced-operation effects are less developed.

Missing Information / Gap: Economic benefits are not consistently assessed for distribution, certainty, durability, equity, sensitivity to future development assumptions, or risks if induced development, third party use, or long-term operations do not occur as assumed.

Information Request

Provide an economic development effects addendum that includes: 1. quantitative and qualitative assessment of benefit distribution by community and group; 2. sensitivity analysis for third-party/induced development assumptions; 3. effects on traditional economic activities; 4. inflation/CPI and local cost-of-living implications; 5. economic diversity risks; 6. temporary closure/final closure effects; and 7. monitoring indicators for durable regional benefits.

Proponent Response

WKR respectfully submits that the economic development effects are assessed in Volume 9, Section 27 (Employment and Economy). The economic and employment information is in Volume 2, Section 2.5, and the purpose, need, and benefits are in Volume 2, Section 1.6. Each requested element is addressed below.

- **Benefit distribution by community and group.** Effects on economic development, employment, contracting, and community resupply are assessed in Volume 9, Sections 27.3.3 to 27.3.7. Results are reported for Nunavut, the Kitikmeot communities, and Yellowknife. Effects on Gender-Based Analysis Plus sub-populations are discussed for each effect, and differences between communities are described where relevant (for example, Section 27.3.7, Change in Community Resupply Resilience). Quantitative GDP and employment estimates are in Volume 2, Tables 2.4 to 2.6, and Volume 9, Tables 27.14 to 27.24.

- **Sensitivity to third-party and induced development assumptions.** Project effects are assessed separately from those of reasonably foreseeable induced (RFI) projects. As a result, the economic benefits that depend on RFI projects can be identified on their own: Volume 2, Table 2.6, and Volume 9, Section 27.4 and Tables 27.27 to 27.28. Model limitations and prediction confidence are described in Volume 9, Sections 27.3.1 and 27.6. Guidelines Section 7.4.3 accepts less detail and more uncertainty for less certain future development, and Section 7.4.7 does not require a quantitative sensitivity analysis.
- **Effects on traditional economic activities.** Effects on traditional economic activities are assessed in Volume 9, Section 27.3.3 (Change in Economic Development and Opportunities, including the traditional economy). They are also assessed in Section 24.3.6 (Change to Cultural Practices, Laws, and Governance Systems that Inform How TLMRU Occurs), and Section 25.3.3 (Change in Traditional Food System).
- **Inflation and cost of living.** Volume 2, Section 2.5 (Economic and Employment Information), discusses the potential for regional or local wage and price inflation from the Project and from later mining development. Effects on market food costs are assessed in Volume 9, Section 25.3.4 (Change in Market Food System).
- **Economic diversity risks.** The Project's longer-term strategic implications, and its role in enabling mineral development, are described in Volume 2, Section 1.6 (Project Purpose and Need). Cumulative economic effects, including competition for workers, are assessed in Volume 9, Section 27.4.
- **Temporary and final closure effects.** The Project components are permanent infrastructure with no planned closure. Temporary care and maintenance is not assessed separately (Volume 4, Section 9.2.4). See also the response to IR-696 (NIRB 218).
- **Monitoring indicators.** Monitoring indicators are covered in the Follow-up and Monitoring section of Volume 9, Section 27.7, and in the Socio-economic Monitoring Plan (Volume 11, Appendix 37K).

The information is presented within the IS sections above, so a separate economic development effects addendum is not provided.

NIRB 223. (IR-701)

Subject

Employment

Issue / Concern

Reviewer Comments / Reasoning: The IS provides labour-force, income, employment, and Inuit employment context, and recognizes barriers. The Inuit Human Resources and Business Development Plan is draft. The baseline does not fully demonstrate the match between available workers and project-specific job requirements by phase, occupation, education, certification, criminal record requirements, language, rotation, and family responsibilities.

Missing Information / Gap: A detailed labour-market gap analysis connecting project job demand to local and Inuit labour availability, barriers, and training timelines is not provided in a single auditable format.

Information Request

Provide a project labour-demand and local-labour-availability matrix by phase and occupation, including: 1. number of positions; 2. required education/certification/experience; 3. drug/alcohol, security, language, and record requirements; 4. available Inuit/Nunavummiut labour supply; 5. barriers; 6. training lead time; 7. expected local/Inuit hiring; and 8. mitigation for gaps.

Proponent Response

WKR respectfully submits that the elements requested in this IR are in the following sections of the IS:

- Number of positions:
  - Volume 2, Section 2.5.2 (Employment Opportunities) and Table 2.5 (Project-Related Nunavut Employment)
  - Volume 9, Tables 27.20 and 27.21 (Employment by phase, in full-time equivalents) and Table 27.22 (WKR Operations and Maintenance Positions and Salaries)
- Required education, certification, and experience:
  - Volume 9, Section 27.3.4.3 (Project Residual Effect – Change in Employment)
  - Volume 2, Section 2.5.6 (Training and Employment)
  - Volume 11, Appendix 37J (Inuit Human Resources and Business Development Plan), Section 3.1 (Labour Relations and Inuit Hiring Strategy). This section will set out skills and entrance requirements and work rotation schedules.

- Drug and alcohol, security, language, and record requirements:
  - Volume 9, Section 27.3.4.3
  - Volume 9, Section 26.3.5.2 (Mitigation, Management, and Enhancement Measures – Community Health and Well-being) which covers the No Drug and Alcohol Policy
  - Appendix 37J, Section 3.1.1 (Gender, Equity and Diversity Policies)
- Available Inuit and Nunavummiut labour supply:
  - Volume 9, Section 27.2.2.5 (Labour Force and Employment)
  - Volume 9, Tables 27.5 to 27.8: labour force, employment by occupation and by industry, and education levels, for each Kitikmeot community, Nunavut, and Yellowknife
  - Volume 9, Appendix 25A (People and Communities Baseline Report)
- Barriers:
  - Volume 9, Section 27.3.4.1 (Change in Employment – Project Effects Pathways) and Section 27.3.5.1 (Change in Education and Training – Project Effects Pathways)
  - Volume 9, Section 26.2.2.5 (Personal Health Behaviours)
  - Volume 9, Section 27.2.3 (Summary of Baseline Information on Key Sub-Populations for Gender Based Analysis Plus)
- Training lead time:
  - Volume 2, Section 2.5.6
  - Volume 9, Section 27.3.5.3 (Change in Education and Training – Education and Training Opportunities)
  - Volume 11, Appendix 37J, Section 3.2 (Training Strategy) and Section 3.2.1 (Apprenticeship Programs)
- Expected local and Inuit hiring:
  - Volume 9, Sections 27.3.1 and 27.3.4.3
  - Volume 2, Section 2.5.3 (Workforce Mobilization)
  - Volume 11, Appendix 37J, Section 3.1
- Mitigation for gaps:
  - Volume 9, Section 27.3.4.2 (Mitigation, Management, and Enhancement Measures – Change in Employment) and Section 27.3.5.2 (Mitigation, Management, and Enhancement Measures – Change in Education and Training)
  - Volume 11, Appendix 37J, Sections 3.1 to 3.2.1 and Section 4 (Monitoring, Adaptive Management, and Reporting)

The information is presented within the sections above. A single combined matrix is not provided.

NIRB 224. (IR-702)

Subject

Employment

Issue / Concern

Reviewer Comments / Reasoning: The IS acknowledges potential income-related effects, including benefits and risks such as substance use, financial stress, and housing pressures. However, the specific Guideline topic of income effects on public housing rent, savings, expenditure patterns, and household consumption is not clearly assessed in detail.

Missing Information / Gap: The assessment does not provide a community-specific analysis of how project income may affect public housing rent calculations, household disposable income, sharing obligations, debt, savings, financial management, or family stress.

Information Request

Provide an income-effects addendum assessing: 1. expected income changes by worker group; 2. interaction with public housing rent and social assistance rules; 3. effects on savings, debt, remittances, sharing, and household consumption; 4. financial management supports; 5. community-specific risk indicators; and 6. monitoring through the SEMP.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Volume 9, Sections 26 (Community Health and Well-being), 27 (Employment and Economy), and 28 (Infrastructure and Services), supported by the household-economy baseline in Appendix 25A and relevant management and monitoring plans in Volume 11. The responses below address expected income changes by worker group; implications for public housing rents and social-assistance eligibility; potential changes in household savings, expenditure patterns, and consumption behaviours; available financial-management supports; community-specific health and well-being risks; and opportunities to monitor income-related effects through the Socio-economic Monitoring Program.

In keeping with the effects assessment methodology (Volume 4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate income-effects addendum.

To assist the reviewer, the cross-references below identify where each requested element can be found in the IS.

1. **Expected income changes by worker group**

   Although the NIRB Guidelines do not specifically require income changes to be assessed by worker group, the IS considers the distribution of benefits through the application of a Gender-Based Analysis Plus framework. Section 27 predicts positive employment and income effects will arise from the Project, while recognizing these benefits may not be evenly distributed. Based on current labour-market conditions and the anticipated occupations required for the Project, Inuit and men are expected to account for a substantial proportion of hires from the Kitikmeot Region and Nunavut, whereas women remain underrepresented in many relevant industries.

2. **Public-housing rent and social-assistance rules.**

   Baseline conditions for income, cost of living, and public (income-subsidized) housing administered by the Nunavut Housing Corporation are described in Volume 9, Sections 27.2.2.7–27.2.2.9 and 28.2.2.2, and in Appendix 25A, Sections 6.5–6.6; Potential Project effects on income, the rental market, and vulnerable sub-populations are assessed in Sections 27.3.3.3, 27.3.7.4, and 28.3.4. Because public-housing rents and social-assistance eligibility are set by government and vary with household composition, the timing and type of income, and the rules in effect when income is reported, estimating individual household outcomes reliably would require confidential household-level administrative data and case-specific application of future program rules, neither of which is available to WKR.

3. **Savings, debt, remittances, sharing, and consumption.**

   Household income, savings, and disposable-income composition are characterized in Appendix 25A, Section 6.5 (including 6.5.3 and Table 6.25 / Figure 11.1) and Volume 9, Section 27.2.2.7; effects on patterns of savings, expenditure, and consumption are discussed in Section 27.3.3.3, and effects on country-food consumption and sharing in Sections 24 and 25. Because individual outcomes vary by household circumstance and are also affected by inflation, transfers, other employment, and personal financial decisions, the Project's contribution cannot be reliably quantified at the household level without confidential data unavailable to WKR.

4. **Financial-management supports**

   Section 26.3.6.3 of the IS identifies the Employee and Family Assistance Program and Inuit Employee Assistance Program as providing support for financial stress, family issues, substance use, and mental health. Both programs are included in the draft Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J).

5. **Community-specific risk indicators**

Community-specific risk indicators are addressed primarily in Volume 9, Section 26: communicable diseases in Section 26.3.4; mental-health and substance-use pathways, including those associated with increased income, in Sections 26.3.5 and 26.3.7; family and community effects in Section 26.3.6; and family violence, community safety, and effects on vulnerable groups in Section 26.3.7. Broader community well-being conditions are described in Appendix 25A, Section 9.

6. **SEMP monitoring**

The draft Socio-economic Monitoring Program (Volume 11, Appendix 37K) provides for monitoring, engagement, adaptive management, and annual reporting to NIRB. As the SEMP is refined, potential indicators may include employment and income participation by community and population group, Inuit and local employment, use of employee-assistance programs, and reported household financial or housing pressures, subject to privacy, data availability, and agency mandates.

Where monitoring or engagement identifies material or unanticipated Project effects related to public housing rents, social-assistance interactions, or other household income pressures, WKR may collaborate with responsible agencies, the Kitikmeot Inuit Association, and affected communities to identify appropriate communication, referral, support, or adaptive measures. For these reasons, WKR has not consolidated this information into a separate income-effects addendum.

NIRB 225. (IR-703)

Subject

Education and Training

Issue / Concern

Reviewer Comments / Reasoning: The IS describes education, training, and labour-force characteristics in the employment and economy assessment. However, education-system capacity, funding resources, administrative capacity, and demographic skill profiles are not consistently presented in a way that directly supports evaluation of training feasibility and project demand.

Missing Information / Gap: The baseline does not fully link existing education/training capacity and participant readiness to the scale, schedule, and skill requirements of construction and operations employment.

Information Request

Provide an education and training baseline addendum that includes: 1. community education levels by demographic group; 2. current training programs and capacity; 3. barriers to participation; 4. infrastructure/funding/administration capacity; 5. language and cultural barriers; 6. training provider roles; and 7. data gaps.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in in Volume 9, Sections 27.2.2 and 27.3.5, the People and Communities Baseline Report (Appendix 25A), and the Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J).

In keeping with the effects assessment methodology (Volume 4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate education and training baseline addendum.

To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

1. **Community education levels by demographic group**

   The IS reports that 52% of Nunavut residents do not have a high school diploma. Women have higher rates of college attainment than men (15% compared with 11%) and university degrees (13% compared with 9%), while men have higher rates of apprenticeships, trades certificates, or diplomas (8% compared with 2%) (Table 27.8). Appendix 25A describes lower educational attainment among Inuit than non-Indigenous residents, including lower high-school graduation among Inuit women and men (Appendix 25A). Section 27.3.5.4 also identifies community-level variation, including a comparatively high proportion of Kugaaruk residents without a certificate, diploma, or degree (Volume 9, Section 27.3.5.).

2. **Current training programs and capacity**

   Nunavut Arctic College operates the Kitikmeot Campus in Cambridge Bay and Community Learning Centres in all 25 Nunavut communities. The Kitikmeot Campus enrolled approximately 35 to 50 students in 2024–2025 and provides certificate, diploma, trades, university-transfer, counselling, and partnered degree programming. The Kitikmeot Inuit Association offers workplace-readiness programming, while the Kitikmeot Friendship Society provides computer-literacy programming in the five Kitikmeot communities. The IS anticipates that local institutions and Inuit organizations will have the capability and capacity to support Project demand (Volume 9, Section 27.3.5).

3. **Barriers to participation**

   The IS identifies low school attendance and completion, limited skills, the effects of colonialism, unfamiliarity with the wage economy, and the possibility that Project employment demand could encourage some students to leave school early (Volume 9, Section 27.3.5; Section 27.3.5.4 and Appendix 25A). Student housing availability is also identified as a constraint on enrolment at the Kitikmeot Campus (Appendix 25A, People and Communities Baseline Report).

4. **Infrastructure, funding, and administration capacity**

   The IS identifies the Kitikmeot Campus, Community Learning Centres, Inuit-organization programs, community facilities, and potential mobile training units as delivery infrastructure (Volume 9, Section 27.3.5 and Section 27.3.5.2). It estimates that Nunavummiut will fill 44 direct full-time-equivalent positions during construction and 60 during operations and maintenance (Volume 9, Section 27.3; see also Section 27.3.5), and concludes this demand could cause a small increase in local education and training enrolment. A consolidated analysis of institutional funding, administrative capacity, student housing, facilities, staffing, or program-delivery capacity against Project requirements by community, phase, and occupation is not a requirement of the Guidelines.

5. **Language and cultural barriers**

   The baseline describes educational disadvantage faced by Inuit associated with colonialism and notes the wage economy is relatively new and unfamiliar to many community members (Appendix 25A; and Volume 9, Section 27.3.5.4). WKR will provide employment and contracting information in Inuinnaqtun and Inuktitut to support equitable access (Volume 9, Sections 27.3.4.2 and 27.3.5.2). A detailed baseline assessment of language proficiency, or a systematic standalone evaluation of language and cultural barriers to training participation, is beyond the requirements of the Guidelines.

6. **Training provider roles**

WKR's Training Strategy provides for pre-employment, on-the-job, and apprenticeship training for Inuit and youth in collaboration with educational institutions and Inuit organizations, using community facilities or mobile training units where feasible (Volume 9, Section 27.3.5.2). WKR also proposes career-awareness programming with schools and making youth employment at the Project contingent on high-school completion (at minimum) (Volume 9, Section 27.3.5). Identified local providers and partners include Nunavut Arctic College, the Kitikmeot Inuit Association, the Kitikmeot Friendship Society, local schools, and WKR (Volume 9, Section 27.3.5).

7. **Data gaps**

The IS provides each of the education and training elements required by the Guidelines (Section 8.2.3): the baseline education system, available training programs, local education infrastructure/capacity/funding/administration, and skill levels by demographic category (Section 27.3.5; Appendix 25A; Table 27.8); the assessment of Project impacts on the education system and the demands placed on it; the evaluation of the Proponent’s training programs with consideration of cultural and language barriers; and measures to fill the gap between Project needs and local labour-force qualifications (Section 27.3.5 and Section 27.3.5.2). The Guidelines do not require this material to be consolidated as requested.

Consistent with existing impact assessment practice, the IS was structured to characterize regional education and labour-force conditions, assess potential effects, and establish a framework for future training delivery, not to audit the funding, administration, infrastructure, and occupational capacity of each provider. At the current stage of Project design, detailed workforce requirements, occupational schedules, procurement arrangements, and training delivery needs have not been defined sufficiently to support a reliable community-by-community capacity comparison.

NIRB 226. (IR-704)

Subject

Contracting and Business Opportunities

Issue / Concern

Reviewer Comments / Reasoning: The IS discusses business opportunities and procurement benefits. However, the baseline does not fully quantify current Inuit, local, regional, territorial, and transboundary business capacity to meet project demand by category, scale, timing, and barrier.

Missing Information / Gap: The IS does not include a detailed procurement-capacity gap analysis linked to the project procurement schedule and local business-development measures.

Information Request

Provide a contracting baseline and capacity assessment that identifies: 1. procurement categories by project phase; 2. estimated contract values/volumes; 3. local/Inuit/regional business capacity; 4. barriers to participation; 5. bonding/insurance/equipment/financing needs; 6. country-food supply feasibility; and 7. data limitations.

Proponent Response

WKR has comprehensively addressed contracting and business opportunities through Volume 9, Sections 27.2.2.4 and 27.3.6, the regional business inventory in Appendix 25A, the procurement scopes in Volume 2, Section 2.5.5, and the Procurement Strategy in the Inuit Human Resources and Business Development Plan (Volume 11, Appendix 37J). The requested items are addressed below, including references to where additional details can be found in the IS.

1. **Procurement categories by Project phase**

   Construction is expected to require approximately 200 to 500 workers per year and will be largely contractor-staffed. Anticipated procurement opportunities include civil construction, marine transportation, modular building installation and operations, camp operations, fuel supply, and aviation services. Operations and maintenance contracts are expected to be smaller and potentially more accessible to new and growing Inuit-owned businesses (Volume 2, Section 2.5.5; Volume 9, Section 27.3.6).

2. **Estimated contract values and volumes**

   The current $1.2 billion Project construction cost estimate reflects approximately 10% or conceptual engineering design and is allocated at a high level as approximately $800 million for road construction and $400 million for port construction Volume 2, Section 2.5.5; Volume 9, Section 27.3.6). This initial allocation does not define individual procurement packages or their values and volumes. WKR is conducting a public Request for Proposals process to select a construction contractor on a

Progressive Design-Build basis, and detailed cost information remains commercially confidential during that process. The selected contractor is expected to advance the Project to approximately 60% or feasibility-level design by 2028, when a definitive feasibility study is then planned to set out more detailed capital costs, operating costs, and the financing plan before a Final Investment Decision. Consistent with Guidelines Sections 8.2.4.1(ii) and 8.2.4.2(i) and (v), the IS provides estimates of goods supplied and assesses procurement opportunities and capacity at a level appropriate to the current design stage; defining individual procurement-package values and volumes is not a requirement of the Guidelines.

3. **Local, Inuit, and regional business capacity**

As of July 2024, the Nunavut Tunngavik Incorporated Inuit Firm Registry listed 104 Inuit-owned businesses in the Kitikmeot Region, including 65 in Cambridge Bay. These firms provide relevant services including air charter, blasting, camp management, construction, engineering and professional services, general contracting, heavy equipment, hospitality, logistics, marine transport, medical services, and vehicle rental. Appendix 25A also identifies business supports offered by Kitikmeot Community Futures, including entrepreneurship grants, training, business planning, marketing, and financial services. The IS concludes that regional firms are well positioned to benefit from Project procurement (Volume 9, Sections 27.2.2.4 and 27.2.2.5; Appendix 25A).

4. **Barriers to participation**

The Procurement Strategy responds to potential Inuit participation barriers by providing first opportunity to regional and Inuit businesses where competitive, prioritizing local construction equipment where feasible, providing opportunity information in Inuinnaqtun and Inuktitut, and establishing a community engagement liaison (Volume 9, Section 27.3.6.2; Volume 11, Appendix 37J; see also Guidelines Section 8.2.4.2(vi)).

5. **Bonding, insurance, equipment, and financing needs**

Consistent with Guidelines Sections 8.2.4.1(iii), 8.2.4.2(v), and 8.2.4.2(vi), the IS characterizes the structure and capacity of local and regional businesses to meet Project needs and discusses barriers to local business capacity building, together with the general business-development and financial supports available (the regional business inventory and Kitikmeot Community Futures supports in Appendix 25A and Section 27.2.2.4, and the Procurement Strategy in Volume 11, Appendix 37J). Specifying the bonding, insurance, equipment, working-capital, or financing requirements for individual future contracts is not a requirement of the Guidelines: these depend on procurement packaging and contractor qualification criteria that have not yet been finalized, and information on individual firms' financial capacity, insurance and bonding limits, equipment utilization, and ability to scale is commercially sensitive, changes over time, and is generally held by the businesses and their service providers rather than WKR.

6. **Country-food supply feasibility**

Consistent with Guidelines Sections 8.2.4.1(ii) and 8.2.4.2(vii), the IS assesses existing country-food supply sources from the Kitikmeot Region and Nunavut and the opportunities to supply country food at the Project (Volume 9, Section 27; see also Food Security, Volume 9, Section 25, and Traditional Land, Marine and Resource Use, Volume 9, Section 24). WKR's Culture Program will provide for occasional country food at the Project's main camps. A commercial supply-capacity or procurement-feasibility analysis treating country food as a standard contracting category is not required by the Guidelinesbecause feasibility also depends on harvesting conditions, community priorities, food-security considerations, regulatory requirements, and supplier interest.

7. **Data limitations**

The IS provides a qualitative and quantitative baseline, identifies anticipated procurement categories, inventories relevant regional businesses, and establishes measures to enhance Inuit and regional participation.

The Project remains at an early planning stage (approximately 10% or conceptual engineering design), and detailed construction- and operations-related procurement planning has not yet been completed. Consistent with existing impact assessment practice, the assessment therefore focuses on anticipated opportunities, the regional business base, the likely direction of effects, and participation measures rather than the commercial readiness of individual businesses. Work packages, procurement schedules, contract values and volumes, equipment requirements, and qualification criteria are not yet sufficiently defined to support a reliable capacity comparison.

NIRB 227. (IR-705)

Subject

Population Demographics

Issue / Concern

Reviewer Comments / Reasoning: The IS provides demographic and community baseline information across health, economy, infrastructure, and knowledge/engagement sections. However, demographic indicators are dispersed and not consistently linked to population mobility, worker in/out flows, household composition, and service demand.

Missing Information / Gap: A consolidated demographic baseline by potentially affected community, including migrant/worker-flow assumptions and demographic vulnerability factors, is not provided.

Information Request

Provide a consolidated demographic baseline table by community including: 1. population trends; 2. age/gender structure; 3. household composition; 4. education and diet indicators; 5. relevant cultural/social factors; 6. worker mobility patterns; 7. vulnerable groups; and 8. baseline limitations.

Proponent Response

WKR respectfully submits that the information requested can be found within the People and Communities Baseline Report (Volume 9, Appendix 25A), with supporting content in the Volume 9 valued component (VC; Community Health and Well-being (Section 26.2.2), Employment and Economy (Section 27.2), and Infrastructure and Services (Section 28.2)) baseline overviews and the Volume 3 regional overview. Furthermore, the table being requested is not a requirement of the IS Guidelines. Including the amounts and types of baseline information requested would also create an unnecessarily large, complex, and difficult to navigate document, while repeating information that is already available elsewhere.

In keeping with the effects assessment methodology for the IS (Volume 4, Section 9.4.4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate demographic baseline table.

To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

- **Population trends:** Appendix 25A (Section 4.4, Table 4.1 "Population in Nunavut and the Kitikmeot Region 1981–2021") provides community-level population time series drawn from the Nunavut Census Population by Region and Community, including Cambridge Bay, Gjoa Haven, Kugaaruk, Kugluktuk, Taloyoak, and the smaller settlements of Omingmaktok (Bay Chimo) and Kingaok (Bathurst Inlet).

- **Age structure:** Age structure is not disaggregated by community population group; however, several indicators have age-specific components, including:
  - Educational attainment (e.g., total post-secondary graduates in Canada aged 25 to 54 years, or the total aged 25 to 64 years) (Volume 9, Appendix 25A, Table 7.2; Yellowknife educational attainment, Total Population Aged 15+, Table 11.14)
  - Health status (e.g., perceived health among individuals aged 12 years and older) (Volume 9, Appendix 25A, Table 9.1)
  - Chronic disease prevalence (age-standardized, with condition-specific age thresholds) (Volume 9, Appendix 25A, Section 9.3.4; Table 11.19)
  - Life expectancy and premature mortality (reported by age; premature mortality defined as deaths before age 75) (Volume 9, Appendix 25A, Sections 9.3.1–9.3.2; Section 11.7.2)
  - Mental health and personal health behaviour indicators (total percent 12 years and older) (Volume 9, Appendix 25A, Sections 9.4 and 9.5; Sections 11.7.5 and 11.7.6)
  - Youth and Elders as age-based sub-populations reflecting the region's relatively young population distribution (Volume 9, Appendix 25A GBA+ analysis; Section 26, Table 26.4)
  - Population and demographics for Yellowknife (Section 11.3)
- **Gender structure:** Appendix 25A presents community-level gender structure using the "Men+" and "Women+" categories, consistent with Statistics Canada (2022), with Indigenous and non-Indigenous population breakdowns derived from the 2021 Census Profile. Gender-disaggregated information is provided in the following sections:
  - Labour force characteristics (Volume 9, Appendix 25A; Tables 6.5, 6.6, 11.6, and 11.7)
  - Employment by occupation (Volume 9, Appendix 25A; Table 11.8)
  - Community perspectives on gender and employment (Volume 9, Appendix 25A; Section 6.2.3.1 and Tables 6.7 and 6.8)
  - Income and income inequality (Volume 9, Appendix 25A; Section 6.3.2 and Tables 6.10, 6.11, 11.10, and 11.11)
  - Income distribution (Volume 9, Appendix 25A; Section 6.3.2.2 and Tables 6.12 and 6.13)
  - Educational attainment (Volume 9, Appendix 25A; Tables 7.3, 7.4, 11.14, and 11.15)
- **Health status indicators**, including:
  - Perceived health among individuals aged 12 years and older (Volume 9, Appendix 25A; Tables 9.1 and 11.17)
  - Life expectancy (Sections 9.3.2 and 11.7.2)
  - Chronic diseases (Section 9.3.4 and Table 11.19)
  - Mental health conditions and outcomes (Sections 9.4 and 11.7.5)
  - Personal health behaviours (Sections 9.5 and 11.7.6)
  - Community and family stability (Section 9.6)
  - Gender-based violence (Section 9.6.3.2)

- **Household composition:** Household composition is addressed in Appendix 25A, Sections 4.4.2 and 11.3.1 (Family Structure), which documents marital status and lone-parent families.
- **Education indicators:** Educational attainment by community and demographic group is addressed in Appendix 25A, Sections 7.4 and 11.5 (Educational Attainment).
- **Diet indicators:** Specific information on country food consumption is provided in Section 25.2.2.3. Information related to diet and nutrition is also discussed in the context of chronic diseases (Volume 9, Appendix 25A, Section 9.3.4) and Food Security and Sovereignty (Volume 9, Appendix 25A, Section 10).
- **Relevant cultural/social factors:** Cultural and social factors are documented across Volume 9. The People and Communities Baseline Report (Appendix 25A) addresses these through the Social Determinants of Inuit Health (Section 9.2.1, including culture, language, and cultural continuity), Community and Family Stability (Section 9.6, including gender-based violence at Section 9.6.3.2), Family Structure (Section 4.4), the Food Security and Sovereignty (Section 10), and the Gender Based Analysis Plus framework (Section 3.5). The Community Health and Well-being assessment includes identity-factor and social determinant considerations in its baseline conditions (Section 26.2.2, including community and family stability in Section 26.2.2.6). The Food Security and Sovereignty assessment includes cultural and social factors in its baseline conditions (Section 25.2.2), including Inuit Food System (Section 25.2.2.2) and Country Foods (25.2.2.3). Cultural practices, language use, intergenerational knowledge transfer, and governance systems are further addressed under Traditional Land, Marine, and Resource Use (Section 24).
- **Worker mobility patterns:** The mobility baseline is documented in Appendix 25A, Section 4.4.1.2 (In-Migration within Kitikmeot and from Southern Canada) and Section 4.4.1.3 (Labour Mobility and Out-Migration), supported by the population and demographics baseline in Section 4.4. Project workforce mobilization — a fly-in/fly-out (FIFO) rotation staged through Cambridge Bay, Kugluktuk, and Yellowknife — is described in Volume 2, Section 2.5.3 (Workforce Mobilization), while Project-related mobility effects, including Project-induced demographic changes in population and migration, movement of Kitikmiut between communities, and the effects of FIFO employment on population demographics, are addressed in Volume 9, Sections 27.3.4 (Change in Employment) and 27.3.5 (Change in Education and Training), with related worker-flow context in Sections 26.3 (Assessment of Project Effects on Community Health & Well-being), 27 (Assessment of Potential Effects on Employment and Economy), and 28 (Assessment of Potential Effects on Infrastructure and Services).
- **Vulnerable groups:** Vulnerable and sub-population groups are consolidated in the GBA Plus framework (Appendix 25A, Table 3.5) and reiterated in each Human Environment VC's "Summary of Baseline Information on Sub-Populations for Gender Based Analysis Plus." Applying a consistent GBA Plus and Inuit-Specific GBA Plus approach (Pauktuutit 2025), each VC summarizes the baseline conditions most relevant to its subject matter.

- **Baseline limitations:** Baseline limitations are documented in the Methods and Prediction Confidence subsections of each Human Environment VC and in Appendix 25A. Each Human Environment VC's Literature Review and Secondary Data Collection subsection (Sections 25.2.1.1, 26.2.1, 27.2.1, and 28.2.1) states that disaggregated data by territorial region and by community were not always available, so Nunavut data are assumed to broadly represent similar trends in the Kitikmeot Region. Appendix 25A (Section 3, Methods) documents the demographic data limitations. The Prediction Confidence and Uncertainty subsection (Sections 25.3.9, 26.3.9, 27.4, and 28.4) for each VC chapter discusses gaps, assumptions, and uncertainties and confidence.

NIRB 228. (IR-706)

Subject

Population Demographics

Issue / Concern

Reviewer Comments / Reasoning: The IS discusses worker movement, rotational work, service demand, housing, and community health effects. However, it does not clearly present a demographic-change model or quantify worker transit, in-migration, community redistribution, non-resident interactions, and closure-related unemployment scenarios.

Missing Information / Gap: The assessment lacks a transparent demographic assumptions table connecting workforce, travel, housing, service demand, and socio-cultural interaction effects.

Information Request

Provide a demographic effects addendum including: 1. workforce and travel-flow assumptions; 2. expected local, Nunavut, out-of-territory, and foreign-worker shares; 3. in-migration/redistribution scenarios; 4. non-resident interaction pathways; 5. effects on housing, services, and community safety; 6. temporary/final closure unemployment scenarios; and 7. monitoring indicators.

Proponent Response

WKR believes that we have comprehensively addressed this IR. The information requested is presented across Volume 9 of the IS: Section 26 (Community Health and Well-being), Section 27 (Employment and Economy), and Section 28 (Infrastructure and Services). The Volume 11 socio-economic plans add to it.

1. **Workforce and travel-flow assumptions**

   The construction workforce is expected to be about 10% management, 50% skilled and 40% unskilled (Volume 9, Section 27.3.4.3). Expected Operations and Maintenance positions are set out in Table 27.22 (Volume 9, Page 27-72).

   Workers are expected to travel on regular chartered flights from designated pick-up points in Cambridge Bay, Kugluktuk and Yellowknife. Employees from other communities may travel by commercial air, at WKR's expense, to one of these pick-up points (Volume 9, Section 27.3.4.3). The assumptions on rotational fly-in/fly-out work and camp accommodation are summarized in the response to KAA-59 (IR-59), part 2.

2. **Expected local, Nunavut and out-of-territory shares**

   Employment is reported both by where the work occurs and by where workers live, as described in Volume 9, Section 27.3.1 and summarized in the GN response on Table 27.20.

   Construction: WKR anticipates that about 15% of the construction workforce will be Nunavummiut, about 44 direct full-time equivalent (FTE) positions. The rest of the workforce is expected to come from outside the Kitikmeot Region and Nunavut (Volume 9, Section 27.3.4.3; Table 27.20, Page 27-68).

   Operations and Maintenance: WKR targets 50% of the initial direct workforce to be Nunavummiut. Its aspirational objective is to move to a workforce made up entirely of Nunavummiut over time, or as close to that goal as possible (Volume 9, Section 27.3.4.3, Page 27-72).

   Indirect employment: About half of indirect FTE positions in Nunavut are expected to be filled by Nunavummiut (Volume 9, Section 27.3.4.3).

3. **In-migration and redistribution**

   The IS does not expect out-of-region workers to relocate because of the Project. The IS states that "relocation of out-of-region workers is not anticipated to occur for the Project itself," and that relocation into communities in the RAA is unlikely, except possibly to Yellowknife (Volume 9, Section 28). The reasons given are the Project's remote location, rotational shift work and out-of-region pick-up points. For comparison, the IS cites Goose Mine construction monitoring results (Volume 9, Section 28).

4. **Ways non-resident workers may interact with communities**

   The IS identifies these pathways:

   - workers moving through LAA communities and Yellowknife
   - potential transport of drugs and alcohol, including on flights carrying the Project workforce
   - possible spread of communicable disease

   These are assessed in Volume 9, Section 26 and summarized in the response to KAA-59 (IR-59), part 2. Effects outside Nunavut, including Yellowknife, are summarized in the response to IRC-02 (IR-395), part a), drawing on Volume 10, Section 33.5.3.

5. Effects on housing, services and community safety

Housing: Volume 9, Section 28 assumes the Project workforce will stay in work camps rather than in Kitikmeot community housing (refer to the response to KAA-59 (IR-59), part 2). The Socio-economic Monitoring Program will track housing availability for workers so that WKR can respond in time if demand for accommodation in the LAA rises unexpectedly (Volume 9, Section 28).

Services: Effects on infrastructure and services are assessed in Volume 9, Section 28. Effects in Yellowknife and in the Inuvialuit Settlement Region (ISR) are summarized in the response to IRC-02 (IR-395).

Community and personal safety: Volume 9, Section 26 assesses effects arising from fly-in/fly-out rotational work, workers moving through LAA communities, and Project employment and income. Mitigation is summarized in the response to KAA-53 (IR-53).

6. **Temporary and final closure**

The Project components are considered permanent infrastructure. Operations and Maintenance is anticipated to begin in 2035 and continue indefinitely (Volume 2, Section 2.2). Care and maintenance measures for temporary or unplanned closures or reduced operations, such as a pandemic or a labour strike, are included in the Road Management Plan and Port Management Plan (Volume 11, Section 37.1.8, Page 37-9).

7. **Monitoring indicators**

The Socio-economic Monitoring Program (SEMP; Volume 11, Appendix 37K, filed in draft) will track socio-economic indicators including training, employment and procurement. Annual monitoring reports will be submitted to NIRB (Volume 11, Section 37.1.7, Page 37-8). Indicators for employment by community of residence are identified in Volume 11, Appendix 37K, Table 2.1. WKR will consider indicators for socio-economic effects outside Nunavut as the SEMP is developed (refer to the response to IRC-02 (IR-395), part b).

NIRB 229. (IR-707)

Subject

Traditional Activity and Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The IS contains extensive TLMRU and food security baseline information informed by Inuit, Indigenous, and Community Knowledge. However, some spatial information is constrained by confidentiality, and the traceability of specific knowledge inputs to project design, mitigation, monitoring, and final conclusions is not fully transparent.

Missing Information / Gap: The IS does not provide a complete non-confidential knowledge-integration matrix showing how specific traditional activity and knowledge information changed design, baseline interpretation, effects analysis, mitigation, monitoring, or significance.

Information Request

Provide a Traditional Activity and Knowledge integration matrix that identifies: 1. key knowledge/input theme; 2. source type and validation method, respecting confidentiality; 3. affected activity/resource/place; 4. IS section using the information; 5. design, mitigation, monitoring, or conclusion influenced; 6. unresolved concerns or differing views; and 7. follow-up commitments.

Proponent Response

WKR's consolidated response regarding the integration matrix is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Proponent Response Package. Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase.

NIRB 230. (IR-708)

Subject

Traditional Activity and Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses TLMRU and food security effects and links to wildlife, marine, freshwater, and access-related pathways. However, the adequacy of conclusions depends heavily on future access controls, road governance, caribou measures, and monitoring that are not fully specified.

Missing Information / Gap: The access governance and monitoring framework does not fully demonstrate how harvesting access, caribou movement, cultural travel, food security, and rights-related effects will be managed, measured, and adaptively controlled over the Project life.

Information Request

Provide a TLMRU access and harvesting effects addendum including: 1. road, port, marine, airstrip, and quarry access rules; 2. HTO/KIA/WKR decision roles; 3. harvest access approval/denial procedures; 4. caribou and marine-mammal-related access triggers; 5. monitoring indicators for harvest success, access avoidance, travel safety, and perceived contamination; 6. future-generation considerations; and 7. adaptive management responses.

Proponent Response

Please refer to the responses to Information Requests BQCMB-IR 008 (IR-341), KIA-IR-39 (IR-109) and GN-IR-20 (IR-300) for a discussion on where additional details on TLMRU access and harvesting effects are provided, including WKR's proposed access control system. WKR has committed to developing the details of access control (including harvest-related access permits) through consultation with co-management parties. These details will be provided in an updated WMMP; please refer to the response to Information Request IR-429 (YKDFN-IR-18) for further discussion.

NIRB 231. (IR-709)

Subject

Traditional Activity and Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The IS includes translated summaries/materials and describes engagement, but also identifies interim machine-translated content pending human validation. Language access is essential for meaningful review of socioeconomic and cultural effects.

Missing Information / Gap: The IS does not provide a consolidated Official Languages compliance table for all public-facing socioeconomic materials, including final human-verified translations, interpreter support, terminology validation, and notification of changes.

Information Request

Provide an Official Languages and public-accessibility table identifying: 1. all socio-economic materials requiring translation; 2. languages provided; 3. human translator/reviewer qualifications; 4. community validation steps; 5. interpretation availability; 6. technical terminology review; 7. schedule for replacing interim translations; and 8. process to notify communities and NIRB of substantive translation changes.

Proponent Response

Please refer to the responses to information requests NIRB 25 (IR-502), NIRB 26 (IR-504) and NIRB 37 (IR-515) for information regarding translated materials, as required by the Final NIRB Guidelines for the Project.

NIRB 232. (IR-710)

Subject

Non-traditional Land Use and Resource Use

Issue / Concern

Reviewer Comments / Reasoning: The IS provides a nontraditional land, marine, and resource use assessment including mining, commercial harvesting, tourism, recreation, land use designation, and marine navigation. However, overlap mapping and visual/aesthetic effects are less clearly consolidated for reviewers.

Missing Information / Gap: The IS does not provide a single map series showing all non-traditional land and marine uses, tourism/recreation areas, shipping routes, protected/important areas, visual receptors, and direct overlap with project components and restricted-access areas.

Information Request

Provide a non-traditional use map package showing: 1. mining claims/exploration areas; 2. tourism/recreation/commercial harvesting areas; 3. protected/important areas; 4. marine navigation and small craft routes; 5. visual/aesthetic receptors; 6. project components and access restrictions; and 7. areas of overlap/conflict by phase.

Proponent Response

WKR respectfully submits that most of the requested maps reside in the IS, but where NIRB has identified this content is absent, WKR has included it within Appendix E Supplemental Figures appended to the IR submission. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

Figure 29.2 and Figure 29.3 in Volume 9, Section 29 show the project components along with mineral claims, mining leases, licensed tourism operators, and protected/important areas. Marine Navigation and small craft routes are shown on Figure 23.10 and Figure 23.11 in Volume 8, Section 23, and Figure 33.1 (Volume 10, Section 33) and on Figure GBPR-073_Fig9 in Appendix E Supplemental Figures. Visual and aesthetic resources are discussed in the response to IR-831. Because the Project is primarily permanent infrastructure overlap during the operations and maintenance phase will be as depicted on the above figures. During the construction phase there would be partial overlap with the features shown which will change as construction progresses.

NIRB 233. (IR-711)

Subject

Non-traditional Land Use and Resource Use

Issue / Concern

Reviewer Comments / Reasoning: The IS predicts positive effects for access to mining and resources, and limited adverse effects for tourism, recreation, commercial harvesting, and marine navigation. Positive effects are not characterized in the same detail as adverse effects, and tourism wilderness-experience effects are not supported by a detailed receptor-based assessment.

Missing Information / Gap: The magnitude, distribution, and certainty of positive non-traditional-use effects are not fully characterized, and effects on tourism wilderness values and visual/aesthetic experience lack a clear monitoring/enhancement framework.

Information Request

Provide a non-traditional use effects addendum including: 1. residual-effects characterization for positive and adverse effects; 2. tourism/recreation receptor assessment; 3. visual/aesthetic impact analysis; 4. access conflict analysis; 5. shipping and marine-navigation conflict assessment; 6. cumulative effects with future mining and shipping; and 7. monitoring/enhancement measures.

Proponent Response

WKR respectfully submits that effects on non-traditional land, marine and resource use are assessed in Volume 9, Section 29. Each element of the request is addressed below.

1. **Residual-effects characterization, positive and adverse.** Residual effects are characterized using the criteria in Volume 9, Table 29.3 (Section 29.1.5). These include direction of change (positive, adverse or neutral), magnitude, geographic extent, timing, duration, frequency and reversibility. Project residual effects are summarized in Section 29.3.6. Consistent with Volume 4, Section 9.4.1.4, positive residual effects are described but not carried forward to a significance determination.

2. **Tourism and recreation.**

    - Baseline: commercial harvesting, tourism and recreation are described in Volume 9, Section 29.2.2.4, and Appendix 25A, Section 5.7.
    - Effects: assessed in Volume 9, Section 29.3.4, Change in Access to and Use of Lands and Resources for Commercial Harvesting, Tourism and Recreation.

3. **Visual and aesthetic effects.** Visual and aesthetic effects, including effects on the wilderness experience, are assessed qualitatively as pathways of the effect "Change in access to and use of lands and resources for commercial harvesting, tourism and recreation." The relevant parts of Volume 9 are:

    - Effect pathways and measurable parameters: visual quality, sensory disturbance, and experiential quality (Volume 9, Section 29.1.3 and Table 29.2).
    - Project effects and residual effects: Volume 9, Section 29.3.4 with the residual effects summarized in Table 29.8 (Volume 9, Section 29.3.6)
    - Cumulative effects: Volume 9, Section 29.4.3
    - Mitigation measures: Volume 9, Section 29.5.3

4. **Access conflicts.**

    - Baseline land use: Volume 9, Section 29.2.2.1 and Table 29.4, and Appendix 25A, Section 5.6
    - Effects on land use designation and on access for mining, commercial harvesting, tourism and recreation: Volume 9, Sections 29.3.2, 29.3.3 and 29.3.4
    - Road access management: Volume 11, Appendix 37A, Section 5.1.1

5. **Shipping and marine navigation.** Assessed in Volume 9, Section 29.3.5, Change in Access to and Use of Waters for Marine Navigation

6. **Cumulative effects with future mining and shipping.** Assessed in Volume 9, Section 29.4

    - Section 29.4.1, Project residual effects likely to interact cumulatively
    - Section 29.4.2, access for mining
    - Section 29.4.3, access for mining, commercial harvesting, tourism and recreation
    - Section 29.4.4, marine navigation
    - Section 29.4.5, summary

7. **Monitoring and enhancement.**

    - Mitigation, management and enhancement measures: Volume 9, Section 29.5.3
    - Prediction confidence: Volume 9, Section 29.6
    - Follow-up and monitoring: Volume 9, Section 29.7, the Socio-economic Monitoring Plan (Volume 11, Appendix 37K), and Volume 11, Section 37.1.5

    The information is presented within Section 29. A separate addendum is not provided.

NIRB 234. (IR-712)

Subject

Heritage Resources

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies heritage resources as a VC and provides a baseline overview. However, the document indicates limitations regarding access to some archaeological data and reports, and paleontological resources require further attention. Missing Information / Gap: Baseline information is incomplete for full technical review because not all archaeological datasets and reports are available, and paleontological potential is not clearly assessed for all project disturbance areas.

Information Request

Provide a heritage baseline data-gap addendum including: 1. all AIA reports and data received/outstanding; 2. known sites by disturbance area, respecting confidentiality; 3. paleontological potential assessment; 4. Inuit Knowledge inputs on camps, travel routes, graves, sacred/spiritual areas, and historic places; 5. survey coverage; 6. outstanding fieldwork; and 7. data-sharing constraints and review process with GN and Inuit Heritage Trust.

Proponent Response

See response to NIRB 49 (IR-527) with respect to sharing locations of archaeological and heritage resources and NIRB 63 (IR-541) for additional information on the process followed for potential effects to archaeological and heritage resources.

NIRB 235. (IR-713)

Subject

Health and Wellbeing

Issue / Concern

Reviewer Comments / Reasoning: The IS provides community health and well-being baseline information and recognizes social determinants of health. However, some sensitive topics and household-level indicators are necessarily difficult to characterize, and the baseline does not fully show community-specific thresholds or the way indicators were selected with communities. Missing Information / Gap: The IS lacks a consolidated community health and well-being indicator framework that identifies community-selected indicators, baseline status, vulnerable groups, thresholds, data limitations, and monitoring methods.

Information Request

Provide a community health and well-being baseline/indicator framework including: 1. community-selected indicators; 2. baseline data by community; 3. household/family structure indicators where available; 4. mental health and coping indicators; 5. vulnerable groups; 6. nutrition and country food indicators; 7. work-life balance indicators; 8. limitations/confidentiality; and 9. monitoring thresholds.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Volume 9, Section 26 (Community Health and Well-being) and the People and Communities Baseline Report (Appendix 25A, Section 9 Community Health and Well-being), with supporting content in Sections 24, 25, and 27, and the Socio-Economic Monitoring Plan (SEMP) (Volume 11, Appendix 37K).

In keeping with the effects assessment methodology for the IS (Volume 4, Section 9.4.4), baseline information and indicators are presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate community health and well-being baseline/indicator framework.

To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

1. **Community-selected indicators**: Baseline indicators were developed with reference to the *Guidelines for the Preparation of an Impact Statement for the WKR Grays Bay Road and Port Project* (NIRB 2026) description of well-being (Inuit Qaujimajatuqangit principles, cultural continuity and language, social/physical/mental health, connection to the land, and access to training/education/employment), the Inuit determinants of health (ITK 2014), and community concerns identified through engagement, and comprise: social determinants of health and well-being; physical health conditions and outcomes; mental health conditions and outcomes; personal health behaviours;

community and family stability; and community safety (Appendix 25A, Section 9; primary-research interview guide). The corresponding measurable parameters are set out in Section 26.1.3, Table 26.1. Furthermore, while WKR has endeavored to meaningfully incorporate community perspectives throughout the IS, community-selected indicators are not a requirement of the IS Guidelines.

2. **Baseline data by community**: Community-level and regional baseline conditions are presented in Section 26.2.2 (Overview), with supporting content in Sections 24, 25, and 27 and, in greater detail, in Appendix 25A. Where community- or Kitikmeot-specific data were unavailable, Nunavut and NT data are used as a **proxy** (see element 8).

3. **Household/family structure indicators**: Household social structures and family stability are addressed in Section 26.2.2.6 (Community and Family Stability), with supporting baseline information provided in Appendix 25A (Section 4.4.2 Family Structure), documenting marital status and lone-parent families.

4. **Mental health and coping indicators:** Mental health conditions and outcomes are described in Section 26.2.2.4 (baseline), with supporting baseline indicators provided in Appendix 25A, Section 9.4 (Mental Health Conditions and Outcomes) — covering perceived mental health, perceived life stress, mood disorders, mental health service use, and suicide — and assessed in Section 26.3.5 (Change in Mental Health, Emotional Health, and Coping Mechanisms), with measurable parameters including measures of mental and emotional health (e.g., stress, depression, anxiety), qualitative perceptions of fears/concerns, and rates of substance use (Table 26.1).

5. **Vulnerable groups:** Key sub-populations were identified using a GBA Plus framework (Appendix 25A, Table 3.5) and summarized in Section 26.2.2.8 (Summary of Baseline Information on Sub-Populations for GBA Plus), which draws on an Inuit social –determinants –of health perspective (ITK 2014) to identify the groups most likely to experience disproportionate health outcomes. These include: Inuit, hunters and trappers, Indigenous women and girls, other Indigenous peoples, women+, men+, low-income individuals and households, people with disabilities, lone parent families, 2SLGBTQQIA+ community, youth and Elders.

6. **Nutrition and country food indicators:** Country food consumption and the Inuit food system are addressed in Section 25.2.2.3 (Country Foods) and described in Appendix 25A, Section 10 (Food Security and Sovereignty baseline), with diet also discussed in relation to chronic diseases (Appendix 25A, Section 9.3.4).

7. **Work-life balance indicators:** Inuit work-life balance and the ability to devote time to traditional activities versus wage work are addressed in Section 25.2.2.3 (Country Foods), Section 27.2.2.3 (Traditional Economy), and Appendix 25A, Section 9, and further considered in the assessment of family/community cohesion (Section 26.3.6).

8. **Limitations and confidentiality:** Data limitations are documented in the CHWB Methods subsection (Section 26.2.1) and Appendix 25A (Section 3), including that disaggregated data by region and community were not always available (Nunavut/NT data may have been used as proxy) and that, per Statistics Canada, small non-binary populations may have been aggregated into "Men+"/"Women+" categories to protect confidentiality. Prediction confidence and residual uncertainty are addressed in Section 26.6.

9. **Monitoring thresholds:** Follow-up and monitoring are addressed in Section 26.7, with socio-economic and community wellness indicators to be tracked through the SEMP (Volume 11, Appendix 37K), which will describe a monitoring framework of indicators, thresholds/targets, data sources, and reporting frequency (Table 2.1). The specific measurable health and well-being thresholds, action levels, reporting protocols, and confidentiality safeguards for sensitive social-health indicators are to be finalized through SEMP development.

NIRB 236. (IR-714)

Subject

Health and Wellbeing

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses multiple health and well-being pathways and identifies both positive and adverse effects. It acknowledges rotational work stress, substance use, communicable disease risk, family dynamics, safety, and exposure to pollutants/hazards. However, the monitoring and mitigation mechanisms are not yet sufficiently specific to demonstrate effectiveness.

Missing Information / Gap: The SEMP and related plans do not yet define measurable health/well-being thresholds, action levels, reporting protocols, confidentiality safeguards, or partner responsibilities for sensitive social-health indicators.

Information Request

Provide a health and well-being mitigation and monitoring plan that includes: 1. indicators for mental health, substance use, communicable disease, family/community cohesion, safety, racism/harassment, financial stress, and work-life balance; 2. baseline and thresholds; 3. partner roles; 4. confidential reporting safeguards; 5. worker/community programs; 6. adaptive responses; 7. annual reporting; and 8. procedures if adverse trends are detected.

Proponent Response

WKR respectfully submits that the information requested in this IR is addressed in Volume 9, Section 26 (Community Health and Well-being), the draft Socio-economic Monitoring Plan (SEMP; Volume 11, Appendix 37K), and the Health and Medical Services Plan (HMSP) to be developed by WKR. Please also see the preamble discussion to NIRB at the beginning of the IR responses for further context.

In keeping with the effects assessment methodology (Volume 4, Section 9.4.4), WKR has not prepared a separate health and well-being mitigation and monitoring plan. The SEMP and HMSP are at the conceptual stage. Measurable thresholds, action levels, reporting protocols, and confidentiality safeguards for sensitive social-health indicators will be finalized as these plans advance through the regulatory review process and incorporate relevant engagement feedback. The sections below summarize the measures to be monitored for each requested element. Related responses include NIRB 224 (IR-702), NIRB 235 (IR-713), NIRB 239 (IR-717) and NIRB 242 (IR-720).

1. **Indicators:** The SEMP monitors health and well-being by tracking whether the related mitigation measures and commitments are implemented and what they achieve. Table IR-236.1 links each requested topic to those measures and their initial monitoring indicators. Thresholds or targets, data sources, and collection frequency are set out in Volume 11, Appendix 37K, Table 2.1.

Table IR-236.1 Mitigation Measures and Monitoring Indicators by Topic

Requested Topic	Related Mitigation Measure/Commitment	Monitoring Indicator
Mental Health	Employee and Family Assistance Program (EFAP)	EFAP use trends (aggregated); awareness activities delivered
	Inuit Employee Assistance Program (IEAP), if available	IEAP use trends (aggregated); access to culturally appropriate services
Substance use	No Drug and Alcohol Policy	Policy training completion rates; number of incidents related to impairment or prohibited substances
	EFAP and IEAP (if available)	EFAP and IEAP use trends (aggregated)
Family and community cohesion	Flexible work scheduling for cultural and harvesting activities	Number of flexible schedule requests approved; use of cultural leave provisions
	Travel Policy and managed transportation approach	Travel-related delays and unplanned community stopovers
	Community engagement and feedback process	Engagement activities delivered; issues and complaints raised and resolved; response timelines met
Safety	Employee Code of Conduct	Code of Conduct training completion; number and type of reported incidents; corrective actions implemented
	No Drug and Alcohol Policy	Number of incidents related to impairment or prohibited substances
	Community engagement and feedback process	Issues and complaints raised and resolved; response timelines met
Racism and harassment	Employee Code of Conduct	Code of Conduct training completion; number and type of reported incidents; corrective actions implemented
	Cultural awareness training	Cultural awareness training completion rates; cultural awareness activities implemented
	Gender, equity, and diversity policies	Workforce composition by gender and Indigenous identity; participation of under-represented groups
Financial stress	EFAP and IEAP (if available)	EFAP and IEAP use trends (aggregated)
Work-life balance	Flexible work scheduling for cultural and harvesting activities	Number of flexible schedule requests approved; use of cultural leave provisions
	EFAP and IEAP (if available)	EFAP and IEAP use trends (aggregated)
Note: Communicable disease will be addressed through the HMSP.		

WKR will develop and implement an HMSP that includes:

- prevention and management of injuries, infection, and disease;
- medical and first aid services;
- medical emergency response protocols;
- workplace health promotion, including an EFAP and IEAP.

The HMSP is expected to reduce demand on local health services, reduce communicable disease transmission and manage outbreaks, and provide mental health supports to workers and their families. These supports will help address the effects of rotational work in remote locations. The HMSP will include a monitoring and adaptive management component. It is described in Volume 9, Section 26, and summarized in Volume 9, Section 26.5.3. See also NIRB 242 (IR-720).

As the SEMP is refined, more indicators may be added, such as reported household financial pressures. Any added indicators will be subject to privacy, data availability, and agency mandates. See also NIRB 235 (IR-713) and NIRB 224 (IR-702).

2. **Baseline and thresholds:** The baseline conditions in Volume 9, Section 26.2.2, and Volume 9, Appendix 25A, Section 9, provide the reference point for interpreting monitoring results. Volume 11, Appendix 37K, Table 2.1, identifies an initial threshold or target for each mitigation measure. Measurable thresholds and action levels will be set through the SEMP monitoring framework (Volume 11, Appendix 37K, Section 2) and the HMSP monitoring component. See also NIRB 235 (IR-713), elements 2 and 9; NIRB 239 (IR-717), part 7; and NIRB 242 (IR-720), part 7.

3. **Partner roles:** WKR will be responsible for developing, implementing, and monitoring the SEMP and HMSP (Volume 11, Appendix 37K, Section 1.3). Public agencies will keep their statutory roles in health-care delivery and public health protection. The HMSP's outbreak protocols will include communication with the Government of Nunavut Department of Health and Social Services and notifications to communities (Volume 9, Section 26.3.4.3). In consultation with the Kitikmeot Socio-Economic Monitoring Committee, WKR will identify how Project monitoring aligns with regional initiatives (Volume 11, Appendix 37K, Section 1.2). See also NIRB 242 (IR-720), part 5.

4. **Confidential reporting safeguards:** WKR will receive EFAP and IEAP information only as aggregated summaries from the service provider, and providing self-identification data will be voluntary (Volume 11, Appendix 37K, Table 2.1). Third-party and contractor information will be provided in aggregated form (Volume 11, Appendix 37K, Section 2). Confidentiality safeguards for sensitive social-health indicators will be finalized through development of the SEMP and HMSP. See also NIRB 235 (IR-713), part 8 and 9.

5. **Worker and community programs:** The worker and community programs and policies to be monitored are listed in Table 1, under column 2. Further supports include the HMSP, on-site family communication tools, and opportunities to connect with Elders. These programs and policies are summarized in Volume 9, Section 26.5.3. See also NIRB 224 (IR-702), part 4.

6. **Adaptive responses and 8. Procedures if adverse trends are detected:** WKR management will regularly review SEMP and HMSP monitoring results to assess whether measures are effective and to identify emerging issues or trends (Volume 9, Section 26.7). Where measures are not achieving their intended outcomes or targets, WKR will apply adaptive management (Volume 11, Appendix 37K, Section 4). This may include:

    - further investigation;
    - changes to how measures are implemented;
    - enhanced engagement with Inuit Organizations and communities;
    - revised commitments in consultation with regulators.

    Communicable disease outbreaks will be managed through the HMSP response protocols (Volume 9, Section 26.3.4.3). See also NIRB 242 (IR-720), part 4, and NIRB 239 (IR-717), part 7.

7. **Annual reporting:** The SEMP will include annual monitoring reports submitted to NIRB, and to other interested parties as required (Volume 11, Appendix 37K, Section 3). Monitoring results will be reported to regulators and discussed with the Kitikmeot Socio-Economic Monitoring Committee (Volume 11, Section 37.1.5). See also NIRB 242 (IR-720), part 8.WKR has committed to updating the SEMP during the NIRB process and incorporating relevant engagement feedback (Volume 11, Appendix 37K, Section 1.1). If necessary, WKR will submit the final version(s) after the final hearing.

NIRB 237. (IR-715)

Subject

Health and Wellbeing

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies follow-up and monitoring generally but does not provide a complete indicator set clearly developed with Inuit and other potentially affected Indigenous groups, including transboundary communities, for residual well-being effects.

Missing Information / Gap: The relationship between engagement feedback, selected indicators, residual-effect conclusions, and monitoring thresholds is not fully traceable.

Information Request

Provide a well-being indicator development record showing: 1. engagement participants/groups; 2. indicators proposed by Inuit, Indigenous groups, and communities; 3. indicators selected/not selected and rationale; 4. baseline data; 5. thresholds/action levels; 6. transboundary community considerations; 7. reporting frequency; and 8. adaptive management commitments.

Proponent Response

WKR's consolidated response regarding a well-being indicator development record is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Proponent Response Package. Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase. Additionally, please refer to the responses to NIRB 235. (IR-713), and NIRB 236 (IR-714).

NIRB 238. (IR-716)

Subject

Community Infrastructure and Public Services

Issue / Concern

Reviewer Comments / Reasoning: The IS provides infrastructure and services baseline information, including housing, services, utilities, transportation, and community context. However, capacity constraints and cost responsibilities are not fully quantified across all affected communities and regional service centres.

Missing Information / Gap: The baseline does not provide a complete capacity-and-cost table for health care, medevac, emergency response, housing, accommodations, utilities, communications, waste, transportation, and outpost facilities.

Information Request

Provide an infrastructure baseline capacity table by community/service centre identifying: 1. existing capacity; 2. current constraints; 3. service providers; 4. projected project interaction; 5. spare capacity; 6. cost responsibility; 7. data gaps; and 8. seasonal or emergency-response limitations.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Volume 9, Section 28 (Infrastructure and Services) and the People and Communities Baseline Report (Appendix 25A, Section 8 Infrastructure and Services), with supporting content in the transboundary assessment (Volume 10, Section 33.5.5) and the Community Health and Well-being VC (Section 26). Furthermore, the table being requested is not a requirement of the IS Guidelines. Including the amounts and types of baseline information requested would also create an unnecessarily large, complex, and difficult to navigate document, while repeating information that is already available elsewhere.

In keeping with the effects assessment methodology for the IS (Volume 4, Section 9.4.4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate infrastructure baseline capacity table by community/service centre.

To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

Existing capacity: Baseline capacity by service type is presented in Section 28.2.2 (Overview) and, in greater detail, in Appendix 25A, Section 8 — covering housing (8.1), emergency shelters (8.1.2) and temporary accommodation (8.1.3), transportation and community resupply including sealift and air service (8.2), emergency services (policing 8.3.1, fire 8.3.2), marine infrastructure (8.4), utilities (water, sewage, solid waste, fuel — 8.5), and community programs and recreation (8.6).

Current constraints: Constraints are documented throughout Section 28.2.2 and Appendix 25A, Section 8, including:

- **Infrastructure operating at or beyond its useful lifespan** and the general challenges of the harsh environment, high costs, short construction season, and remoteness (Section 28.2.2, Overview introduction; Appendix 25A, Section 8)
- **Housing shortage and overcrowding** (Section 28.2.2; Appendix 25A, Section 8.1 Housing)
- **Limited fire-hall capacity**, with more than half of Nunavut communities identifying a need for new or renovated fire halls, and some fire halls lacking running water or adequate space (Appendix 25A, Section 8.3.2 Fire Services)
- **Constrained utilities** (limited water supply, sewage, and solid-waste capacity) (Appendix 25A, Section 8.5 Utilities)
- **Infrequent and weather-dependent community resupply** (Appendix 25A, Section 8.2 Transportation and Community Resupply)

Service providers: Providers are identified in Appendix 25A, Section 8 and Section 28.2.2 — for example, hamlets for community water, sewage, and solid waste; the GN Department of Community and Government Services for dry-cargo resupply and fire protection; the Petroleum Products Division for bulk fuel; GNWT Marine Transportation Services for barge resupply to Cambridge Bay and Kugluktuk; the RCMP for policing; and the Yellowknife Fire Division for fire/EMS in that community.

Projected Project interaction: Potential Project interactions with each infrastructure/service category are identified in Section 28.3.2, Table 28.7 (Project Interactions with Infrastructure and Services), and assessed in Sections 28.3.3 (community infrastructure/public services or utilities), 28.3.4 (accommodation and housing), 28.3.5 (transportation infrastructure), and 28.3.6 (community resupply).

Spare capacity: Baseline information on spare or available capacity is presented where quantitative capacity data are available. For the Tibbitt to Contwoyto Winter Road, the IS establishes the TCWR's available capacity in the Transportation and Community Resupply baseline (Volume 9, Section 28.2.2.3, pp. 28-25 to 28-26), and the effects assessment then measures the Project's incremental demand against that figure.. For other infrastructure and services, including housing, temporary accommodation, emergency services, marine infrastructure, utilities, community resupply, and community programs, Sections 28.2.2 and Appendix 25A, Section 8 describe existing facilities, service levels, utilization pressures, and known constraints. However, the available baseline sources do not consistently report

rated capacity, current utilization, or a quantified measure of spare capacity in a comparable format for each community and service.

Cost responsibility: Responsibility for providing, operating, and funding infrastructure and services is described through the service-provider and governance information in Section 28.2.2 and Appendix 25A, Section 8. The baseline identifies the responsible provider or administering organization where information is available; however, it does not consistently provide a detailed breakdown of capital, operating, subsidy, or user-fee responsibility for every service and community.

Data gaps: Baseline infrastructure and services information was compiled from Inuit, Indigenous, and Community Knowledge, engagement and community-based interviews, government and municipal information, statistical sources, academic literature, and grey literature, as described in Section 28.2.1 and Appendix 25A. The availability and level of detail of the baseline information vary by community and service. In some cases, regional or territorial information is used to provide context where comparable community-level information is unavailable.

Seasonal or emergency-response limitations: Baseline seasonal limitations are described in Section 28.2.2 and Appendix 25A, Section 8. Baseline emergency-response limitations are addressed through the descriptions of policing, fire protection, search and rescue, ambulance and medevac services in Section 28.2.2 and Appendix 25A, Section 8, with health-service capacity and the need for travel or medical evacuation to regional or southern facilities described in Section 26.2.2.2.

NIRB 239. (IR-717)

Subject

Community Infrastructure and Public Services

Issue / Concern

Reviewer Comments / Reasoning: The IS assesses infrastructure and service effects and identifies potential pressure on services, housing, accommodations, transportation, and health systems. However, the assessment does not fully quantify incremental demand, public costs, service agreements, NWT/Yellowknife service dependencies, medevac capacity, or closure access scenarios.

Missing Information / Gap: Service-capacity effects are described but not fully supported by quantitative demand estimates, agreements with service providers, incremental cost analysis, or binding mitigation commitments.

Information Request

Provide an infrastructure and services effects addendum including: 1. projected demand on health, emergency, medevac, housing, accommodations, utilities, waste, communications, and transport services; 2. Nunavut/NWT/Yellowknife service dependencies; 3. incremental public/private costs; 4. agreements or coordination measures; 5. freight/return shipping feasibility; 6. community access upon closure or long-term stewardship; and 7. monitoring thresholds and mitigation actions.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Volume 9, Section 28 (Infrastructure and Services) and Section 26 (Community Health and Well-being), the transboundary assessment (Volume 10, Section 33), and the Socio-Economic Monitoring Plan (SEMP) (Volume 11, Appendix 37K), with supporting content in Volume 2 (Project Description) and the Progressive Reclamation / Care and Maintenance Plan (Volume 11, Appendix 37F).

Consistent with the effects assessment methodology for the IS (Volume 4, Section 9.4.4) and the transboundary approach (Section 33.3.2, which cross-references the relevant VC sections rather than repeating them), this information is presented within the applicable assessment sections. Accordingly, as each requested element is already documented in the IS, a separate infrastructure and services effects addendum is not necessary; the cross-references below identify where each element is located to support the Board's review.

1. **Projected demand on services:** Projected Project demand is assessed by service category in Section 28.3 and its transboundary counterpart (Volume 10, Section 33.5.5): transportation (Section 28.3.5), community resupply (Section 28.3.6), accommodation and housing (Section 28.3.4), and community infrastructure and public services or utilities (Section 28.3.3), with health, emergency, and medevac demand addressed in Section 26.3.3 and Section 33.5.3, and in WKR's response to IR-389.

2. **Nunavut/NWT/Yellowknife service dependencies:** Project-related effects on services in other jurisdictions are assessed in Volume 9. Section 26.3.3 (Change in Access to Health Infrastructure and Services) assesses potential effects on health services. This includes transferring Project workers who need off-site care to Stanton Territorial Hospital in Yellowknife or to hospitals in southern Canada (e.g., Edmonton). Potential effects on Yellowknife infrastructure and services are assessed in three sections:

    - Section 28.3.3 (Change in Community Infrastructure and Access to Public Services or Utilities), including Yellowknife utilities, emergency services, community programs and recreation and facilities
    - Section 28.3.4 (Change in Accommodation and Housing Availability), including temporary accommodation in Yellowknife
    - Section 28.3.5 (Change in Transportation Infrastructure), including the Yellowknife Airport and the Tibbitt to Contwoyto Winter Road (TCWR)

    Transboundary effects are also addressed in Volume 10, Section 33.5.5. That section considers demands on the Yellowknife landfill, temporary accommodations, air transport, and the TCWR. It also covers marine resupply by sealift from Quebec and possible barging from Hay River, Inuvik, or Tuktoyaktuk.

    For the Inuvialuit Settlement Region (ISR), Section 33.5.5:

    - considers concerns from Inuvik community members about added pressure on ISR housing and infrastructure
    - concludes that out-of-region workers are not expected to relocate to the ISR
    - describes possible use of existing staging facilities in Inuvik or Tuktoyaktuk, with up to three barges per construction year, each needing about 45 truckloads to travel through the ISR from the Yukon border

3. **Incremental public/private costs:** The IS does not assign specific cost responsibility for community infrastructure or service costs — that is, it does not allocate financial responsibility among WKR, territorial or federal governments, and communities. What the IS does provide is WKR's mitigation commitments to avoid imposing costs on existing community infrastructure and capacity: for example, WKR will use dedicated contracted sealifts and trucks so as not to affect existing commercial resupply capacity, and will house most workers in Project camps to reduce pressure on community housing (Sections 28.3.4 and 28.3.6). On user cost responsibility for the new infrastructure specifically, Volume 2 (Section 2.6.3.1) states that tolls may be charged for commercial use of the Project components, while no tolls will be charged for community use of the road and port.

4. **Agreements or coordination measures:** Coordination measures are described in Volume 9, Section 28.3.6.2. For example, WKR will work with local and territorial governments to reduce potential sealift interference. Other proposed agreements/coordination measures are described in Volume 9, Section 29.3.3.3. This section states “WKR will control access to the road through agreements with key user groups. Mining users will have access to the road on a tolled basis, with port and road use fees to be established through agreements between WKR and mining/exploration companies. Security and other public government users will have access to the road through agreements to be established between WKR and the relevant government department or agency. Inuit community users will have no-cost access to the road for travel and transportation purposes, subject to agreeing to abide by safe operating procedures. Users seeking access to the road for harvesting purposes will require prior approval from the Kitikmeot Inuit Association and an Inuit wildlife organization (Hunter and Trapper Organization (HTO)). If no approval process is in place, WKR anticipates that use of the road for harvesting purposes would be prohibited” (pg. 29-38).

5. **Freight/return-shipping feasibility**: Freight and return-shipping feasibility is assessed in Volume 9, Section 28.3.6 (Change in Community Resupply). The IS describes the Grays Bay Port, road connection, and port warehousing as an additional access point and resupply option rather than a replacement for existing sea-lift and air-freight routes, and is not anticipated to adversely affect existing sea-lift and air-freight capacity used for Kitikmeot community resupply (Volume 9, Section 27.3.7, pg 27-92). Goods and materials may move through complementary modes depending on the type of good, seasonal conditions, and destination: sealift during the open-water season, with marine-based infrastructure potentially extending the sealift resupply period from approximately September only to approximately three months, for example from July to September (Volume 9, Section 28.4.5, pg 28-58); and ground-based transport from Yellowknife via the TCWR and Grays Bay Road during the winter-road season. Because port landside facilities would allow goods to be warehoused at the Grays Bay Port year-round, the Project could serve as a stockpiling and consolidation point—during 2024–2025 engagement in Gjoa Haven, participants noted the potential to stage heavy equipment and Arctic-appropriate machinery, such as water and sewage trucks (GBRP 2025; Volume 9, Section 28.3.6.3, pg 28-58). Certain goods, such as fresh and perishable food, would continue to require air transport (Volume 9, Section 28.3.6.3, pg 28-57). However, the IS emphasizes that increased resupply using sealift, ground-based transportation, and warehousing would improve the timing, reliability, and frequency of community resupply only if there are means to transport goods and materials from the Grays Bay Port to the Kitikmeot communities, which are not physically connected to the road or port (Volume 9, Section 28.3.6.3, pg 28-59).

6. **Community access upon closure or long-term stewardship** The Project is designed as permanent transportation and marine infrastructure with a 75-year design life and no planned closure/decommissioning phase; the intended end land use for the road and port is continued transportation and marine access (Volume 2, Section 2.6.3; Volume 11, Appendix 37F Progressive Reclamation / Care and Maintenance Plan). The Plans focuses on temporary or unplanned cessation scenarios and reclamation of temporary construction areas, and community access is maintained throughout all phases via the Road Management Plan (Volume 11, Appendix 37A).

7. **Monitoring thresholds and mitigation actions** Follow-up and monitoring are addressed in Section 28.7, with socio-economic indicators, thresholds/targets, data sources, and reporting frequency discussed in the SEMP monitoring framework (Volume 11, Appendix 37K, Section 2), reporting in Section 3, and the adaptive management process in Section 4. Where monitoring indicates mitigation is not achieving intended outcomes, WKR will apply adaptive management, which may include additional investigations, modified methods, enhanced engagement, or revised commitments in consultation with regulators. Mitigation actions for infrastructure/services are consolidated in Sections 28.3.3.2–28.3.6.2.

NIRB 240. (IR-718)

Subject

Human Health and Safety

Issue / Concern

Reviewer Comments / Reasoning: Human health baseline information is presented primarily through community health, food security, and environmental VC sections. However, contaminant exposure baseline information is not presented as an integrated human health exposure baseline across air, dust, water, soil/sediment, fish, marine mammals, birds, vegetation, and country foods.

Missing Information / Gap: A consolidated current-exposure baseline for contaminants of potential concern and receptor groups is not clearly provided for technical review of health risk pathways.

Information Request

Provide a human health exposure baseline addendum that identifies: 1. current contaminant conditions by medium; 2. country food exposure pathways; 3. receptor groups and sensitive sub-populations; 4. comparison to Nunavut/Canada health statistics where appropriate; 5. exposure assumptions; 6. data gaps; and 7. implications for HHRA/monitoring.

Proponent Response

Human health exposure pathways are discussed in Volume 9, Appendix 26B Human Health and Ecological Risk Assessment. Construction and operation of the Project roadway do not involve ore processing, tailings or waste rock management, chemical processing, or routine effluent discharges that would introduce chemical contaminants into soil, water, sediment, vegetation, fish, wildlife, or country foods. Accordingly, no Project-related contaminants of potential concern or operable contaminant exposure pathways have been identified that would warrant a consolidated contaminant exposure baseline or quantitative HHRA for these media.

The Project-related human health exposure pathways identified in the Impact Statement are associated with common air pollutants from construction equipment and vehicle emissions, fugitive dust, and noise. Accordingly, the human health baseline focuses on existing concentrations of common air pollutants and existing background noise conditions relevant to assessing these pathways.

For this reason, WKR has not consolidated the information into a separate human health contaminant exposure baseline addendum.

NIRB 241. (IR-719)

Subject

Human Health and Safety

Issue / Concern

Reviewer Comments / Reasoning: The IS addresses worker/public safety through community health, air quality, noise, accidents/malfunctions, and management plans. However, several relevant management plans remain draft and the combined human-health pathway from dust, NO2, noise, potable water, extreme weather, accidents, and workplace cultural/language risks is not consolidated.

Missing Information / Gap: No single human health and safety risk register integrates worker and public receptors, conventional hazards, environmental exposure pathways, sensitive sub-populations, applicable standards, mitigation, thresholds, and emergency response responsibilities.

Information Request

Provide a Human Health and Safety Risk Register covering: 1. worker and public receptor groups; 2. hazards by phase/location; 3. applicable standards/guidelines; 4. exposure pathway; 5. sensitive sub-populations; 6. mitigation and PPE/engineering controls; 7. monitoring thresholds; 8. emergency response; 9. cultural/language conflict prevention; and 10. residual risk and reporting.

Proponent Response

WKR respectfully submits that the information requested in this IR is outside the scope of the Community Health and Well-Being VC. Worker health and safety will be managed in accordance with the Nunavut Occupational Health and Safety Regulations and other applicable occupational health and safety requirements, together with Project-specific occupational health and safety and emergency response plans. These plans will be developed and refined based on the activities, hazards, workforce, and conditions present at the worksite, which may change through construction and operation.

Accidents and malfunctions and associated emergency response measures are similarly addressed through the applicable sections and management plans (see Volume 10 - Chapter 34 - Accidents and Malfunctions; and Volume 11 - Chapter 37 - Management Plans).

NIRB 242. (IR-720)

Subject

Human Health and Safety

Issue / Concern

Reviewer Comments / Reasoning: The IS discusses health infrastructure and services and potential changes in access to health infrastructure and services. However, the capacity to monitor and respond to increased health hazards is not fully demonstrated through confirmed roles, service agreements, medevac capacity, and health hazard reporting protocols.

Missing Information / Gap: Health-service quality and hazard-response capacity are not supported by a complete capacity assessment and implementation commitments with service providers.

Information Request

Provide a health-service capacity and response plan including: 1. current service capacity; 2. expected Project demand; 3. medevac and emergency response pathways; 4. monitoring of increased health hazards; 5. responsibilities of WKR and public agencies; 6. agreements/communication protocols; 7. response thresholds; and 8. reporting to communities and regulators.

Proponent Response

WKR acknowledges the request for a health-service capacity and response plan. The Project's framework for health-service capacity, worker health, and emergency response has been established through the Health and Medical Services Plan (HMSP), developed as part of the Occupational Health and Safety Plan (OHSP), and supported by the Risk Management and Emergency Response Plan (RMERP; Volume 11, Appendix 37H, Attachment H4) and the Socio-economic Monitoring Plan (SEMP; Volume 11, Appendix 37K). The HMSP, OHSP, and RMERP remain at the conceptual stage in the IS and will be further developed prior to construction and implementation.

To assist the reviewer, the cross-references below identify where each requested element can already be found in the IS:

1. **Current service capacity**

   Baseline health-service capacity is characterized in Volume 9, Section 26.2.2.2, which describes that health infrastructure and services in the Kitikmeot Region have limited capacity, and that people seeking medical services often travel to Yellowknife and, in some instances, to southern Canada (e.g., Edmonton). Health-service baseline information for Yellowknife and Kitikmeot communities is described in Volume 9, Appendix 25A (People and Communities Baseline Report), Section 11.0.

2. **Expected Project demand**

The Project is anticipated to directly employ approximately 200 to 500 people per year during Construction and approximately 22 to 32 people total during Operations and Maintenance (Volume 9, Section 26.3.3.3, pg 26-48). To characterize potential demand, the IS draws on comparable socio-economic monitoring data from B2Gold Nunavut's Goose Mine, which is larger in scale (1,379 personnel in 2023 and 3,221 personnel in 2024). It is therefore anticipated that the Project's contribution to demand on health infrastructure and services will be less than that of the Goose Mine (Volume 9, Section 26.3.3.3, pg 26-48). Between 2018 and 2024, the Goose Mine required use of GN emergency health services ten times, all for medevac from project sites to Yellowknife (Volume 9, Section 26.3.3.3, pg 26-48).

3. **Medevac and emergency response pathways**

Summarized in Volume 1, Appendix B, WKR will develop and implement a Health and Medical Services Plan (as part of an Occupational Health and Safety Plan) which will include:

- prevention and management measures for injuries, infection, and disease.
- a description of medical and first aid services available to personnel at Site, including first-aid/medical staff and a medical clinic.
- medical emergencies response, including medical emergencies requiring evacuation.
- workplace health promotion program, including an Employee and Family Assistance Program and an Inuit Employee Assistance Program where appropriate resources exist.

In the event of medical emergencies or non-emergency incidents requiring care that cannot be addressed on-Site, WKR will transfer workers to appropriate medical facilities—most likely Stanton Territorial Hospital in Yellowknife, or hospitals in southern Canada such as Edmonton (Volume 9, Section 26.3.3.3, pg 26-48). Medevac and evacuation procedures are further detailed in the RMERP (Section 4.2.3, Medical Emergencies; Section 4.3, Evacuation and Medical Response).

4. **Monitoring of increased health hazards**

WKR will develop and implement a SEMP intended to monitor relevant health infrastructure and services indicators among other socio-economic indicators, and to enable adaptive management (Volume 9, Section 26.7). Where monitoring indicates that mitigation measures are not achieving intended outcomes, WKR will apply adaptive management approaches, which may include additional investigations, modifying implementation methods, enhancing engagement with Inuit organizations and communities, or revising commitments in consultation with regulators (Volume 11, Appendix 37K, Section 4). WKR has also identified mitigation, management, and enhancement measures to reduce reliance on health-care services in the LAA, including health promotion measures to reduce the likelihood of worker injuries and illness.

5. **Responsibilities of WKR and public agencies**

WKR will be responsible for the development, implementation, and monitoring of the Project's management plans, including the OHSP, HMSP, SEMP and RMERP. Public agency responsibilities are set within the regulatory and policy framework described in Volume 9, Section 26.1.2, which identifies the federal and territorial acts and regulations under which federal and territorial governments maintain health standards. Key responsibilities are distributed as follows:

- **Federal government** — administers the *Canada Health Act* (publicly funded health-care insurance and reasonable access to insured services) and the *Canada Public Health Act* (health promotion; prevention and control of communicable and chronic diseases and injuries; public health emergency preparedness; and intergovernmental collaboration on public health policy).
- **Government of Nunavut** — administers the *Nunavut Public Health Act* (health protection and promotion, population health assessment, surveillance, disease and injury prevention, and emergency preparedness) and the *Nunavut Mental Health Act* (mental wellness of Nunavummiut, including Inuit-specific mental health and addictions services).
- **Workers' Safety & Compensation Commission (WSCC)** — administers the *Workers' Compensation Act* and *General Regulations* (compensation for injured or diseased workers); the *Safety Act* and *Occupational Health and Safety Regulations* (identification and control of workplace health and safety hazards); the *Camp Set Up and Management Code of Practice*; and the *Nunavut Camp Sanitation Regulations* (sanitary operation of work camps).

WKR will adhere to these federal and territorial acts and regulations through the development and implementation of its mitigation, management, and enhancement measures, while the responsible public agencies will retain their statutory roles in health-care delivery, public health protection, and workplace safety regulation and oversight.

6. **Agreements and communication protocols**

The draft RMERP addresses medical emergencies — including occupational injuries, acute illness, and exposure to environmental conditions — by providing for emergency communications, first aid and on-site medical care, transportation or evacuation of injured personnel, and coordination with local or regional medical services (Volume 11, RMERP, Section 4.2.3). Notification of government agencies and affected communities is triggered upon notification of an emergency event, to alert responders and coordinate response, with the responsibilities of the GN, the contractor, and other responders set out in the plan. Detailed notification triggers, timing, and recipients will be finalized in the RMERP.

7. **Response thresholds**

Response thresholds, action levels, and associated monitoring indicators for socio-economic and health-service indicators will be established through the SEMP monitoring framework (Volume 11, Appendix 37K, Section 2), which will describe indicators, thresholds/targets, data sources, and reporting frequency, with the adaptive management process described in Section 4. Onsite clinical criteria for external transfer will be established through development of the final HMSP and RMERP.

8. **Reporting to communities and regulators**

The SEMP will include annual monitoring reports, which will be submitted to the NIRB as required (Volume 9, Section 26.3.4.2). Monitoring results will be reported to regulators and discussed with the Kitikmeot Socio-Economic Monitoring Committee (Volume 11, Section 37.1.5; Appendix 37K).

The HMSP, OHSP, SEMP, and RMERP remain at the conceptual stage in the IS. Operational details related to onsite medical services capacity, diagnostic and treatment capabilities, conditions managed onsite, criteria for external transfer, response thresholds, and cross-jurisdictional coordination will be further developed through HMSP, OHSP, and RMERP engagement and development, and through ongoing engagement with the GN, Inuit Organizations, and other affected parties.

NIRB 243. (IR-721)

Subject

Human Health and Environmental Risk Assessment

Issue / Concern

Reviewer Comments / Reasoning: Appendix 26A provides a project-specific HHERA framework and considers air, water, soil, country foods, noise, human receptors, exposure pathways, and risk communication. However, the level-of-detail rationale is not presented as a clear decision record showing how each Guideline factor influenced the scope, exclusions, receptor selection, or depth of quantitative analysis.

Missing Information / Gap: The IS does not provide a transparent scoping matrix that links each Guideline factor to the final HHRA/ERA scope, including why some pathways such as soil, water, country foods, and ecological receptors were screened out or not advanced to detailed quantitative risk characterization.

Information Request

Provide a HHERA scoping matrix that identifies: 1. each Guideline level-of-detail factor; 2. the Project sources and pathways considered; 3. receptor groups and locations considered; 4. engagement or Inuit/Indigenous/community concerns considered; 5. whether the pathway was carried forward, screened out, or qualitatively assessed; 6. the rationale and evidence for each screening decision; and 7. implications for risk communication, monitoring, and mitigation.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Appendix 26A provides the Project-specific HHERA technical assessment, including the conceptual site model, identification of Project-related hazards and contaminants, human and ecological receptors, potential exposure pathways, and the rationale for determining whether pathways are operable. The Impact Statement intentionally does not reproduce this detailed pathway screening. Rather, it summarizes the conclusions of the HHERA and focuses on the operable pathways (i.e., air quality and noise) where a Project-related hazard, receptor, and exposure pathway were identified. Pathways that were determined to be inoperable, including those associated with soil, water, country foods, and ecological receptors, are therefore identified as such in the Impact Statement without repeating the supporting technical rationale presented in Appendix 26A. This approach avoids duplication between the Impact Statement and its supporting technical assessment while retaining the basis for the screening decisions within the Project documentation. Readers seeking the detailed rationale for pathway screening, receptor selection, and level of assessment are directed to the HHERA (Appendix 26A).

In keeping with the effects assessment methodology (Volume 4), information is presented within each VC in the structure best suited to its assessment. For this reason, WKR has not consolidated the information into a separate HHERA scoping matrix.

NIRB 244. (IR-722)

Subject

Human Health and Environmental Risk Assessment

Issue / Concern

Reviewer Comments / Reasoning: Appendix 26A identifies emissions and air/noise hazards and provides a worst-case emissions inventory. However, source terms for effluents, discharges, spills, wastewater, desalination brine, incineration residuals, waste streams, and land/water pathways are not consolidated in the HHERA in a way that allows reviewers to verify that all hazardous-substance sources have been considered.

Missing Information / Gap: There is no single source-term table for all HHRA-relevant emissions and effluents by phase, location, quantity/rate, release point, pathway, contaminant, receptor, and management plan. Some relevant information is dispersed across Volumes 5, 8, 10 and 11.

Information Request

Provide a consolidated HHRA/ERA source-term table identifying: 1. source/activity; 2. project phase; 3. hazardous substances/COPCs; 4. predicted quantity, rate, concentration, and duration; 5. release point/location; 6. affected media; 7. receptor groups; 8. related model or monitoring dataset; 9. mitigation/control measure; and 10. whether the source was quantitatively assessed, qualitatively assessed, or screened out.

Proponent Response

The source-term information identified in this request is present in the Impact Statement(IS). Consistent with Guidelines Section 8.2.11.3 (Human Health and Environmental Risk Assessment), the Human Health and Environmental Risk Assessment (Appendix 26A) identifies the predicted sources, quantities, and points of release of emissions and effluents containing hazardous substances; documents the selection of constituents of potential concern (COPCs); identifies the exposure pathways to human and ecological receptors; characterizes those receptors; and applies the exposure/dose method and significance criteria the Guidelines call for. The HHERA draws these source terms from, and cross-references, the detailed assessments where each source is characterized:

- **Engineered sources and release points** — desalination plant and brine, sewage/wastewater treatment and the effluent outfall, solid-waste storage, incineration and transfer, and fuel storage and refuelling — are described in Volume 2 (Project Description, Section 2.5).
- **Air emissions** (the worst-case emissions inventory, fugitive dust, and combustion/incineration emissions) are in Volume 5 (Air Quality, Section 11; Appendix 11A).

- **Effluent, brine, wastewater, and disposal-at-sea discharges and their water and sediment pathways** are in Volume 7 (Water Resources, Section 19) and Volume 8 (Marine Water and Sediment, Section 21).
- **Accidental releases and spills** (source terms for unplanned events) are in Volume 10 (Accidents and Malfunctions, Section 34).
- **The management and control measures** for each source are in the corresponding plans in Volume 11 (e.g., Waste Management Plan, Spill Contingency Plan, Air Quality Management Plan).

Guidelines Section 8.2.11.3 requires the HHERA to *include* these elements — predicted sources, quantities and points of release, COPC selection, pathways, receptor identification and characterization, and significance criteria — which Appendix 26A does. The Guidelines do not require this information to be consolidated into a single source-term table organized by the specific fields set out in the request (phase, concentration/duration, affected media, receptor group, related model/monitoring dataset, control measure, and quantitatively assessed / qualitatively assessed / screened-out status). WKR respectfully submits that the HHERA, together with the cross-referenced volumes above, provides the source-term information in the form the Guidelines require, and that a separate consolidated source-term table is not necessary.

NIRB 245. (IR-723)

Subject

Human Health and Environmental Risk Assessment

Issue / Concern

Reviewer Comments / Reasoning: The HHERA describes a COPC screening process and identifies NO2, PM2.5, and noise as primary health hazards. It also screens out some pathways, including soil and traditional country foods, based on a conclusion that Project activities are not expected to introduce relevant contaminants into these media.

Missing Information / Gap: The screening rationale for excluded pathways is not supported by a consolidated comparison of all relevant sources, including dust deposition, road aggregate/geochemistry, metals, fuel/vehicle residues, wastewater/brine, spills, sediment resuspension, fish tissue, and country food pathways. This is important because public concern includes real or perceived effects to country foods and land/water use.

Information Request

Provide an expanded COPC screening addendum that includes: 1. all candidate COPCs by medium and source; 2. screening criteria and benchmarks; 3. data/model inputs used; 4. treatment of accidental releases and cumulative deposition; 5. rationale for excluding soil, water, fish, vegetation, terrestrial wildlife, marine mammals, and country foods; 6. uncertainty ratings; and 7. monitoring or communication commitments for excluded but community-concern pathways.

Proponent Response

The chemicals-of-potential-concern (COPC) screening and the rationale for the pathways carried forward or screened out are present in the Impact Statement. Consistent with Guidelines Section 8.2.11.3 — which requires the HHERA to document the “selection process for hazardous substance chemicals of potential concern” and to consider country foods and real or perceived effects to health — the Human Health and Environmental Risk Assessment (Appendix 26A) sets out the COPC selection process (Appendix 26A, Chemicals of Potential Concern / Section 4.1.1), identifies NO2, PM2.5, and noise as the primary health hazards carried forward, and documents the basis for screening out other pathways. In particular, the HHERA concludes that no COPCs have been identified for traditional country foods because the relevant exposure pathways are not complete — a conclusion cross-referenced into the valued-component assessments (e.g., Volume 6, Sections 16–18; Volume 9, Section 24.3.3).

The source and pathway information underlying that screening is characterized in the relevant assessments and relied on by the HHERA:

- Dust deposition and air COPCs (NO2, PM2.5, metals) — Volume 5 (Air Quality, Section 11; Appendix 11A), and for deposition on vegetation, Volume 6 (Section 15);
- Road aggregate/geochemistry, metals, and freshwater pathways including fish — Volume 7 (Water Resources, Section 19; Freshwater Fish, Section 20);
- Wastewater/desalination brine, disposal at sea, sediment resuspension, and marine fish and marine mammal pathways — Volume 8 (Marine Water and Sediment, Section 21; Marine Fish, Section 22; Marine Mammals, Section 23);
- Fuel/vehicle residues and accidental releases/spills — Volume 10 (Accidents and Malfunctions, Section 34);
- Country-food availability, quality, and real or perceived effects — Volume 9 (Food Security, Section 25; Community Health and Well-being, Section 26);
- Monitoring and the management/communication of these concerns — the Aquatic Effects Monitoring Program, air quality monitoring, and engagement commitments in Volume 11 and Volume 9.

Guidelines Section 8.2.11.3 requires the HHERA to document the COPC selection process and to consider these media, pathways, receptors, and country-food and perceived-effect concerns — which Appendix 26A does, with the supporting characterization cross-referenced to the volumes above. The Guidelines do not require this material to be consolidated into a separate COPC screening addendum organized by the specific elements set out in the request (all candidate COPCs by medium and source, screening benchmarks, data/model inputs, treatment of accidental releases and cumulative deposition, per-medium exclusion rationale, uncertainty ratings, and monitoring/communication for excluded pathways). WKR respectfully submits that the COPC screening and its rationale are presented in the form the Guidelines require, and that a separate screening addendum is not necessary.

NIRB 246. (IR-724)

Subject

Human Health and Environmental Risk Assessment

Issue / Concern

Reviewer Comments / Reasoning: The HHERA identifies workers, communities, seasonal-use locations, and exposure pathways. However, the receptor characterization is not fully integrated with TLMRU, harvesting areas, camps, small craft use, marine mammal harvest areas, and culturally important places identified elsewhere in Volume 9 and Volume 3.

Missing Information / Gap: The IS does not provide a complete receptor map and receptor inventory linking community locations, seasonal residences/camps, harvesting areas, travel routes, water-use areas, country food use, worker accommodations, and sensitive sub-populations to distances from project sources and modelled exposure zones.

Information Request

Provide a receptor inventory and map series showing: 1. communities, worker accommodations, seasonal-use sites, cabins/camps, travel corridors, harvesting areas, water-use locations, and marine-use areas; 2. distance to relevant Project sources; 3. exposure pathways by receptor group; 4. sensitive sub-populations considered; 5. modelled air/noise/water/spill influence areas; and 6. any confidentiality protections applied to culturally sensitive locations.

Proponent Response

WKR respectfully submits that the receptor information requested is provided in the Impact Statement. Consistent with Guidelines Section 8.2.11.3 — which requires the HHERA to identify and characterize the human receptors (workers and the public), *"including maps to delineate their locations and the distances of communities, residences, temporary/seasonal residences, etc. to project sites and related infrastructure"* — the human receptors are identified and characterized in the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A) and summarized in Volume 9, Section 26.3.8. Appendix 26A sets out the receptor locations, their distances from Project sources, the exposure pathways by receptor group, and the modelled air quality and noise influence areas; receptor locations and the air quality and noise model domains are mapped in Appendix 26A, Figure 4.2, and the noise and vibration receptors, including Traditional Land, Marine, and Resource Use (TLMRU) locations, are mapped in Volume 5, Figures 13.1 to 13.3. Culturally sensitive and confidential location information is managed in accordance with the IS's approach to confidential information (Volume 1, Section MD.3.1.1; Volume 3).

The Guidelines require the receptor identification, characterization, and mapping described above — which the IS provides — but do not require this information to be consolidated into a separate receptor inventory and integrated map series combining all community, harvesting, camp, travel-route, water-use, and marine-use layers. Consistent with the effects assessment methodology (Volume 4), receptor information is presented within each VC in the structure best suited to its assessment, and WKR has therefore not prepared a separate consolidated receptor inventory and map series.

NIRB 247. (IR-725)

Subject

Human Health and Environmental Risk Assessment

Issue / Concern

Reviewer Comments / Reasoning: Appendix 26A provides exposure and risk characterization for air pollutants and noise. The assessment is narrower for other media because some pathways were screened out or not advanced to quantitative dose assessment.

Missing Information / Gap: The IS does not provide dose/intake calculations for all pathways that are relevant to community concern or potential Project releases, particularly drinking/recreational water, soil/dust ingestion, country foods, and multi-pathway exposure. The uncertainty associated with relying mainly on modelled air/noise data is not fully translated into monitoring or adaptive management commitments.

Information Request

Provide an exposure-method addendum that identifies: 1. all receptor-specific exposure equations and assumptions; 2. exposure frequency, duration, intake rates, and body weights; 3. country food ingestion assumptions or rationale for exclusion; 4. treatment of combined air, water, soil, dust, noise, and food pathways; 5. sensitivity analysis for seasonal land users and high-end receptors; and 6. monitoring triggers that would require recalculation of risk.

Proponent Response

As described in previous responses, the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A) quantitatively evaluates the exposure pathways for which a Project-related hazard, a receptor, and an operable (complete) exposure pathway were identified — the common air pollutants (NO_2, $PM_{2.5}$) and noise. Consistent with Guidelines Section 8.2.11.3, which requires the HHERA to document the *"method used to convert hazardous substance exposure and intake by the various human receptors from the various pathways into an exposure or dose,"* the exposure/dose method and assumptions for these operable pathways are set out in Appendix 26A. Dose or intake calculations are not warranted for pathways that were screened out as inoperable — including soil ingestion and country-food consumption — because Project activities were not identified as sources of contaminant loading sufficient to create a complete human exposure pathway through those media.

Potential changes to surface water, sediment, and groundwater are assessed in the Water Resources VC (Volume 7), which considers suspended sediment, runoff from disturbed areas, exposed rock and borrow materials, blasting, and construction activities. With mitigation, residual effects on surface water and sediment quality are predicted to be not significant and not expected to extend beyond natural variability; accordingly, no Project-related change in contaminant exposure through drinking water, recreational water, or aquatic country foods was identified that would warrant quantitative intake calculations or a

multi-pathway dose assessment. The Guidelines require the exposure/dose method for the operable pathways — which is provided — but do not require a separate consolidated exposure-method addendum, nor dose/intake calculations for pathways screened out as inoperable. WKR has therefore not prepared a separate exposure-method addendum.

NIRB 248. (IR-726)

Subject

Human Health and Environmental Risk Assessment

Issue / Concern

Reviewer Comments / Reasoning: The concordance table states that health criteria are described in Appendix 26A but also notes that the technical data report does not define what is significant or not. This leaves a gap between risk benchmarks and the Impact Statement's significance determination framework.

Missing Information / Gap: The IS does not clearly translate health risk benchmarks, hazard quotients, cancer/non-cancer risk metrics, noise annoyance/sleep disturbance criteria, and uncertainty into significance conclusions for NIRB purposes.

Information Request

Provide a health-significance criteria addendum that explains: 1. risk metrics used for each pathway; 2. acceptable risk benchmarks; 3. how exceedances or margins of safety are interpreted; 4. how uncertainty and sensitive populations affect significance; 5. how risk results align with the Volume 4 significance framework; and 6. whether revised residual-effect conclusions are required for community health and well-being.

Proponent Response

WKR respectfully submits that the information requested is provided in the Impact Statement. Consistent with Guidelines Section 8.2.11.3 (which requires the HHRA to identify the *"criteria used to determine significance of impact"*) and the significance methodology in Volume 4 (and Guidelines Section 7.4.6), the determination of significance for potential health effects is made within the Community Health and Well-being VC assessment, based on the significance definition in Volume 9, Section 26.1.6, with the significance of effects presented in Volume 9, Section 26.5. The Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A) is a supporting technical analysis to that VC assessment; it provides the risk metrics and health-based benchmarks used, which the VC assessment then translates into the significance determination. The HHERA does not make a separate significance determination, and the Guidelines do not require one, nor a separate health-significance criteria addendum. Consistent with the effects assessment methodology (Volume 4), this information is presented within the Community Health and Well-being VC, and WKR has therefore not prepared a separate health-significance criteria addendum.

NIRB 249. (IR-727)

Subject

Human Health and Environmental Risk Assessment

Issue / Concern

Reviewer Comments / Reasoning: Appendix 26A identifies ecological receptors and pathways at the problem-formulation stage, but the concordance table notes that no hazardous substances or contaminants were identified for ecological receptors and therefore the assessment stops at problem formulation without progressing to detailed assessment methods.

Missing Information / Gap: The ERA does not provide a quantitative or semi-quantitative evaluation of ecological exposure/dose, toxicity reference values, ecological benchmarks, risk quotients, or monitoring thresholds for pathways such as dust deposition, water quality, sediment quality, soil, fish, vegetation, wildlife, and marine biota.

Information Request

Provide an ERA addendum or a clear technical rationale demonstrating why detailed ERA was not required. If pathways are retained, provide: 1. ecological source-term and COPC table; 2. receptor-pathway model; 3. exposure assumptions; 4. ecological benchmarks/toxicity reference values; 5. risk characterization; 6. uncertainty analysis; and 7. links to monitoring thresholds in the AEMP, WMMP, air quality plan, water management plan, and spill response plans.

Proponent Response

WKR respectfully submits that the technical rationale requested is provided in the Impact Statement. The Ecological Risk Assessment is contained within the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A, Section 2.2.2 — Ecological Risk Assessment Framework), which documents the ERA problem formulation, including consideration of potential ecological receptors, chemicals of potential concern, and exposure pathways. Consistent with standard risk-assessment practice (including Health Canada and CCME guidance), pathways were determined to be inoperable where there was no identified ecological receptor, no Project-related chemical of potential concern, or no mechanism for receptor exposure to an identified chemical of potential concern. In the absence of a complete source–pathway–receptor linkage, there is no ecological exposure or dose to quantify and, consequently, no basis for developing toxicity reference values, risk quotients, or contaminant-specific monitoring thresholds.

As the information request itself contemplates ("…or a clear technical rationale demonstrating why detailed ERA was not required"), this problem-formulation rationale is the appropriate and sufficient basis for not advancing the ERA to detailed quantitative assessment. The VC assessments summarize and focus on the pathways determined to be operable and do not repeat the detailed screening rationale for inoperable pathways, which is documented in Appendix 26A. A separate ERA addendum for pathways determined to be inoperable is therefore not warranted or required.

NIRB 250. (IR-728)

Subject

Human Health and Environmental Risk Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies mitigation and management measures relevant to health and environmental risk, including air quality, dust, water, spill, waste, and emergency response measures. However, several implementing plans are draft or contain NTD/TBD material, and risk communication is not fully linked to action thresholds.

Missing Information / Gap: There is no consolidated HHERA risk-management table tying each risk conclusion to prevention controls, monitoring parameter, action level, responsible plan, communication requirement, and adaptive-management response.

Information Request

Provide a HHERA mitigation and risk-communication register identifying: 1. risk or pathway; 2. prevention/mitigation measure; 3. monitoring parameter; 4. threshold/action level; 5. responsible plan and position; 6. reporting schedule; 7. communication protocol for communities and land users; and 8. adaptive actions if monitoring indicates greater-than-predicted risk.

Proponent Response

The Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A) evaluated the identified human health pathways and determined that predicted exposures to NO_2, $PM_{2.5}$, and noise are well below applicable health-based thresholds. Accordingly, the Community Health and Well-being VC did not identify a human health risk requiring health-based monitoring triggers, action levels, or adaptive management measures. The air quality and noise mitigation measures in the IS are intended to reduce Project emissions and noise where feasible, rather than to manage an identified unacceptable human health risk; many of the air quality measures address fugitive PM_{10} from road dust, and the HHERA indicates a low potential for adverse health effects even without those measures, which provide a further reduction in exposure.

Consistent with Guidelines Section 11 (Environmental Management System), the monitoring, mitigation, reporting, and communication requirements are addressed through the applicable air quality, dust, water, spill, waste, and emergency response plans (Volume 11). The Guidelines do not require these to be consolidated into a separate HHERA risk-management and risk-communication register; consistent with the effects assessment methodology (Volume 4), the information is presented within each VC and its supporting plans. As noted in Volume 11 (p. 37-6), the plans have been developed to a level of detail consistent with the current stage of the regulatory process and will be further developed as the review progresses — including the development of criteria or thresholds to trigger mitigation where monitoring results warrant — with updates committed before the technical meeting/pre-hearing conference, after the Pre-Hearing Conference Report and before the final hearing, and after the final hearing if necessary

NIRB 251. (IR-729)

Subject

Accidents and Malfunctions Assessment

Issue / Concern

Reviewer Comments / Reasoning: Volume 10 assesses seven accident and malfunction scenarios, including terrestrial/aquatic hazardous material spill, marine hazardous materials spill, fire/explosion, explosives, vehicle/mobile equipment accident, aircraft accident, and marine vessel accident. However, the scope excludes third-party accidents and future third-party components even though the Project is designed to enable third-party port, road, fuel, and logistics use.

Missing Information / Gap: The assessment does not fully evaluate accidents and malfunctions associated with reasonably foreseeable third-party users, future-ready infrastructure, care and maintenance, reduced operations, closure/abandonment, or infrastructure transfer scenarios.

Information Request

Provide an expanded accident/malfunction scope table that includes: 1. Project-only scenarios; 2. third-party user scenarios; 3. future-ready infrastructure and induced-use scenarios; 4. care and maintenance/reduced-operation scenarios; 5. closure, abandonment, or transfer scenarios; 6. rationale for inclusion or exclusion; and 7. implications for residual effects and emergency response capacity.

Proponent Response

1. **Project-only scenarios.** Volume 10, Section 34 assesses seven scenarios across the Construction and Operations and Maintenance phases. They are terrestrial or aquatic hazardous materials spill, marine hazardous materials spill, fire or explosion, explosives handling, vehicle or mobile equipment accident, aircraft accident, and marine vessel accident (Section 34.4).

2. **Third-party user scenarios.** The Project does not include future use of Project infrastructure by third parties, or infrastructure built by third parties (Volume 2, Section 1.5). Guidelines Section 8.4 applies to the proposed project. Third-party activities that fall under the NIRB's jurisdiction would be screened or reviewed under NuPPAA. While third-party users operate on the Grays Bay Road and Port, WKR's management plans and access agreements apply to them (Volume 11, Appendix 37A, Section 5.1.1).

3. **Future-ready infrastructure and induced use.** Reasonably foreseeable induced (RFI) activities are carried into the cumulative effects assessment (Volume 4, Section 9.4.3). The Guidelines expect project-specific mitigation for induced developments to be considered when those projects are assessed (NIRB Guidelines, Section 8.1, Page 57). Accident scenarios for RFI activities are therefore outside the scope of this assessment.

4. **Care and maintenance and reduced operations.** Volume 4, Section 9.2.4 states that temporary care and maintenance is not assessed separately, because activities would be similar to Operations and Maintenance but at lower levels. On that basis, the scenarios in Section 34 apply to this phase at the same or lower likelihood. How Project components are managed during temporary shutdown is described in Volume 11, Appendix 37F, Section 4.

5. **Closure, abandonment, or transfer.** The Project components are permanent infrastructure, and no closure is planned (Volume 4, Section 9.2.4). The Guidelines do not require closure, abandonment, or a transfer of ownership to be assessed as accident scenarios.

6. **Rationale for inclusion or exclusion.** Scenario selection and the risk method are described in Volume 10, Section 34.3, including temporal and spatial boundaries (Section 34.3.1) and risk assessment methodology (Section 34.3.2). The reasons for screening out limited interactions are in Section 34.5.1.

7. **Implications for residual effects and emergency response capacity.** Residual effects are described in Section 34.7. Emergency preparedness and response are covered in Section 34.6.2, and in the Risk Management and Emergency Response Plan (Attachment H4 to Appendix 37H, Volume 11) and Spill Contingency Plan (Attachment H5 to Appendix 37H, Volume 11).

   A separate expanded scope table is not provided.

NIRB 252. (IR-730)

Subject

Accidents and Malfunctions Assessment

Issue / Concern

Reviewer Comments / Reasoning: The assessment uses a semi-quantitative likelihood/consequence framework with generic likelihood and consequence definitions. The matrix provides a structured approach, but the basis for selecting scenarios and assigning scenario-specific likelihood ratings is not fully traceable.

Missing Information / Gap: The IS does not provide scenario-selection documentation showing failure modes, historical incident data, Arctic precedent, design assumptions, human factors, traffic/vessel/aircraft frequency, equipment failure assumptions, or uncertainty around likelihood ratings.

Information Request

Provide a hazard identification and likelihood basis appendix that includes: 1. method used to identify scenarios; 2. failure modes and causes; 3. data sources and analogues; 4. assumptions for vessel, aircraft, road, fuel, explosive, and hazardous-material activity levels; 5. scenario-specific likelihood ratings before and after mitigation; 6. uncertainty/confidence ratings; and 7. sensitivity testing for increased traffic or third-party use.

Proponent Response

WKR believes the risk assessment methodology presented in Volume 10, Section 34 provides a level of detail appropriate for this stage of the regulatory review process and is comparable to that used in other large infrastructure development applications reviewed by NIRB. The approach is conservative: even when a scenario is rated ‘unlikely’, its consequences could still be ‘major’, resulting in a ‘high’ risk rating. As project design progress more details will be available and will be used to develop the appropriate management plans listed in Volume 11 of the IS, including but not limited to: Environmental Protection Plan, Risk Management and Emergency Response Plan and Spill Contingency Plan. The management plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process and will be further developed as the review progresses. This includes further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. As indicated in Volume 11 (Page 37-6), WKR is committed to updating the plans before each of the following milestones (as required): prior to the technical meeting/pre-hearing conference; after the Pre-Hearing Conference Report is issued and before the final hearing; and after the final hearing is completed, if necessary.

NIRB 253. (IR-731)

Subject

Accidents and Malfunctions Assessment

Issue / Concern

Reviewer Comments / Reasoning: Volume 10 describes major release scenarios and recognizes seasonal differences, including open-water marine spills, spills to ice, first-year construction risk, fuel transfer, vessel incidents, leaks near the ocean, and loss of materials during onloading/offloading.

Missing Information / Gap: The assessment does not provide a complete source-term table for each scenario with maximum credible and plausible worst-case quantities, material properties, release rates, spill trajectories, seasonal containment assumptions, sensitive receptor proximity, and expected response times.

Information Request

Provide a scenario source-term table identifying: 1. contaminant/material type; 2. maximum credible quantity; 3. plausible worst-case quantity; 4. mechanism and rate of release; 5. physical/chemical form and behaviour; 6. release location; 7. season/ice condition; 8. likely transport pathway; 9. sensitive receptors; 10. available response equipment; and 11. response-time assumptions.

Proponent Response

The information requested is not available at this stage of early Project planning. The information when available will be used to develop the appropriate management plans listed in Volume 11 of the IS, including but not limited to: Environmental Protection Plan, Risk Management and Emergency Response Plan and Spill Contingency Plan. The management plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses. This includes further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 254. (IR-732)

Subject

Accidents and Malfunctions Assessment

Issue / Concern

Reviewer Comments / Reasoning: Volume 10 discusses effects pathways, seasonal risk, and residual effects for VCs. It also recognizes that effects may be significant for individual traditional land users if an incident causes avoidance of an area or resource due to actual or perceived effects.

Missing Information / Gap: The IS does not clearly distinguish unmitigated versus mitigated consequences, does not provide detailed plausible worst-case consequence modelling for each major incident type, and does not present a sensitive-timing overlay for wildlife, fish, TLMRU, food security, community health, and cultural areas.

Information Request

Provide a worst-case and unmitigated-effects addendum that includes: 1. plausible worst-case scenario for each major incident type; 2. unmitigated environmental, health, social, economic, cultural, and rights-related consequences; 3. mitigated residual consequences; 4. sensitive receptors and timing windows; 5. maps of spill/fire/explosion/accident influence areas; 6. significance rationale for individual and community-level effects; and 7. uncertainty/confidence ratings.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Volume 10, Section 34, which assesses accidents and malfunctions that could occur during the construction, operations, and maintenance phases of the Project. The risk of these events is mitigated throughout all stages of the Project, with measures integrated into early planning, detailed design, and engineering. For example, fuel storage areas are designed with integrated physical containment measures. Before construction begins, emergency response infrastructure and capacity will be established, together with management plans that include, but are not limited to, the Risk Management and Emergency Response Plan (RMERP), Spill Contingency Plan (SCP), Fuel Management Plan, and Waste Management Plan. Accordingly, accident and malfunction scenarios are not considered wholly unmitigated. The residual effects assessment in Volume 10, Section 34 reflects these inherent mitigation measures while recognizing that, in the unlikely event of an accident, significant effects could still occur.

Plausible worst-case scenarios for each major incident type are described in Volume 10, Sections 34.7.1–34.7.7. For example, Section 34.7.1, Terrestrial and Aquatic Hazardous Materials Spill, identifies that “the worst probable case for a hazardous material spill would likely be a large spill (> 1,000 L) of fuel into a major watercourse (e.g., Burnside River, Hood River, James River, and Kennarctic River) under unfrozen conditions.” Sensitive timing windows are identified in Volume 10, Section 34.6.3 and Table 34.7.
The rationale for significance determinations is provided in Volume 10, Section 34.7 and Table 34.8,

with the determinations themselves presented in the individual residual effects assessment sections (Sections 34.7.1–34.7.7). Please also see the preamble to NIRB's IRs for further context regarding the request for an addendum that summarizes issues, responses and conclusions for the IS.

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NIRB 255. (IR-733)

Subject

Accidents and Malfunctions Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS lists management plans that will reduce risk and mitigate consequences. However, key response plans remain draft, and the RMERP includes NTD sections for spills on water, marine spills, security incidents, extreme weather, evacuation/medical response, emergency communication, and incident reporting.

Missing Information / Gap: Because the residual effects assessment relies on these plans, the absence of final procedures, resources, seasonal response methods, clean-up/restoration criteria, and marine SOPEP interface limits technical review of mitigation effectiveness.

Information Request

Provide updated RMERP, SCP, Port Management Plan, Fuel Management Plan, and Hazardous Materials Management Plan sections sufficient for technical review, including: 1. scenario-specific response procedures; 2. design safeguards; 3. equipment inventory and locations; 4. spill/fire/explosion/medical/evacuation procedures; 5. shoreline, freshwater, marine, ice and snow response methods; 6. clean-up/restoration criteria; 7. waste handling after incidents; and 8. links to adaptive management and follow-up monitoring.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The draft Risk Management and Emergency Response Plan (RMERP; Volume 11, Appendix 37H, Attachment H4) identifies the categories of emergency event it will address (RMERP Section 4.2):

- vehicle or transportation incidents
- fires and explosions
- medical emergencies
- spills of fuel or hazardous materials on land, on water and in the marine environment
- security-related incidents
- extreme weather events

The draft Spill Contingency Plan (SCP; Attachment H5) sets out the following:

- immediately reportable spill quantities
- spill response by setting, including land and water, marine, snow, ice, under-ice and burning spills (Section 2.4)
- disposal of contaminated materials (Section 2.5)
- on-site spill response resources (Section 2.6)
- secondary containment for bulk fuel facilities sized to at least 110% of the largest container, with weekly inspections (Section 4.1)

Fuel transport, storage, handling and refuelling will follow the operating procedures in the SCP and will be outlined in the Port and Road Management Plans (EPP Table 3.1). Hazardous waste storage and disposal is addressed in the Waste Management Plan (Volume 11, Appendix 37H, Attachment H7; filed in draft), Section 2.8. Contaminated materials generated during a spill will be contained and disposed of as outlined in the Waste Management Plan (SCP Section 2.5).

NIRB 256. (IR-734)

Subject

Accidents and Malfunctions Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS recognizes the need for emergency preparedness and identifies that Project infrastructure may enhance regional response capacity. However, the RMERP emergency communication and coordination sections remain draft/NTD and do not yet demonstrate actual arrangements with response organizations, communities, or government agencies.

Missing Information / Gap: The IS does not provide confirmed external response capacity, response-time estimates, mutual-aid arrangements, community notification roles, regional evacuation/medical coordination, or evidence that local and territorial capacities can support remote Arctic incidents.

Information Request

Provide an emergency coordination addendum that includes: 1. named internal and external response organizations; 2. roles and responsibilities; 3. signed or draft coordination agreements; 4. response-time estimates by season; 5. medical evacuation and sheltering arrangements; 6. community/government contact protocols; 7. equipment and personnel availability; 8. gaps in regional capacity; and 9. mitigation commitments to close capacity gaps before construction.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The WKR Emergency Response Coordinator will act as Incident Commander. The role includes coordinating with the appropriate authorities, which may include the Kitikmeot Inuit Association, RCMP, Nunavut Water Board, DFO, the Nunavut Spill Line, Environment Canada or the GN Department of Environment (Road Management Plan, Section 5.1.3). Medical facilities with trained medical personnel will be located at Grays Bay Port and Jericho Station. An accident with multiple injuries may require support from surrounding communities or service providers (RMP Section 5.1.3). Spill response resources will be positioned on site; additional off-site resources would be flown in if on-site resources were exhausted (SCP Section 2.6.2). The emergency response organization and evacuation and medical response will be developed in RMERP Sections 3.1 and 4.3.

Refer also to the response to NIRB 255 (IR-733).

NIRB 257. (IR-735)

Subject

Accidents and Malfunctions Assessment

Issue / Concern

Reviewer Comments / Reasoning: The IS refers to spill response equipment and training and the draft SCP includes a training section. However, the content is not sufficiently developed to confirm who will be trained, to what standard, how often, for which scenarios, and how competency will be verified.

Missing Information / Gap: No complete training matrix is provided for spill response, marine spill/SOPEP interface, fire/explosion, aircraft incident, vehicle accident, explosives incident, medical evacuation, wildlife/heritage protection during response, communications, and incident command.

Information Request

Provide an emergency response training matrix identifying: 1. trainee groups; 2. required training by scenario; 3. standards/certifications; 4. frequency and refresher schedule; 5. simulation/tabletop/live exercise requirements; 6. competency verification; 7. contractor and third-party user requirements; 8. community or Inuit monitor involvement; and 9. records and reporting to regulators.

Proponent Response

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The RMERP will include training (including Incident Command System training), testing and reporting (Road Management Plan, Section 5.1.3). The draft SCP provides for spill response training and simulation exercises, with their level and timing to be developed based on Construction and Operations and Maintenance procedures (SCP Section 5). Training will also be provided to all onsite personnel who handle fuel, chemicals and hazardous materials (Volume 1, Appendix B, Commitment 63).

Under the Explosives Management Plan (Attachment H3; filed in draft), only trained and certified persons will work with explosives. Required training includes first aid, Transportation of Dangerous Goods, a blasting certificate, and WHMIS (Volume 11, Attachment H5, Section 5).

Refer also to the response to NIRB 255 (IR-733).

NIRB 258. (IR-736)

Subject

Accidents and Malfunctions Assessment

Issue / Concern

Reviewer Comments / Reasoning: The RMERP includes an Emergency Communication Protocol section, but it remains NTD and indicates that protocols still need to be built out. This is a core requirement because accidents may affect land users, marine users, country food confidence, neighbouring jurisdictions, and emergency service providers.

Missing Information / Gap: The IS does not provide a complete emergency communication protocol, including notification triggers, timelines, languages, contact lists, message templates, community/HTO/KIA/regulator responsibilities, public updates, and follow-up reporting.

Information Request

Provide a complete emergency communication protocol that includes: 1. notification triggers by incident type and severity; 2. regulator, KIA, HTO, community, neighbouring jurisdiction and emergency-service contact lists; 3. timelines for initial and follow-up notifications; 4. communication languages and formats; 5. public advisory templates for spills, air/noise events, country food concerns, access restrictions and marine safety; 6. roles and approval authority; and 7. incident close-out reporting procedures.

Proponent Response

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The RMERP will include a communications plan for alerting employees, communities and the GN during an emergency, and will identify the government agencies and communities to be notified (Road Management Plan, Section 5.1.3). The draft SCP sets immediately reportable spill quantities for the NT-NU 24-Hour Spill Report Line and requires that any spill to navigable waters be reported to the Canadian Coast Guard. WKR will keep the Project website, dedicated toll-free phone line and email address up to date with emergency response guidance (EPP Table 3.1). Emergency communication and notification protocols will be developed in RMERP Sections 3.2 and 5.

Refer also to the response to NIRB 255 (IR-733).

NIRB 259. (IR-737)

Subject

Terrestrial Baseline – Permafrost, Taliks, and Stream Crossings

Issue / Concern

Reviewer Comments / Reasoning: generally discusses permafrost, talik occurrence, groundwater, and stream crossings; however, the relationship between these factors is not clearly summarized for major stream crossings. Additional clarity is needed to understand how permafrost, taliks, subsurface flow, and winter icing conditions were considered in the baseline characterization and how they may influence terrain stability and design assumptions.

Missing Information / Gap: - 1. It is unclear how permafrost, talik occurrence, subsurface flow, and winter icing conditions were assessed at major stream crossings. - 2. The influence of these baseline conditions on terrain stability has not been clearly described. - 3. It is unclear how these conditions informed stream-crossing design assumptions

Information Request

clearer summary of how permafrost, talik occurrence, subsurface flow, and winter icing conditions were considered at major stream crossings, including how these baseline conditions informed the assessment of terrain stability and design assumptions.

Proponent Response

Please see responses to information requests KIA-IR13 (IR-83), KIA-IR14 (IR-84), KIA-IR20 (IR-90) and NRCan-IR04 (IR-212) for further information regarding permafrost, talik occurrence, subsurface flow, and winter icing conditions at major stream crossings.

NIRB 260. (IR-738)

Subject

Terrestrial Baseline – Topsoil and Overburden Suitability

Issue / Concern

Reviewer Comments / Reasoning: reference describe soil distribution and surficial materials, but the suitability of salvaged topsoil, organics, and overburden for revegetation of disturbed areas is not clearly summarized. This information is relevant to understanding reclamation feasibility and the effectiveness of revegetation measures.

Missing Information / Gap: - 1. The suitability of salvaged topsoil, organics, and overburden for revegetation has not been demonstrated. - 2. It is unclear how these materials will be salvaged, stored, handled, and reused to support reclamation. - 3. The effectiveness of the proposed material-management approach for successful revegetation has not been assessed.

Information Request

additional information on the suitability of salvaged topsoil, organics, and overburden for use in revegetation of surface-disturbed areas, including how these materials will be managed to support reclamation.

Proponent Response

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

Organic topsoil will be left in place during road construction to retain a protective layer, minimize permafrost degradation and protect soils from erosion (PRP Section 2.4). Borrow source surface material, where present and practicable, will be salvaged, stockpiled and replaced after development is completed (Volume 6, Section 15.3.3.3). Reclamation methods will address site-specific conditions, including approaches to soil salvage, stockpiling and replacement (PRP Section 3.1). Reclamation criteria will be drawn from regulatory guidelines, site-specific baseline data, and Inuit, Indigenous, and Community Knowledge (PRP Section 3.2).

The Borrow Pit and Quarry Management Plan (Attachment H1; filed in draft) states that quarries will undergo progressive reclamation as materials are depleted, and that "stockpiled overburden will be replaced to promote revegetation" (BPQMP Section 4.1). Organic material and overburden stockpiles will be located at least 31 m from waterbodies (BPQMP Section 3.2).

Refer also to the response to NIRB 197 (IR-675).

NIRB 261. (IR-739)

Subject

Terrestrial Baseline – Permafrost Temperatures at Key Infrastructure Locations

Issue / Concern

Reviewer Comments / Reasoning: discusses ground thermal regime, thaw sensitivity, and climate-related permafrost risks; however, site-specific permafrost temperature information for key infrastructure locations is not clearly presented. Additional detail is needed to understand how permafrost temperature conditions were incorporated into stability and safety considerations for Project infrastructure.

Missing Information / Gap: - 1. Site-specific permafrost temperature conditions at key infrastructure locations have not been provided. - 2. The timing for collecting this information is unclear. - 3. It is unclear how the data will inform final design and terrain stability assessments.

Information Request

Please provide additional information on site-specific permafrost temperature conditions at key infrastructure locations, or clarify when this information will be collected and how it will be used in final design and terrain stability assessments.

Proponent Response

Please see response to information request NRCan-IR04 (IR-212) for information regarding when additional permafrost temperature conditions at key infrastructure locations will be available.

NIRB 262. (IR-740)

Subject

Terrestrial Baseline – Paleontological and Palaeobotanical Resources

Issue / Concern

Reviewer Comments / Reasoning: indicates that paleontological resources have not been fully addressed and may require further consideration with regulators. It is not clear whether paleontological or palaeobotanical resources are known or expected within the Local Study Area, or how these resources will be assessed prior to ground disturbance.

Missing Information / Gap: - 1. It is unclear whether paleontological or palaeobotanical resources are known or expected within the Local Study Area. - 2. The approach for identifying and assessing these resources before ground disturbance has not been described.

Information Request

Please clarify whether any paleontological or palaeobotanical resources are known or expected within the Local Study Area, and describe how these resources will be assessed prior to ground disturbance.

Proponent Response

No paleontological or palaeobotanical resources are currently known within the Local Study Area, and none are expected. The Local and Regional Assessment Areas are underlain by Archean crystalline bedrock of the Canadian Shield (Slave Geological Province), which is generally of low palaeontological potential (Volume 6, Section 14). Palaeontological and archaeological data were requested from the Government of Nunavut; some archaeological data were received, but no palaeontological data, and it is assumed no previous palaeontological studies have been completed for the Project (Volume 9, Section 30).

Prior to construction, and upon confirmation of the Project Development Area, WKR will review palaeontological potential based on the areas of direct bedrock disturbance, surficial geological mapping, and the scientific literature. Any study requirements identified will be addressed with the regulators (Department of Culture and Heritage, GN) as part of the data-gap analysis, consistent with the Nunavut Archaeological and Palaeontological Sites Regulations, and the Discovery Protocol will apply if resources are encountered during construction (Volume 9, Section 30; Volume 11). This addresses Guidelines Sections 8.1.4.1(x) and 8.2.8.

NIRB 263. (IR-741)

Subject

Terrestrial Impact Assessment – Topography and Sensitive Landforms

Issue / Concern

Reviewer Comments / Reasoning: discusses changes to topography, terrain conditions, landforms, and ground disturbance. The technical information is generally provided; however, the assessment is mostly qualitative and does not clearly summarize effects by major Project component, such as road, port, aerodrome, borrow areas, quarries, and Jericho Station.

Missing Information / Gap: - 1. Predicted effects on topography and sensitive landforms have not been clearly summarized by major Project component. - 2. Potential effects from borrow areas, roads, port facilities, the aerodrome, and related infrastructure have not been separately identified.

Information Request

Please provide a summary of predicted effects on topography and sensitive landforms by major Project component, including borrow resource extraction areas, roads, port facilities, aerodrome, and related infrastructure.

Proponent Response

Topography and sensitive landforms are provided in terrain mapping at Project infrastructure locations and along the road as part of the IS, Volume 6, Section 14; an additional figure highlighting the location of eskers has been included in Appendix E Supplemental Figures.

As final borrow pit and quarry areas have not been finalized these overlaps have not yet been provided. Final borrow pit and quarry locations will be selected based on available material and proximity to construction activities. Further information on borrow pit and quarry selections are provided in responses to KAA-70 (IR-70), KAA-72 (IR-72) and CIRNAC-IR 02 (IR-157).

NIRB 264. (IR-742)

Subject

Terrestrial Impact Assessment – Unique and Valuable Landforms

Issue / Concern

Reviewer Comments / Reasoning: discusses unique landforms such as eskers and wetlands and notes that effects are expected to be limited. However, the impact assessment does not clearly show the predicted loss or alteration of each unique/valuable landform type in a simple summary.

Missing Information / Gap: - 1. The predicted area or extent of effects on eskers, wetlands, and fragile landscapes has not been clearly identified. - 2. It is unclear how effects on unique or valuable landforms informed mitigation measures and residual effects conclusions.

Information Request

Please provide a summary table identifying the predicted area or extent of impact to unique or valuable landforms, including eskers, wetlands, and fragile landscapes, and explain how these effects were considered in mitigation and residual effects conclusions.

Proponent Response

Please see the response to information request KIA-IR3 (IR-73) for information on eskers, wetlands, and fragile landscapes.

NIRB 265. (IR-743)

Subject

Terrestrial Impact Assessment – Soil Erosion and Stream Bank Stability

Issue / Concern

Reviewer Comments / Reasoning: Soil erosion, sediment control, terrain stability, and runoff mitigation are discussed. However, the assessment does not clearly identify higher-risk erosion areas, stream bank erosion areas, road embankments, and water crossings by location or Project phase.

Missing Information / Gap: - 1. Areas with higher potential for soil erosion, stream bank erosion, road embankment instability, and erosion at water crossings have not been identified. - 2. Site-specific mitigation measures for these higher-risk locations during construction and operations have not been described.

Information Request

Please identify areas with higher potential for soil erosion, stream bank erosion, road embankment instability, and erosion at water crossings during construction and operations, and describe the specific mitigation measures that will be applied at these locations.

Proponent Response

Areas that are identified during detail design as having higher potential for soil erosion, stream bank erosion, and erosion at water crossings during construction will be managed through proven mitigation measures as outlined in the Erosion and Sediment Control Plan.

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates

NIRB 266. (IR-744)

Subject

Terrestrial Impact Assessment – Sensitive Terrain, Taliks, and Project Design

Issue / Concern

Reviewer Comments / Reasoning: discusses sensitive terrain, ice-rich permafrost, thaw-sensitive terrain, slopes, taliks, and waterbodies. However, it is not clear how these features were specifically incorporated into road alignment, water crossing design, borrow/quarry siting, and infrastructure planning.

Missing Information / Gap: - 1. It is unclear how sensitive landforms, ice-rich permafrost, thaw-sensitive slopes, and taliks near waterbodies were identified and assessed. - 2. It has not been demonstrated how these conditions informed the planning and design of roads, water crossings, borrow and quarry areas, and other infrastructure.

Information Request

Please explain how sensitive landforms, ice-rich permafrost, thaw-sensitive slopes, and taliks near waterbodies were incorporated into Project planning and design for roads, water crossings, borrow/quarry areas, and infrastructure.

Proponent Response

The IS maps sensitive terrain and uses to set a mitigation approach of avoidance first, then thermal protection. Under this approach:

- Ice-rich terrain and steep grades prone to thaw are avoided where practical.
- Where sensitive terrain can't be avoided, embankment and foundation design limits heat transfer to the ground.
- Final siting and design will be refined through geotechnical investigation during detailed design.

Long-term permafrost behaviour and thermal modelling are addressed in the responses to KIA-IR5 (IR-75) and NRCan-IR1 (IR-209).

NIRB 267. (IR-745)

Subject

Terrestrial Impact Assessment – Physical and Thermal Stability of Permafrost Terrain

Issue / Concern

Reviewer Comments / Reasoning: discusses permafrost thaw, ground settlement, slumping, and terrain instability. However, the assessment states that a potential failure model analysis was not completed and that additional geotechnical information will be collected before construction. This limits confidence in the technical basis for stability conclusions.

Missing Information / Gap: - 1. The approach for assessing physical and thermal stability risks before construction has not been clearly described. - 2. Potential risks from ground settlement, loss of soil strength, slumping, and permafrost thaw have not been adequately evaluated. - 3. It is unclear how these risks will be incorporated into final design, mitigation measures, and monitoring programs

Information Request

Please provide additional detail on how physical and thermal stability risks, including ground settlement, loss of soil strength, slumping, and permafrost thaw, will be assessed before construction and incorporated into final design, mitigation, and monitoring.

Proponent Response

Physical and thermal stability in permafrost environments are closely linked, as increases in ground temperature may lead to permafrost thaw, resulting in ground settlement, loss of soil strength, slumping, and other forms of terrain instability.

The IS identifies thaw-sensitive terrain, including ice-rich permafrost, ice-wedge polygonal ground, and thermokarst terrain (Appendix 14A). These terrain conditions were mapped within the PDA and LAA and overlaid with the preliminary road alignment and infrastructure footprint (10% engineering design) to assess potential risks associated with construction (Volume 6, Section 4.4.2).

Prior to construction, field verification and geotechnical investigations will further characterize ground ice conditions, soil properties, and permafrost stability. This information will be used to refine the final design, including avoidance of sensitive terrain where practicable and implementation of site-specific measures to minimize thaw, settlement, erosion, and drainage-related impacts.

As part of future project development, monitoring requirements may be identified based on site-specific conditions, final design considerations, and the level of permafrost-related risk. Potential monitoring approaches could include visual inspections, drainage assessments, ground settlement surveys, and ground temperature measurements in areas considered susceptible to permafrost degradation.

NIRB 268. (IR-746)

Subject

Terrestrial Impact Assessment – Permafrost Prediction and Climate Change

Issue / Concern

Reviewer Comments / Reasoning: recognizes climate change, permafrost thaw, snow accumulation, thaw settlement, subsidence, and infrastructure risk. Volume 10 also identifies risks such as differential settlement, structural failure, thermokarst development, and embankment instability. However, long-term, site-specific permafrost evolution predictions are not clearly provided for key infrastructure.

Missing Information / Gap: - 1. The predicted long-term behaviour of permafrost at key Project infrastructure has not been clearly described. - 2. Potential changes in permafrost degradation rates, thermal regimes, and snow accumulation have not been adequately assessed. - 3. Climate change effects on long-term permafrost stability have not been clearly incorporated into the predictions. - 4. The timing for completing this information and how it will inform final design are unclear.

Information Request

Please provide additional information on how long-term permafrost behaviour, including degradation rate, thermal regime changes, snow accumulation, and climate change effects, was predicted for key Project infrastructure, or clarify when this information will be completed and how it will inform final design.

Proponent Response

Long-term permafrost behaviour is influenced by a range of interacting factors, including ground thermal conditions, ground ice content, surface drainage, vegetation cover, snow accumulation, and changes in climate. As such, the potential for permafrost degradation, active layer thickening, thaw settlement, thermokarst development, and other forms of terrain instability must be evaluated using site-specific information.

The IS recognizes that climate change may influence permafrost conditions through increases in air and ground temperatures, changes in snow cover and insulation effects, and associated changes in ground thermal regimes (Volume 6, Section 14.3.4; Volume 10, Section 35.3). Potential consequences for Project infrastructure, including thaw settlement, differential settlement, embankment instability, thermokarst development, and impacts on long-term infrastructure performance, were identified as considerations for Project planning and design.

At the current stage of Project development (~10% engineering design), detailed, site-specific predictions of long-term permafrost evolution have not been completed for individual infrastructure components. Geotechnical investigations will be completed as part of the advancement of design, starting as early as spring 2027, which will better identify potential icing occurrences and design considerations that may need to be included to manage and mitigate for potential impacts to the Project and the

environment. In addition to geotechnical investigations, thermistors may be installed in locations identified where additional permafrost and subsurface ice conditions warrant monitoring to also inform design or to monitor permafrost conditions after construction of the Project is complete.

The results of these investigations and subsequent analyses will be used to inform final engineering design, including infrastructure siting, foundation and embankment design, thermal protection measures, drainage management, and other mitigation measures intended to reduce the potential for permafrost degradation and associated geotechnical risks over the life of the Project.

Monitoring of thermistors would be included in the permafrost monitoring sections of the Port Management Plan or the Road Management Plan. As part of future Project development, additional assessment and monitoring requirements may be identified based on site-specific conditions, final design considerations, and the level of permafrost-related risk. Potential monitoring approaches could include ground temperature measurements, active layer monitoring, ground settlement surveys, drainage assessments, snow condition observations, and visual inspections in areas considered susceptible to climate-driven permafrost degradation.

NIRB 269. (IR-747)

Subject

Terrestrial Impact Assessment – Country Food Contaminant Pathways and Consumption Assumptions

Issue / Concern

Reviewer Comments / Reasoning: Statement discusses traditional foods, harvesting, country food pathways, and potential contaminant exposure. The HHERA indicates that contamination of vegetation, fish, and terrestrial wildlife would require chemical pollutants in soil or water, and concludes that the Project is not expected to contaminate soil or waterbodies. However, the assessment does not clearly connect contaminant pathways across air, dust deposition, soil, water, vegetation, fish, wildlife, and country foods. It also does not clearly summarize which country foods may be consumed in the potentially affected area, which parts are consumed, consumption frequency, and whether potential contaminants may persist or bioaccumulate.

Missing Information / Gap: - 1. Potential contaminant pathways to country foods have not been clearly evaluated, including air, dust, soil, water, vegetation, fish, wildlife, and human consumption pathways. - 2. The country foods consumed in the potentially affected area, including consumed parts and consumption frequency, have not been clearly identified. - 3. The persistence and bioaccumulation potential of contaminants have not been adequately assessed. - 4. It is unclear how contaminant exposure through country foods was incorporated into the effects assessment.

Information Request

Please explain how potential contaminant pathways to country foods were evaluated, including air emissions, dust deposition, soil and water interactions, vegetation uptake, fish exposure, wildlife exposure, and human consumption. Please also identify the country foods expected to be consumed in the potentially affected area, including available information on consumed parts and consumption frequency, and explain whether potential contaminants may persist or bioaccumulate and how this was considered in the effects assessment.

Proponent Response

The HHERA (Appendix 26A) relies on the results of the applicable environmental VCs and supporting technical assessments to identify future environmental conditions and determine whether complete contaminant exposure pathways are present. Where warranted by the nature and scale of Project activities, environmental modelling provides the exposure concentrations subsequently evaluated in the HHERA. For this Project, quantitative modelling was undertaken for air quality and noise.

For soil and water, the screening considered the nature of Project activities, potential contaminant sources, and proposed mitigation measures. The Project does not involve ore processing or other industrial activities that would generate process-related chemical contaminants. Road construction materials will be selected based on their low potential for metal leaching and acid rock drainage, with

geochemical testing and management measures applied where materials with elevated potential are encountered. Road dust will consist primarily of naturally occurring mineral particles rather than materials contaminated by industrial processes. Potential releases from equipment refuelling, fuel storage, and maintenance activities will be managed through designated refuelling areas, secondary containment, and spill prevention and response measures. Construction-related erosion and sediment transport will also be managed through runoff controls and erosion and sediment control measures.

During port operations, seawater desalination to produce potable water will generate a residual brine stream for discharge to the marine environment. This brine consists primarily of naturally occurring salts concentrated from seawater, rather than contaminants introduced by industrial processing. Dissolved salts in the ocean are not considered biomagnifying contaminants that would accumulate in fish or other marine country foods

Based on these Project characteristics, the HHERA did not identify Project-related contaminants of concern in soil or freshwater that would establish an operable exposure pathway through vegetation, fish, terrestrial wildlife, or subsequent consumption of country foods.

Consequently, there is no identified Project-related source contamination to the soil or water that would result in uptake by vegetation or exposure of fish and wildlife, and subsequent exposure of people consuming country foods.

Unlike human health risk assessments, which have established health-based air quality guidelines for pollutants such as NO_2, SO_2, and $PM_{2.5}$, there are limited species-specific inhalation toxicity data and established ecological benchmarks for evaluating respiratory effects in wildlife. Potential effects of common air pollutants are instead informed by the results of air quality assessments and the human health evaluation, which provides a supporting line of evidence regarding the magnitude of exposure and potential respiratory effects.

The HHERA (Appendix 26A) did not identify Project-related contaminants of concern in soil, water, vegetation, fish, or wildlife that would establish a complete exposure pathway through country food consumption. In the absence of an identified contaminant source and a mechanism for contaminant uptake and accumulation in country foods, there is no Project-related contaminant exposure to quantify. Accordingly, detailed information on consumed species, tissues, and consumption rates would not contribute to the risk characterization. Information on country food species and traditional use is addressed separately in the Traditional Land, Marine, and Resource Use VC (Volume 9, Section 24) and the Food Security VC (Volume 9, Section 25).

NIRB 270. (IR-748)

Subject

Terrestrial Impact Assessment – Habitat Alteration from Pollutants and Noise

Issue / Concern

Reviewer Comments / Reasoning: Wildlife habitat loss, indirect habitat loss, sensory disturbance, and behaviour are assessed across several sections. However, the technical linkage between pollutant-related vegetation changes, noise disturbance, wildlife habitat quality, calving/post-calving areas, and marine habitat is spread across multiple sections and not clearly integrated. Missing Information / Gap: - 1. It is unclear how habitat loss or alteration from pollutants, dust, and noise was assessed for terrestrial wildlife. - 2. Potential effects on caribou calving and post-calving areas, migratory birds, and other terrestrial wildlife have not been clearly summarized. - 3. Connections between terrestrial effects and related marine habitats have not been adequately considered.

Information Request

Please provide a summary explaining how habitat loss or alteration due to pollutants, dust, and noise was considered for terrestrial wildlife, including caribou calving/post-calving areas, migratory birds, other terrestrial wildlife, and related marine habitat connections.

Proponent Response

Habitat loss or alteration due to pollutants, dust and noise was considered in the assessment of caribou, migratory birds and other wildlife as outlined below.

Caribou Indirect Habitat Effects

Indirect habitat loss due to sensory disturbance is explicitly considered as a potential effects pathway in the Impact Statement:

> <u>*Sensory Disturbances*</u>
>
> "*Indirect effects are caused by Project-related activities that produce sensory disturbances (e.g., noise and visual disturbances from blasting and vehicle traffic) or alter forage quality (e.g., dust deposition), thereby reducing habitat effectiveness (i.e., the habitat actually used by caribou); these effects occur to varying degrees throughout both phases of the Project. The magnitude and frequency of sensory disturbance will determine caribou responses, ranging from local behavioural changes (e.g., Prichard et al. 2022) to habitat avoidance (e.g., DeMars and Boutin 2018). Habitat avoidance is often described through ZOIs, within which caribou progressively decrease their occurrence at distances closer to the disturbance source.*" (Volume 6, Section 16.4.2.2, document page 16-92)

Noise

"*Avoidance may occur for a variety of reasons (e.g., visual or auditory disturbances, dust), reducing overall habitat effectiveness, often at a much larger scale than direct effects. Loud noises (e.g., blasting or low-flying aircraft) may cause caribou to change their behavioural state and/or avoid areas for long periods (Bowles 1995). The distance to which these noises attenuate to background conditions will depend on the source location and the surrounding terrain. Evidence suggests that caribou perceive sounds with frequencies >60 Hertz (e.g., voices, aircraft, vehicles, industrial noises) at 30 to 40 A-weighted decibels (dBA) (Perra et al. 2022). On the PDA, equipment sound levels can be very loud (i.e., up to 120 dBA; see Volume 3, Section 13, Appendix 13B). Thus, sounds that propagate beyond the PDA may influence caribou space use and habitat selection. When accounting for noise-related mitigations, the sound levels from Construction activities and Operations and Maintenance activities attenuate considerably, ~3 km from the PDA, occurring just above or below the audible threshold for caribou (see Volume 3, Section 13, Appendix 13B).*" (Volume 6, Section 16.4.2.2, document pages 16-92 to 16-93)

Dust Deposition

"*Beyond auditory and visual cues, Project-related activities can also indirectly affect the quality of caribou habitat. Dust dispersion from road traffic can decrease the palatability and coverage of vegetation, including lichens, within 1 km of a road (Chen et al. 2017). Near Arctic roads, plant composition may change due to dust, increasing the abundance of grasses and sedges and decreasing that of moss and lichens (see Volume 6, Section 15.3.2.2). Dust deposition within 40 m of the PDA is expected to change vascular plant composition by <1.7% and lichen composition by <0.1% (see Volume 6, Section 15.3.2.4). Dust deposition is not expected to have a measurable effect on surface water quality that would alter the consumption by caribou (see Volume 7, Section 19.3.3.3). The limited extent and magnitude of dust effects are due to the Project's relatively low contribution to annual (average) total suspended particulate concentrations (17 microgram per cubic metre) or 30-day average dustfall (0.13 milligram per square decimetre per day) (see Volume 5, Section 11.3.2.4).*" (Volume 6, Section 16.4.2.2, document page 16-93)

These sensory disturbance effects are incorporated into the Zone of Influence (ZOI) buffers applied to the Project and other past/present, reasonably foreseeable (RF), and reasonably foreseeable induced (RFI) physical activities. The ZOI buffers applied for the Project included a 1 km ZOI around the road and 4 km ZOI around the port. Table 16.8 (Volume 6, Section 16.2.2.6) and Table 16.17 (Volume 6, Section 16.5.1.1) provide the ZOI buffers for past/present and RF/RFI physical activities, respectively. All ZOI buffers contribute to the calculated change in selected habitat within calving/post-calving, summer, and fall seasonal ranges:

"*Indirect effects are calculated by reclassifying habitat ratings after accounting for the ZOI buffers surrounding existing and Project-related disturbances. Within these ZOIs, the probability of selecting habitat increases along a gradient, from the disturbance footprint to the ZOI distance (i.e., the buffer perimeter). The degree of avoidance wanes up until the ZOI distance, and beyond that distance, caribou resource selection (probability) is not affected (see Figure 16.13).*" (Volume 6, Section 16.4.2.1, document page 16-90)

Pollutants

Pollutants are addressed in the assessment of caribou health through the Environmental Risk Assessment (ERA) (Volume 6, Section 16.4.5):

> *"The ERA evaluates the potential future health risks to ecological receptors, including ecological communities and wildlife, from environmental changes caused by the Project, particularly those related to environmental pollutants in the air, soil, water, and biota.*"

> "*Potential exposure pathways [for caribou] may include direct exposure to air, inhalation (e.g., dust), ingestion of plants (e.g. lichens) and surface water, and soil ingestion for essential minerals (e.g., sodium, calcium, iron, and zinc) or through incidental intake.*" (Volume 6, Section 16.4.5.1, page 16-114)

Bird Indirect Habitat Effects

Habitat loss and alteration for migratory birds due to sensory disturbances were evaluated in the Change in Habitat assessments for birds (Volume 6, Section 17.4.1.2, page 17-36):

> *"Noise and human activity from vehicle and equipment operation, as well as blasting activities, can influence bird occurrence and habitat use. Noise and activity may disrupt bird behaviour, communications, and overall reproduction success (Barber et al. 2010; Blickley and Patricelli 2010). Noise from the construction of port facilities and ship engines can affect the foraging behaviour of seabirds and sea ducks (Goodship and Furness 2022). During both Project phases, effects are more likely to occur in the northern portion of the RAA near the Grays Bay Port, due to higher traffic volume, air traffic, and overall higher levels of sensory disturbance (see Volume 5, Section 13)."*

> *"Human activity during the Construction and Operations and Maintenance phases may influence bird occurrence and habitat use. During the Construction phase, personnel will be stationed at two stationary camps (i.e., Grays Bay and Jericho Station) as well as four mobile camps as road construction progresses. Each stationary camp will accommodate up to approximately 80 people and each mobile camp will accommodate up to approximate 40 people, including construction, supervisory, and technical personnel. During the Operations and Maintenance phase, there will be approximately 20 personnel at the port. Approximately 12 personnel will be stationed at Jericho Station, with facilities to accommodate up to 40 persons (see Volume 2, Section 1). The presence and activities of project personnel will cause some changes in avian behaviour and habitat use in the vicinity of human activity."*

> *"Dust may be generated from Construction and Operations and Maintenance activities, such as land clearing, blasting, and the movement of vehicles and equipment, which may cause adverse effects on birds (Barton et al. 2023). These effects may cause a bird to avoid areas where dust generation occurs.".*

A Zone of Influence (ZOI) approach to examine indirect habitat loss and alteration was applied to the Change in Habitat assessment. This is described in the Analytical Assessment Techniques (Section 17.4.1.1) which states:

> *"To determine the change in habitat suitability, rankings were downgraded based on assumptions about how the Project will influence the guild of birds' use of these habitats. Habitat within the PDA was downgraded to 'Nil' since all habitats will be removed by the Project (i.e., direct habitat loss caused by the Project). Habitats adjacent to the PDA were downgraded for different bird guilds, forming the ZOI. The ZOI considers how Project components and activities may influence bird behaviour and/or use of habitat, as request in the NIRB Guidelines (NIRB 2026). The ZOI varied among the bird guilds, ranging from 250 to 1,500 metres (m) (see Table 17.10). The habitats within the ZOI were downgraded by one ranking down to a minimum of Low suitability. Indirect habitat loss is where existing Moderate habitat (i.e., suitable habitat) is downgraded to Low habitat (i.e., unsuitable habitat). Indirect habitat alteration involves existing High-ranking habitat being downgraded to Moderate, but the habitat still remains suitable for birds to use."*

Marine Habitat Connections

The assessment also considered connections between terrestrial wildlife, including marine birds, and the marine environment through the linked VC assessments presented in Volumes 6 through 8. For marine birds, the Project's interaction with marine habitat at the Grays Bay port was considered in the Change in Habitat assessment (Volume 6, Section 17.4.1), including the potential for noise and human activity associated with port construction and vessel operations to affect occurrence, foraging behaviour, and habitat use.

Potential changes to the marine environment were assessed through the Marine Water and Sediment, Marine Fish and Fish Habitat, and Marine Mammal VCs (Volume 8, Sections 21, 22, and 23, respectively). These assessments consider interconnected pathways including changes in marine water and sediment quality, alteration or destruction of marine habitat, effects on marine fish and invertebrates, underwater noise, and associated effects on marine mammal habitat and behaviour. For example, the Marine Mammal VC considers that alteration or destruction of fish habitat may affect prey availability for marine mammals and that changes in marine water quality associated with construction activities, including increased suspended sediments from dredging or vessel traffic, may affect marine mammal habitat use (Volume 8, Section 23.3.2).

Other Wildlife Indirect Habitat Effects

Indirect effects due to sensory disturbances were evaluated in the Change in Habitat assessment for each of the Other Wildlife focal species:

Muskox (Volume 6, Section 18.4.1.2, page 18-68)

> *"Changes in habitat suitability resulting from indirect project effects are expected to occur throughout all phases of the Project. Indirect effects will be created through project activities that produce sensory disturbance (e.g., noise from blasting or vehicle traffic, visual stimuli from infrastructure or equipment) or alter forage quality (e.g., dust deposition). Sensory disturbance from auditory, olfactory,*

and visual stimuli can reduce habitat effectiveness by altering animal behaviour or causing avoidance of otherwise suitable habitat (Frid and Dill 2002; Leblond et al. 2013; Finnerty et al. 2022). Muskox may alter their regular behaviour as a response to sensory disturbance, which may result in lost feeding time, stress, reduced reproductive potential or habitat avoidance (M.A. McLaren and Green 1985; Miller et al. 1988). Muskox will flee from humans on foot, in vehicles, or aircraft (Gray 1973, in M. McLaren and Green 1985), (Miller and Gunn 1979; Russell 1979)."

The ZOI for muskox was used to quantify indirect effects from Project-related activities. The following is stated regarding the ZOI for muskox (Volume 6, Section 18.4.1.1, pages 18-67 and 18-68):

"To quantify direct project effects on habitat suitability, baseline mapping was overlaid with the PDA and all suitable habitat within the PDA was considered lost. ZOIs were used to quantify indirect effects from project activities and components. The ZOIs represent defined distances from the PDA within which habitat suitability is considered to be reduced or lost due to indirect project effects (e.g., sensory disturbance, dust deposition, perceived barriers). Within the ZOIs, high, moderate and low habitat values were reduced by one rating level. Habitat patches reduced from high to moderate represent indirect habitat alteration but remain suitable, whereas areas reduced from moderate to low were considered functional habitat loss (i.e., they become "unsuitable"). For both the summer and late winter periods, and for both project phases, the all-season controlled access road and quarries were assigned a ZOI of 1.5 km around the PDA, while other Project components with more concentrated activity, such as the port facility, airfields, and permanent camps, were assigned a ZOI of 4 km. These distance values were selected based on published studies on muskox and other Arctic ungulate response to anthropogenic noise (e.g., Miller and Gunn 1979; McLaren and Green 1985), ZOIs used for muskox in other approved NU project IS, baseline noise levels for the RAA, and expected attenuation distances for Project generated noise (see Volume 5, Section 13). The ZOIs are entirely contained within the LAA."

Moose (Volume 6, Section 18.8.1.2, page 18-95 and 18-96)

"Indirect effects may arise from Project activities that produce sensory disturbance (e.g., noise and visual disturbance from blasting and vehicle traffic) or alter forage quality (e.g. dust deposition), reducing habitat effectiveness (i.e., the habitat actually used by moose). These effects are expected to occur throughout all phases of the Project but are limited to within 300 m of the PDA.

Indirect habitat loss or alteration may occur adjacent to the PDA and within the ZOI during both phases of the Project. The ZOI currently contains 39.9 km² of potentially suitable moose habitat. While the habitat may remain relatively intact, moose use may be reduced due to sensory disturbances, leading to reduced habitat effectiveness or even functional habitat loss. Indirect effects include changes in behaviour, resource use, and movements, which can reduce or prevent the use of otherwise suitable habitat (Dyer et al. 2002; Laurian et al. 2012). Wildlife may avoid roads because of vehicle traffic, human activity, noise, light, and dust (Coffin 2007; Polfus et al. 2011; Shannon et al. 2016; Watkinson et al. 2021). Human presence can indirectly affect habitat use. Moose have been found to avoid active roads, humans, and other mechanical stimuli, with avoidance distances ranging from 100 to 400 m (Horejsi 1979; Rudd and Irwin 1985; Andersen et al. 1996; Burson et al. 2000; Yost and Wright 2001).

Based on information from the Air Quality and Vegetation assessments (see Volume 5, Section 11 and Volume 6, Section 15), dust produced from Project-related activities will deposit on the vegetation surrounding the PDA. This deposition can reduce plant cover and growth, and alter the vegetation community (Watkinson et al. 2021), which may influence moose use of that habitat. The extent of dust deposition depends on many factors, such as particle size and local weather patterns, and potential effects on vegetation diminish with increasing distance from dust sources. For example, US EPA (1995) details that larger dust particles (e.g., particulate diameter >100 µm) settle out within about 10 m of the source, while smaller particles (e.g., 30 to 100 µm) tend to be deposited within 100 m of the source (US EPA 1995). Gleason et al. (2007) predict effects from wind-blown dust on vegetation to extend to a distance of 40 m from dust sources.

Blasting and activities at quarries can harm wildlife through noise, vibration, fumes, and flying rock debris (Child et al. 1991; Cunningham et al. 2022). One study from Estonia showed that moose densities increased with increasing distance from quarries, but the most significant factor in moose occurrence was the presence of suitable habitat (Remm and Luud 2003). Water withdrawal is planned for two inland lakes near the Port PDA. Suitable habitat for moose at these lakes is limited as shrubs are not present or sparse."

These sensory disturbances were used to quantify indirect habitat loss in the Change in Habitat assessment for moose (Volume 6, Section 18.8.1.1, pages 18-94 and 18-95) using a ZOI approach:

"Indirect habitat loss or alteration was quantified using a ZOI approach. The ZOI defines the area beyond the PDA where Project activities could indirectly affect moose habitat use, potentially resulting in reduced habitat effectiveness or indirect habitat loss. These effects manifest as dust deposition (which reduces forage quality or quantity) and sensory disturbances (e.g., noise, lights, smells, human presence) that can potentially cause moose to reduce use of otherwise suitable habitat adjacent to the PDA.

The size of the ZOI was based on scientific literature reviews of moose sensitivity to specific project components or activities. Laurian et al. (2012) found strong habitat avoidance within 100 m of roadways, which declined to zero beyond 250 m. In a study in AB, vehicle activity within 250 m of moose located in open habitats often caused the moose to leave the area (Horejsi 1979). Additionally, moose showed no disturbance reaction to trucks passing within 200 m to 400 m while they were feeding or bedded down, but the author suggested moose in the study area may be habituated to vehicle traffic (Horejsi 1979). In Alaska, Yost and Wright (2001) found significantly fewer (55%) moose groups within 300 m of a paved road through Denali National Park than expected; however, they suspected that the spatial pattern of preferred forage and cover largely influenced these results. Similarly, Burson et al. (2000) found fewer moose proportionally within 100 m of the Denali Park road between 1972 and 1997; however, the mechanism for the reduced number of detections near the road may have been poorer visibility of moose due to dense vegetation. In Norway, Andersen et al. (1996) found that moose were more responsive to human stimuli (e.g., people walking or skiing) than to mechanical stimuli (e.g., jet overflights), and that they fled from human stimuli at distances of 200 to 400 m. Dust deposition on vegetation at the Project is

anticipated to be limited to within 40 m of the PDA and to occur at levels that meet the standards for residential/parkland areas (see Volume 6, Section 15 Vegetation).

Based on the literature reviewed above and an understanding of the proposed project activities and the landscape context in which they will occur, a 300 m ZOI around the PDA was selected to address potential indirect effects on moose habitat. The areas of indirect habitat loss or alteration within the ZOI and of direct habitat loss in the PDA were summed and compared with the baseline amount of shrub habitat in the RAA to determine the magnitude of the change in moose habitat associated with development of the Project."

Grizzly Bear (Volume 6, Section 18.12.1.2, page 18-123)

"Indirect habitat loss or alteration during construction stems from sensory disturbance (e.g., noise, dust, lights, human activity), increased human presence (e.g., workers, camps), physical or perceptual filters to habitat use (e.g., road corridor, vegetation clearing), and anthropogenic attractants (e.g., fuel, food waste). These habitat effects extend beyond the PDA (but are contained within the LAA), as dust dispersion from quarrying, blasting, other ground disturbance activities, and road traffic may decrease vegetation palatability or quality, while changes to water quality could affect water and forage sources downstream of the PDA.

Habitat alteration can be positive or negative for grizzly bear. In areas such as road rights-of-way, forage availability may increase due to slow, natural regeneration of suitable forage plants, increased nutrient and water availability, and vehicle-killed carrion (Nagy and Russell 1978; MacHutchon and Mahon 2003; Roever et al. 2008). This increase in forage can provide valuable nutrition, but when located in areas with higher human activity, it can present a greater risk of mortality (see Section 18.12.3). In addition, because grizzly bears rely on different habitat types at different times of year, the severity of impacts (direct and indirect) will vary by habitat type and season. Seasonal shifts in habitat use occur from spring through summer and fall as individual grizzly bears respond to changes in food availability, digestibility, and nutritional quality (Bunnell and Hamilton 1983; McLellan and Hovey 1995; MacHutchon and Wellwood 2003).

Bears are most sensitive to disturbance during the denning season (BC Ministry of Environment and Climate Change Strategy 2019), which runs from October through May, with females entering dens earlier and denning longer than males (McLoughlin et al. 2002b). Disturbance from anthropogenic activities can elevate heart rates and wakefulness, and subsequent energy use, for denning bears (Reynolds et al. 1986) which can lead to den abandonment (Craighead and Craighead 1972; Reynolds et al. 1976; Harding and Nagy 1980), potential loss of cubs (Schoen et al. 1987), and displacement from denning areas (Craighead and Craighead 1972; Schoen et al. 1987). Based on these factors, activities during the denning period (October to May) are considered high-sensitivity."

The ZOI approach for bears used in the Change in Habitat assessment for indirect habitat loss or alteration (Volume 6, Section 18.12.1.1, page 18-122) was based on the following:

> *"Indirect habitat loss or alteration in the RAA, which will occur throughout the life of the Project, was quantified using a ZOI approach, wherein areas within a defined proximity to the PDA (i.e., within a ZOI) are considered as altered (less suitable) or lost (no longer suitable). The ZOI is defined as the area beyond the PDA in which project activities could indirectly affect grizzly bear habitat use, thereby reducing habitat effectiveness. These indirect effects occur primarily through sensory disturbances (e.g., noise, lights, smells, human presence), but may also include other factors (e.g., edge effects, dust, perceptual filters, road densities) that can alter habitat and reduce habitat suitability. Bears generally avoid areas within ~500 m of roads, with avoidance increasing with traffic volume (Roever et al. 2010). Several analyses report avoidance up to ~800 m for gravel/resource roads (low-to-moderate traffic). This distance captures typical noise, lights, dust, and persistent human scent/attractants associated with maintenance and routine traffic (Roever et al. 2010; Northrup et al. 2012). In higher activity areas (e.g., camps, port facilities), avoidance and displacement can extend up to 2 km (Chruszcz et al. 2003; Apps et al. 2004), with bears potentially using nocturnal activity shifts to mitigate risk (Roever et al. 2010).*
>
> *Since these distances were derived from forested habitats in western AB, bear behaviour in the open Arctic may differ; however, no studies have assessed such differences to date. Therefore, given the currently available scientific literature regarding the sensitivity of grizzly bear to project components and an understanding of the proposed project activities, an 800-m ZOI was used to downgrade habitat suitability for grizzly bear in proximity to the all-season road, based on the range of habitat avoidance from gravel roads with low/moderate traffic. A 2 km radius buffer was used to downgrade habitat suitability relative to permanent structures, such as work camps, the airstrip, and the port, based on distance from higher-activity areas. The ZOIs are contained entirely within the LAA.*
>
> *Indirect habitat loss or alteration was quantified by applying a habitat suitability reduction factor to HSR within the ZOI. For habitat within 800 m of the road and within 2 km of permanent structures, suitability ratings were reduced by one level (i.e., High becomes Moderate, Moderate becomes Low, etc.). Thus, a habitat that was reduced in quality from High to Moderate was considered altered but still Suitable, while that reduced in quality from Moderate (Suitable) to Low (Not Suitable) was considered indirect habitat loss). The total amount of direct and indirect loss of Suitable grizzly bear habitat due to the Project was used as the metric to assess the magnitude of habitat change."*

Wolverine (Volume 6, Section 18.16.1.2, page 18-152)

> *"Construction phase but will persist throughout the Project's lifetime. Indirect effects include reduced habitat effectiveness in the ZOI, primarily due to sensory disturbance (e.g., noise and human activity), edge effects, and, in extreme development environments, fragmentation (Chapin et al. 1998; Hargis et al. 1999; Krebs et al. 2007). Indirect effects may include changes in behaviour and resource use, which can reduce or prevent the use of otherwise suitable habitat (Dyer et al. 2002; Laurian et al. 2012). While the habitat may remain relatively intact, wolverine use may be reduced due to sensory disturbances that degrade habitat function. Wildlife may avoid roads because*

of vehicle traffic, human activity, noise, light, and dust (Coffin 2007; Polfus et al. 2011; Shannon et al. 2016; Watkinson et al. 2021). Dust produced from project-related activities will deposit on the vegetation surrounding the PDA. This deposition can reduce plant cover and growth, altering the vegetation community (Watkinson et al. 2021), which may influence habitat use of species which wolverine prey upon. Indirect habitat effects will occur within the 1 km ZOI around the PDA in both phases of the Project, but at a reduced intensity during the Operations and Maintenance phase."

The ZOI approach for wolverine in the Change in Habitat assessment (Volume 6, Section 18.6.1.1, page 18-151) was based on the following:

"Indirect habitat loss was quantified by applying a reduction factor to habitat ratings within the ZOI, reducing suitability ratings by one level (e.g., High becomes Moderate, Moderate becomes Low, and so on). Habitat that was downrated from Moderate (Suitable) to Low (Not suitable) was considered to represent indirect habitat loss, while that downrated from High (Suitable) to Moderate (Suitable) was considered to represent indirect habitat alteration. This approach reflects evidence that wolverines may still use high-quality habitat within the ZOI despite human activities (Scrafford et al. 2018)."

NIRB 271. (IR-749)

Subject

Terrestrial Impact Assessment – Environmental Receptivity to Harmful Substances

Issue / Concern

Reviewer Comments / Reasoning: HHERA discusses exposure pathways and receptors, but environmental receptivity is not clearly summarized for terrestrial conditions. The assessment would benefit from a clearer explanation of ecological, physical, and climatic factors that could affect exposure to harmful substances, such as permafrost, snow/ice, drainage, dust transport, vegetation uptake, and seasonality. Missing Information / Gap: - 1. The ecological, physical, and climatic factors influencing exposure to harmful substances in the terrestrial environment have not been clearly summarized. - 2. It is unclear how these factors were incorporated into the assessment of potential effects.

Information Request

Please provide a clearer summary of the ecological, physical, and climatic factors that may influence exposure to harmful substances in the terrestrial environment and explain how these factors were considered in the assessment of potential effects.

Proponent Response

Ecological, physical, and climatic conditions are considered within the assessment at the stage where they influence the generation, transport, or potential for exposure to Project-related substances. For example, local meteorological conditions are incorporated into the air dispersion modelling and therefore influence the predicted concentrations evaluated in the HHERA. Similarly, drainage, surface water movement, permafrost and other physical conditions relevant to the movement of substances through terrestrial and aquatic environments are considered within the applicable environmental VCs. The HHERA relies on the resulting predictions of environmental quality to determine whether Project-related contaminants and complete exposure pathways are present, rather than independently modelling these physical processes.

The HHERA does not rely on climatic conditions, snow or ice cover, permafrost, or seasonal accessibility to assume reduced human or ecological exposure. Human land users are considered potentially present near Project activities where an exposure pathway could occur; restricting receptor presence based on weather or seasonal access would reduce assumed exposure and would therefore be less conservative. For air quality, predicted concentrations already reflect local meteorological conditions affecting dispersion along the Project corridor. For terrestrial contaminant pathways, factors such as dust deposition and potential uptake by vegetation would only result in chemical exposure where Project activities introduce a COPC into soil or other environmental media at concentrations capable of reaching ecological or human receptors. As described in Appendix 26A and the supporting VCs, no such Project-related COPCs were identified in soil or biota and these pathways were therefore determined to be inoperable. Accordingly, additional adjustment of exposure based on permafrost, snow and ice cover, drainage, vegetation uptake, or seasonality would not alter the conclusions of the HHERA.

NIRB 272. (IR-750)

Subject

Accidental spill scenarios and pathways to terrestrial wildlife and harvesting areas

Issue / Concern

Reviewer Comments / Reasoning: Arising from KHTO-IR-007. The IS addresses contamination and bioaccumulation generally but does not identify credible spill scenarios or trace pathways from those scenarios to terrestrial wildlife, sensitive habitat and harvesting areas.

Missing Information / Gap: No spill-scenario set with environmental settings, nor pathway analysis to terrestrial wildlife, wetlands, calving areas, denning sites, or traditional harvesting zones.

Information Request

Provide: (a) the credible accidental-spill scenarios for Project activities (fuel, hazardous materials, concentrate), including volume, location and environmental setting; (b) the pathways by which each scenario could reach terrestrial wildlife and habitat; (c) the predicted consequences for wildlife species, wetlands, calving and denning areas, and traditional harvesting zones; and (d) how these results were carried into the residual and cumulative effects conclusions.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in the IS. To assist the reviewer, the cross-references below identify where each requested element can be found in the IS:

(a) **Credible spill scenarios.** These are described in Volume 10, Section 34.4.1 (Terrestrial or Aquatic Hazardous Materials Spill) and Table 34.5:

- Small spill: less than 100 L, from storage, handling, dispensing, or vehicle and equipment malfunction. Considered very likely during Construction and somewhat likely during Operations and Maintenance.
- Large spill: 1,000 L or more, from loss of containment on a fuel truck. Considered unlikely, with major consequences.
- Fuel volumes and storage locations:
  - About 10 million L of diesel will be used annually during Construction.
  - In Year 1, fuel will be stored in drums and tanks at laydowns, quarries, and camps.
  - Permanent facilities at the Port and Jericho Station will have secondary containment.

- Worst probable case: a large fuel spill into a major watercourse (Burnside, Hood, James, or Kennarctic River) under unfrozen conditions (Section 34.7.1).
- Setting and timing: risk is highest in the first year of Construction and in spring and summer, when there is no snow or ice cover (Section 34.6.3; Table 34.7).

Concentrate is not handled by the Project. Concentrate trucking, storage, and handling are future third-party activities outside the scope of the Project (Volume 2, Section 1.5). Third-party accidents are outside the scope of the assessment (Volume 10, Section 34.1).

(b) **Pathways to terrestrial wildlife and habitat.** Interactions between the terrestrial spill scenario and the Terrain, Vegetation, Caribou, Birds, Wildlife, Water Resources, and Traditional Land, Marine, and Resource Use (TLMRU) valued components (VCs) are identified in Table 34.6. Volume 10, Section 34.7.1 describes three pathways:

- Soil contamination
- Spread to vegetation and wetlands next to the road right-of-way or Project sites
- Wildlife exposure: direct contact with spilled material, and habitat loss and avoidance after soil and vegetation are removed during cleanup

(c) **Predicted consequences.** Volume 10, Section 34.7.1 assesses consequences for each VC:

- Vegetation and wetlands: effects are local and may persist in a wetland, but are not regional. Not significant.
- Wildlife, including caribou and birds: effects are local and are not expected to threaten the long-term persistence of any species, including species at risk and culturally important species. Not significant.
- TLMRU and Food Security and Sovereignty: access to harvesting areas may be affected, depending on location and season. Not significant overall, but avoidance by individual land users who perceive an area as affected could be significant for those users.

The consequence ratings and significance definitions are in Table 34.3 and Table 34.8.

(d) **Carried into residual and cumulative conclusions.** Residual effects of each scenario are characterized in Section 34.7, using the significance definitions of each Project VC. Accidents and malfunctions are not part of normal Project activity. They are assessed separately under Guidelines Section 8.4 and are not carried into the cumulative effects assessment.

NIRB 273. (IR-751)

Subject

Terrestrial Impact Assessment – Terrain Hazards and Snow Drifts

Issue / Concern

Reviewer Comments / Reasoning: Terrain stability hazards are discussed in detail, including permafrost thaw, slumping, settlement, terrain instability, drainage, and embankment effects. However, discussion of the occurrence, frequency, and distribution of snow drifts and snowbanks along the road and infrastructure is limited. Volume 10 notes snow clearing concerns and HTO suggestions related to snowblowers and windrows, but this is not fully connected to terrain hazard assessment or road management planning. Missing Information / Gap: - 1. The occurrence, frequency, and distribution of terrain hazards, including ground instability, snow drifts, and snowbanks, have not been clearly identified. - 2. It is unclear how these hazards were incorporated into road design, operation, and maintenance planning.

Information Request

Please provide additional information on the potential occurrence, frequency, and distribution of terrain hazards, including ground instability, snow drifts, and snowbanks, and explain how these hazards were considered in road design, operation, and maintenance planning.

Proponent Response

Terrain hazards along the Project development area include both ground-related (from slope and hydrological processes) and snow-related processes. Ground-related terrain hazards identified through terrain mapping include seepage and solifluction, permafrost-related processes, ice-wedge polygon terrain, thermokarst, localized gullies, and isolated areas of mass movement.

These features were identified through desktop studies, terrain mapping, remote sensing interpretation, previous field investigations, and geotechnical information, and were mapped relative to the preliminary road alignment and infrastructure footprint. The distribution and characteristics of these terrain hazards are summarized in Sections 4.4.1 and 4.4.2 of the Terrain, Soils, and Permafrost Baseline Report (Volume 6, Appendix 14A), and displayed on the figures included in Appendix E of that report, and assessed in the main text at Volume 6, Section 14 (Assessment of Potential Effects on Terrain, Soils, and Permafrost), Section 14.2 (Baseline Conditions).

The terrain mapping completed for the Local Assessment Area corridor demonstrated how the distribution of terrain hazards is not uniform across the Project. The majority of the Project corridor traverses bedrock- and till-dominated terrain, which generally provides comparatively stable ground conditions and is characterized by limited evidence of active geomorphological processes. Bedrock and till together account for approximately 69% of the route alignment, while also indicating that approximately 70% of the alignment is located in terrain where no dominant active geomorphological process was identified.

(Volume 6, Section 14.2, Distribution of Dominant Geomorphological Processes along the Road PDA [Table 15.2, p. 14-36]; and Volume 6, Appendix 14A, Sections 4.4.1 and 4.4.2).

Also, areas of greater terrain sensitivity are generally associated with specific surficial materials and landforms rather than the Project corridor as a whole. For example, marine sediments in the northern portion of the Project area are recognized as being more susceptible to hosting ice-rich permafrost conditions, thermokarst development, active layer detachments, erosion, and localized slope instability. Glaciofluvial and glaciolacustrine deposits may be associated with erosion, gullying, or ice-rich conditions in localized areas, while seepage and solifluction are most commonly associated with slopes and poorly drained terrain. Bedrock escarpments and steep valley slopes may also experience isolated rockfall or colluvial processes (Volume 6, Section 14.2; Volume 6, Appendix 14A, Section 4).

Terrain mapping identified seepage and solifluction as the most common mapped geomorphological process, affecting approximately 23% of the road alignment. Ice-wedge polygon terrain accounts for approximately 5% of the alignment, while areas mapped as thermokarst, gullies, and other permafrost-related processes are comparatively limited in extent and generally occur in localized sections of the corridor (Volume 6, Section 14.2, Distribution of Dominant Geomorphological Processes along the Road PDA [Table 15.2]; Volume 6, Appendix 14A, Sections 4.4.1 and 4.4.2, and Appendix E).While snow drifting and snow accumulation are recognized as factors that may affect road operations and maintenance in northern environments, the occurrence of these processes cannot be mapped or quantified. The occurrence and distribution of snow drifts and snowbanks are influenced by local topography, road embankments, vegetation cover, and prevailing wind conditions. At the current stage of Project development, detailed site-specific snow drift modelling has not been completed, and therefore quantitative predictions of snow drift frequency and distribution are not available. However, snow accumulation is expected to be most pronounced in exposed areas, terrain depressions, road cuts, and locations where embankments alter natural wind flow patterns (Volume 6, Section 14).

The terrain and geotechnical information collected to date has been used to identify areas that may require additional design consideration. Prior to construction and as project design progress, detailed geotechnical and engineering investigations will further characterize site-specific conditions and support refinement of the final alignment and infrastructure designs. This information will be used to develop site-specific measures related to road geometry, embankment design, drainage management, erosion protection, and permafrost protection where warranted (Volume 6, Section 14.3; Volume 2, Project Description).

Operation and maintenance planning will also incorporate the results of these investigations and may include routine inspections, monitoring of areas susceptible to settlement or terrain degradation, drainage maintenance, snow clearing activities, management of snow windrows, and other measures necessary to maintain safe and reliable road operations throughout the life of the Project (Volume 6, Section 14.3; Volume 11 management plans, including terrain/permafrost-stability monitoring and the Erosion and Sediment Control Plan).

NIRB 274. (IR-752)

Subject

Noise and Vibration Baseline – Monitoring Coverage and Seasonal Variability

Issue / Concern

Reviewer Comments / Reasoning: Baseline noise conditions are described using monitoring at two locations. The technical modelling report states that monitoring was completed at one remote location south of Jericho Station for 3 days in September 2017 and one Grays Bay Port location for 5 days in August 2024. It also explains that wind, rain, birds, tidal waves, vegetation rustling, insects, and occasional aircraft influenced the acoustic environment. However, the baseline program appears limited in spatial and seasonal coverage, and it is not clear how well it represents winter, spring, shoulder season, road corridor, quarry areas, and long-term baseline variability.

Missing Information / Gap: - 1. The representativeness of baseline noise monitoring locations across the Project area has not been demonstrated. - 2. It is unclear whether the road corridor, port, Jericho Station, and quarry areas were adequately represented. - 3. The representativeness of the monitoring periods across different seasons has not been demonstrated.

Information Request

Please provide additional information explaining how the baseline noise monitoring locations and monitoring periods are representative of baseline conditions across the Project area, including the road corridor, port, Jericho Station, quarry areas, and different seasons.

Proponent Response

See the response to NIRB 147 (IR-625).

NIRB 275. (IR-753)

Subject

Noise and Vibration Baseline – Baseline Vibration Conditions

Issue / Concern

Reviewer Comments / Reasoning: The guideline asks for baseline noise and vibration levels. Provides baseline sound level monitoring and modelling assumptions, but baseline vibration conditions are not clearly described in the same level of detail. It is not clear whether existing vibration sources were measured, assumed to be negligible, or screened out.

Missing Information / Gap: - 1. Baseline vibration conditions for the Project area have not been clearly characterized. - 2. It is unclear whether existing vibration sources were measured, assumed to be negligible, or otherwise considered in the assessment.

Information Request

Please clarify how baseline vibration conditions were characterized for the Project area, including whether existing vibration sources were measured, assumed to be negligible, or otherwise considered in the assessment.

Proponent Response

As described in Section 4.2 of the Noise and Vibration Technical Modelling Report (Volume 5, Appendix 13B), existing background ground vibration in the rural Project area is typically below human perception levels. Vibration criteria apply to individual events and do not consider existing or background vibration levels. Therefore, baseline vibration monitoring was not undertaken, and Project-specific vibration sources, including blasting and heavy equipment, were assessed directly against the applicable vibration thresholds. This reflects accepted practice, not a gap. This is consistent with the Guidelines (Section 8.1.3), which call for baseline noise and vibration to be characterized but do not require a measured vibration baseline where existing levels are below perceptible limits.

NIRB 276. (IR-754)

Subject

Noise and Vibration Baseline – Weather Effects on Baseline Sound Levels

Issue / Concern

Reviewer Comments / Reasoning: Recognizes that weather strongly affects baseline sound levels. The modelling report states that wind speeds reached up to 34 km/hr at SLM1 and 31 km/hr at SLM2, and that two baseline scenarios were used: one excluding wind speeds above 15 km/hr and one including all wind data because high wind is common in the area. This is technically useful, but the implications of using these two scenarios for predicted noise effects and receptor assessment are not clearly summarized.

Missing Information / Gap: - 1. It is unclear how weather-related variability, including high wind conditions, was considered in selecting baseline noise levels. - 2. The influence of weather conditions on predicted Project noise effects at receptors has not been clearly assessed.

Information Request

Please explain how weather-related baseline noise variability, including high wind conditions, was considered when selecting baseline sound levels and evaluating predicted Project noise effects at receptors.

Proponent Response

See the response to NIRB-147 (IR-625).

NIRB 277. (IR-755)

Subject

Noise and Vibration – Wildlife Response Thresholds and Predicted Noise Effects

Issue / Concern

Reviewer Comments / Reasoning: Noise and vibration effects on wildlife, fish, and marine mammals are discussed across several VC sections. However, the technical link between predicted Project noise/vibration levels and species-specific behavioural responses is not clearly shown. The assessment would be clearer if it identified the literature, thresholds, response criteria, distances, timing, and sensitive life stages used to translate predicted noise levels into effects conclusions for wildlife and aquatic receptors.

Missing Information / Gap: - 1. The link between predicted noise and vibration levels and expected behavioural responses of key species has not been clearly demonstrated. - 2. Species-specific thresholds, effect distances, timing, and sensitive life stages have not been clearly identified. - 3. The supporting literature and evidence used to assess effects on terrestrial wildlife, fish, and marine mammals have not been adequately described.

Information Request

Please clarify how predicted Project noise and vibration levels were linked to expected behavioural responses for key species, including caribou, migratory birds, Species at Risk, muskox, moose, grizzly bear, wolverine, freshwater fish, marine fish, and marine mammals. Please identify any species-specific thresholds, distances, timing, sensitive life stages, or supporting literature used.

Proponent Response

As discussed in the IS, predicted Project noise and vibration levels were linked to expected behavioural responses for key species as follows:

<u>Caribou</u>

The Impact Statements (IS) links predicted sound levels to caribou hearing thresholds and considers how noise and vibration contribute to the Project's Zone of Influence (ZOI).

> "*Evidence suggests that caribou perceive sounds with frequencies >60 Hertz (e.g., voices, aircraft, vehicles, industrial noises) at 30 to 40 A-weighted decibels (dBA) (Perra et al. 2022)… When accounting for noise-related mitigations, the sound levels from Construction activities and Operations and Maintenance activities attenuate considerably, ~3 km from the PDA, occurring just above or below the audible threshold for caribou (see Volume 5, Section 13, Appendix 13B)*." (Volume 6, Section 16.4.2.2, Page 16-93)

The post-mitigation ZOIs around the Grays Bay Road (1 km) and Grays Bay Port (4 km) are used to assess changes in habitat and movement. Please refer to the response to Information Request IR-322 (ADNLC-IR-06) for further discussion on this topic.

Migratory birds

Sensory disturbance from noise, dust and human activity was assessed through guild-specific ZOIs, based on published response distances (Volume 6, Section 17.4.1.1 Change in Habitat Analytical Assessment Techniques; Table 17.10):

- **Passerines, 300 m:** reduced bird density near compressor stations and roads (Bayne et al. 2008; Reijnen and Foppen 1994; Reijnen et al. 1995).
- **Waterbirds and shorebirds, 250 m:** flight-initiation and setback distances (Miller et al. 1998; Rodgers and Schwikert 2002; Borgmann 2011; Koch and Paton 2014).
- **Cliff-nesting raptors, 1,500 m:** the recommended setback for raptor nesting sites (GNWT 2015).

The IS links these ZOIs to the predicted noise results. It states that construction sound levels "*are expected to return to baseline levels within 1 km of the PDAs for the Port and Jericho Station, as well as quarry and bridge construction activities," and "just beyond 1 km of the Road PDA*" for other road construction (Volume 6, Section 17.4.1.4 Project Residual Effect, citing Volume 5, Section 13).

Change in habitat and change in mortality of migratory birds was assessed at three levels of sensitivity based on timing windows within which a nest may contain a viable egg or live bird (Volume 6, Section 17.1.4.3 Residual Effects Characterization; Table 17.4).

Other Terrestrial Wildlife

Sensory disturbance from noise, dust, and human activity was assessed through species-specific ZOIs, based on published response distances (Volume 6, Change in Habitat Analytical Assessment Techniques Sections 18.4.1.1 [Muskox], 18.8.1.1 [Moose], 18.12.1.1 [Grizzly Bear], and 18.16.1.1 [Wolverine])):

- **Muskox, 1.5 km around the road PDA, 4 km around high-activity areas:** based on published studies on muskox and other ungulate responses to anthropogenic noise (e.g., Miller and Gunn 1979; McLaren and Green 1985), ZOIs used for muskox in other approved NU project IS, baseline noise levels for the RAA, and expected attenuation distances for Project generated noise (Volume 5, Section 13).
- **Moose, 300 m around the PDA:** based on a synthesis of published studies of moose response to roads, vehicle traffic, and various human activities (Horejsi 1979; Andersen et al. 1996; Burson et al. 2000; Yost and Wright 2001).
- **Grizzly bear, 800 m around the road PDA, 2 km around high-activity areas:** based on published studies of grizzly bear responses to sensory disturbance (e.g., noise, lights, smell, human presence) and other factors that can affect habitat suitability (e.g., edge effects, dust, perceptual filters, road densities) (Chruszcz et al. 2003; Apps et al. 2004; Roever et al. 2010; Northrup et al. 2012).

- **Wolverine, 1 km around the PDA:** based on the range of habitat avoidance from roads determined by May et al. (2012) and findings on road densities adversely affecting wolverine habitat use (Rowland et al. 2003; Dawson et al. 2010; Scrafford and Boyce 2015; Kortello et al. 2019). Research on wolverine habitat selection cites 1 km as an appropriate buffer for capturing effects of roads on wolverine movement and habitat (Johnson et al. 2005). It also matches the distance from the PDA at which noise levels from construction activities are expected to return to baseline levels (Volume 5, Section 13).

Sensitive timing windows for each Other terrestrial Wildlife species that were considered in the IS are presented in Table 18.4 (Characterization of Residual Effects on Other Wildlife), with a rationale and supporting literature for the selection of these windows provided under the "Timing" sub-heading of Section 18.1.5 (Residual Effects Characterization).

Freshwater Fish

The IS links Project-related noise and vibration to potential effects on freshwater fish through underwater noise, shock waves, and substrate vibration associated primarily with drilling and blasting near fish-bearing watercourses and waterbodies. Blasting can introduce high-intensity noise into the aquatic environment through the air and vibration in the substrate, as well as high-velocity shock waves. Potential effects identified in the assessment include physical injury or mortality, temporary or permanent hearing loss, behavioural changes, and mechanical shock to developing embryos (DFO 2006; Popper et al. 2014). Sensitive early life stages, including fish eggs and larval fish, were specifically considered in the assessment.

The assessment applies specific mitigation criteria to avoid or reduce potential blasting effects on freshwater fish and fish habitat. Blasting will not occur within 100 m of freshwater fish-bearing waterbodies such that instantaneous pressure will be less than 50 kPa where fish may be present, and particle velocity will be less than 13 mm/s near a spawning bed where eggs or larval fish may be present. These criteria address potential pressure- and vibration-related effects on fish and sensitive early life stages.

Sensitive timing was also incorporated into the assessment and mitigation measures. In-water construction activities will be conducted outside the applicable restricted activity timing windows for the protection of fish and fish habitat, unless otherwise approved by DFO (DFO 2013). The IS identifies timing windows of May 1 to July 15 for spring spawning and August 15 to June 30 for fall spawning, as applicable to the species and waterbody. These timing restrictions reduce the potential for Project activities to interact with sensitive spawning, egg incubation, and early life-history periods.

Accordingly, the freshwater fish assessment did not apply a single species-specific behavioural-response threshold for underwater noise. Rather, the assessment considered the mechanisms through which underwater noise, blast pressure, and vibration could affect fish, together with fish presence, spawning habitat, sensitive life stages, activity timing, and the applicable blasting mitigation criteria. Further details on these pathways, mitigation measures, and residual effects are provided in Volume 7, Section 20.3.3.

Marine Fish

The IS links predicted underwater noise to expected behavioural responses of marine fish through known hearing sensitivities, sound-detection mechanisms, published behavioural studies, and the characteristics of Project noise sources. Marine fish and invertebrates primarily detect underwater sound through particle motion, although some fish species are also capable of detecting sound pressure (Popper and Hawkins 2019). Unlike marine mammals, established behavioural-response thresholds are not available for marine fish or benthic invertebrates. The behavioural assessment therefore used a weight-of-evidence approach based on known hearing sensitivities, potential effect mechanisms, relevant scientific literature, and professional judgment (Volume 8, Section 22.3.3).

Underwater noise from construction activities, including pile driving, blasting, dredging, drilling, and construction vessels, was considered based on the characteristics and expected intensity and duration of these sources. During Operations and Maintenance, vessel-generated noise was assessed as a non-impulsive source. The IS notes that published studies have reported variable behavioural responses of fish to vessel noise, including temporary horizontal or vertical movement away from approaching vessels, anti-predator responses, and masking or inhibited perception of acoustic cues (Van der Knaap et al. 2022).

The assessment considered timing when characterizing the sensitivity of potential effects, including the open-water period when marine construction and vessel activity may overlap with seasonal fish occurrence and use of marine habitat. Because responses vary among species and depend on hearing ability, life history, source characteristics, received sound, and exposure context, the IS did not apply a single behavioural threshold or fixed response distance to marine fish. Further details are provided in Volume 8, Section 22.3.3 (Change in Behaviour Caused by Sensory Disturbance) and Section 22.3.4 (Change in Mortality and/or Injury Risk).

Marine Mammals

The IS links predicted underwater noise to potential marine mammal behavioural responses using the characteristics of Project sound sources, marine mammal hearing sensitivities, available scientific literature, acoustic criteria and guidance, and conservative proxy information from comparable construction and vessel activities. Underwater sound propagation is influenced by factors including sound frequency, water depth, water density, bathymetry, and source characteristics (Hildebrand 2009; Hawkins and Popper 2017; Harding and Cousins 2022). Potential responses considered include masking of acoustic cues, behavioural disturbance, avoidance or temporary displacement, and auditory effects.

Marine mammal species were grouped according to hearing sensitivity where appropriate, recognizing differences among low-frequency cetaceans, high-frequency cetaceans, and pinnipeds in water (NOAA Fisheries 2024a) (Volume 8, Section 23.3.3 and Appendix 23A).

In the absence of formally established Canadian behavioural disturbance thresholds for marine mammals, the assessment considered guidance from NOAA Fisheries (NOAA Fisheries 2018; NOAA Fisheries 2024a). Behavioural screening thresholds of 160 dB re 1 µPa rms for impulsive sources and 120 dB re 1 µPa rms for non-impulsive sources were used to assess potential behavioural disturbance

(NOAA Fisheries 2018). Potential auditory injury was assessed separately using marine mammal hearing-group-specific permanent threshold shift criteria. NOAA Fisheries' current technical guidance recognizes that marine mammal hearing characteristics differ among functional hearing groups.

For seals exposed to continuous shipping noise, the assessment also considered information from Davis and Malme (1997). The IS identifies potential behavioural reactions at approximately 70 dB re 1 µPa sensation level, avoidance responses between 80 and 100 dB re 1 µPa sensation level, and potential hearing impairment above 100 dB re 1 µPa sensation level. A threshold of 70 dB re 1 µPa sensation level was therefore used as an indicator of disturbance to seals.

For the vessel assessment, information from the Mary River Project was used to evaluate this seal-specific response criterion. The Mary River modelling indicated attenuation to the 70 dB sensation level at approximately 200 m from the vessel, while sensation levels greater than 80 dB were not anticipated during the open-water shipping season. These distances were used as screening-level proxies rather than Project-specific predictions.

Where Project-specific acoustic source information was not yet sufficiently defined, the effects assessment used conservative construction-activity and vessel-activity proxies to evaluate the potential scale of behavioural effects. For vessel activity, underwater noise generation is strongly influenced by vessel size and speed (Harding and Cousins 2022), and vessels that may use the Grays Bay Port range from smaller barges and tugs to large concentrate ships, cargo ships, and fuel tankers. As detailed acoustic specifications for future vessels were not available at the time of the assessment, a conservative proxy approach was applied. The maximum modelled disturbance distance for a comparable vessel representing the largest vessel size planned to be accommodated at Grays Bay Port, approximately 240 m in length, was used to characterize the potential spatial extent of vessel-related behavioural disturbance. The proxy information was based on modelling from comparable Arctic vessel activity, including the Mary River and Sabina Back River projects, and was intended to conservatively represent the upper end of potential disturbance rather than predict the precise response distance associated with individual vessels that may ultimately use the Port.

A similar conservative proxy approach was used for marine construction. Source-level information from comparable activities was used because final construction parameters, such as pile size and material, installation method and equipment, substrate conditions, and blasting parameters, have not yet been fully defined. Conservative proxy source characteristics were used to evaluate potential effects from pile installation and other marine construction activities, with consideration of applicable NOAA Fisheries acoustic criteria and calculation methods (NOAA Fisheries 2024a, 2024b). Actual underwater sound levels and propagation will depend on the final pile size and material, installation method, hammer characteristics, substrate conditions, water depth, and other activity-specific parameters. Blasting effects similarly depend on factors such as charge size, blast configuration and location, and distance from the marine environment.

The proxy source levels and disturbance distances are therefore not intended to represent fixed Project-specific behavioural-response distances. Rather, they provide conservative screening-level estimates of the potential scale of effects. As vessel specifications, pile sizes and materials, installation equipment and methods, blasting parameters, and other source characteristics become better defined, the underwater noise assumptions and associated mitigation and monitoring requirements can be refined using the more detailed Project information.

Further details on behavioural effects are provided in Volume 8, Section 23.3.3, while mortality and injury effects and the applicable marine mammal hearing-group criteria are addressed in Section 23.3.4. Additional information on species-specific hearing sensitivities and acoustic criteria is provided in Appendix 23A – Marine Mammal Baseline Report.

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NIRB 278. (IR-756)

Subject

Noise and Vibration Baseline – Marine Underwater Sound Baseline

Issue / Concern

Reviewer Comments / Reasoning: Underwater sound baseline information is provided, including acoustic recording in Grays Bay. The marine acoustic study used one AMAR deployment for 30 days from July 24 to August 23, 2025, and notes that weather and flow noise were major influences. However, this appears to represent only a limited open-water period and does not clearly characterize underwater sound variability during shoulder seasons, under-ice conditions, or higher vessel activity scenarios. Missing Information / Gap: - 1. The representativeness of the underwater acoustic baseline across open-water, shoulder-season, and under-ice conditions has not been demonstrated. - 2. It is unclear how seasonal variation in marine sound conditions was incorporated into the marine noise assessment.

Information Request

Please clarify how the underwater acoustic baseline is representative of marine sound conditions across relevant seasonal conditions, including open-water, shoulder season, and under-ice periods, and how this was considered in the marine noise assessment.

Proponent Response

The 2025 underwater acoustic monitoring program represents a discrete period of open-water conditions and was not intended to provide a complete characterization of underwater sound conditions across all seasons. The program consisted of a single Autonomous Multichannel Acoustic Recorder (AMAR) deployed within the Local Assessment Area near the proposed Grays Bay port site for approximately one month during the 2025 open-water season. The purpose of the program was to characterize the existing underwater soundscape during the monitoring period, including the frequency distribution and temporal variability of recorded sound levels, and to document anthropogenic and marine mammal acoustic sources.

The focus on open-water acoustic conditions is relevant to the timing of Project vessel traffic and many of the marine activities and anthropogenic underwater noise sources considered in the assessment. However, natural sound conditions vary seasonally, and the 2025 monitoring program did not provide direct measurements of shoulder-season or under-ice acoustic conditions. This limitation was treated as an uncertainty in the baseline characterization rather than assuming that the 2025 measurements were representative of those periods.

To further address this uncertainty, WKR is evaluating the potential for additional underwater acoustic monitoring prior to Construction to supplement the 2025 baseline dataset. If implemented, such monitoring could help further characterize natural and anthropogenic variability in the underwater acoustic environment, improve the temporal representation of the baseline and, where practicable, capture

conditions outside the period covered by the 2025 deployment. Any additional data collected would be used to refine the understanding of baseline acoustic conditions before Construction and to support the evaluation of Project-related underwater noise during subsequent monitoring.

Overall, the 2025 acoustic dataset provides a site-specific characterization of the underwater soundscape during the monitored open-water period but is not considered a complete year-round acoustic baseline. Its temporal limitations are recognized, the marine noise assessment draws on multiple lines of evidence rather than the acoustic dataset alone, and additional underwater acoustic monitoring prior to Construction will reduce uncertainty regarding temporal variability in baseline underwater sound conditions.

NIRB 279. (IR-757)

Subject

Noise and Vibration – Blasting and Underwater Noise Effects on Freshwater Fish

Issue / Concern

Reviewer Comments / Reasoning: Statement discusses underwater noise and vibration effects from embankment construction, drilling, and blasting near freshwater environments. It states that blasting will occur on land and not in fish-bearing waterbodies or watercourses, and that DFO guidance and modified blasting techniques will be considered. However, it is not clear how blasting setbacks, fish-bearing waters, stream crossings, and quarry locations will be verified at site-specific locations before blasting. Missing Information / Gap: - 1. Site-specific management of blasting and underwater noise effects on freshwater fish and fish habitat has not been clearly described. - 2. It is unclear how setback distances from fish-bearing waters will be verified at quarry, road, and water crossing locations. - 3. Compliance with applicable DFO thresholds has not been demonstrated. - 4. Mitigation and monitoring measures for blasting near freshwater environments have not been clearly identified.

Information Request

Please explain how blasting and underwater noise effects on freshwater fish and fish habitat will be managed at site-specific quarry, road, and water crossing locations. Please describe how setback distances from fish-bearing waters will be verified, how applicable DFO thresholds will be met, and what mitigation or monitoring will be implemented if blasting occurs near freshwater environments.

Proponent Response

Management of Project-related effects on fish due to blasting and underwater noise is primarily through avoidance and mitigation measures. Blasting and drilling may be required at quarries and watercourse crossings that require rock cut. Where feasible, quarries will be located away from watercourses to avoid underwater noise impacts to freshwater fish. To the extent possible, blasting activities will be completed during winter months when most watercourses and small waterbodies will be frozen to bottom, which will limit potential exposure of fish to underwater noise. Volume 7, Table 20.15 lists mitigation measures related to blasting, including:

- An Explosives Management Plan will be developed and will include control measures to prevent or reduce the mobilization of nitrogen compounds to the aquatic environment. This plan will include consideration of the Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright and Hopky 1998).
- Blasting will not occur within 100 m of fish-bearing waterbodies such that instantaneous pressure will be less than 50 kPa where fish may be present and particle velocity will be less than 13 mm/s near a spawning bed where eggs or larval fish may be present.

- The use of modified blasting techniques will also be considered to reduce noise, including:
    - Use of electronic detonation instead of explosive detonation cord.
    - Use of air decking, that involves the use of an inverted cone in the blasthole to constrain energy within the rock mass.
    - Timing sequence to develop an echelon effect.
    - Coordinating blast patterns towards a partially open face.

Site-specific requirements for blasting within 100 m of fish-bearing waterbodies will be developed during pre-construction detailed design work, which will include development of the Explosives Management Plan and site-specific blasting plans. These plans will include required environmental mitigations such as isolation and salvage of sections of watercourses if the guidelines outlined in Wright and Hopky (1998) cannot be met at the boundary of the watercourse. Blasting plans will also outline setback distances based on the underwater noise thresholds required by DFO and the calculated particle velocity and pressures calculated by the blasting design at each location.

Mitigation and monitoring measures related to blasting will also be outlined in Volume 11 (Management Plans) within the Environmental Protection Plan and the Aquatic Effects Monitoring Plan; however, these plans are currently high level and will be refined in subsequent versions to incorporate site-specific mitigations related to freshwater fish and fish habitat. These plans will be developed in detail through the regulatory processes that follow the NIRB Project Certificate, including the Nunavut Water Board (NWB) Water Licence process, the DFO *Fisheries Act* authorization process, the Kitikmeot Inuit Association land use licence process. Additionally, the Project will follow DFO *Fisheries Act* requirements (i.e., mitigation and monitoring requirements outlined in an authorization and/or avoid and mitigate letters), which are expected to include requirements for monitoring and adaptive management related to blasting for freshwater fish habitats.

NIRB 280. (IR-758)

Subject

Noise and Vibration – Blasting Vibration Monitoring and Adaptive Management

Issue / Concern

Reviewer Comments / Reasoning: Blasting and drilling effects are assessed, and blasting is identified as the primary vibration and air overpressure source requiring mitigation. The draft Noise and Vibration Abatement Plan states that vibration monitoring stations may be implemented if necessary and that monitoring locations will be selected based on proximity to blast sites, but specific monitoring locations and decision criteria have not yet been identified.

Missing Information / Gap: - 1. Site-specific management of noise and vibration from blasting, drilling, maintenance, and Project traffic has not been clearly described. - 2. Criteria for determining when vibration monitoring is required have not been identified. - 3. The process for selecting monitoring locations has not been explained. - 4. It is unclear how monitoring results will be used to modify blasting practices when thresholds are approached or exceeded.

Information Request

Please clarify how blasting, drilling, maintenance, and Project traffic noise/vibration will be managed at site-specific locations, including criteria for when vibration monitoring is required, how monitoring locations will be selected, and how monitoring results will be used to adjust blasting practices if thresholds are approached or exceeded.

Proponent Response

Site-specific noise and vibration mitigation will be determined on a case-by-case basis considering the activity, predicted effects, and proximity to receptors and TLMRU areas. Measures may include equipment maintenance, minimizing idling, barriers, broadband backup alarms, and reducing the duration or quantity of noisy equipment.

For blasting, the primary management control is blast design rather than monitoring. Blasts will be designed to meet applicable ground-vibration and air-overpressure thresholds at the relevant setback (threshold) distances, using measures such as limiting blast charge per hole/delay and controlling timing, with more conservative designs applied nearer sensitive receptors. The applicable thresholds and threshold distances are provided in Volume 5, Appendix 13B, Section 6.2 and Tables 6.23 to 6.29 (summarized in the main text at Volume 5, Section 13, including the blast threshold-distance tables), which demonstrate that effects can be kept within limits through design.

Vibration and air-overpressure monitoring may be implemented where warranted by site-specific conditions (e.g., proximity of a blast to a sensitive receptor); where it is undertaken, monitoring locations would be selected based on proximity to active blast sites, and results would be used to verify compliance and inform refinement of future blast designs. The specific triggers, locations, and procedures for any such monitoring will be confirmed as the Noise and Vibration Abatement Plan (Volume 11) is finalized in advance of construction, in consultation with regulators.

NIRB 281. (IR-759)

Subject

Noise and Vibration Impact Assessment – Project Equipment and Activity Noise Levels

Issue / Concern

Reviewer Comments / Reasoning: Predicted noise and vibration levels are provided, but a clearer summary linking each major Project activity to its predicted noise and vibration results would improve reviewability.

Missing Information / Gap: - 1. Predicted noise and vibration levels have not been clearly linked to each major Project activity and equipment group. - 2. Activity-specific levels for road construction, quarry operations, blasting, drilling, aircraft, power generation, traffic, and port construction have not been clearly summarized.

Information Request

Please provide a summary table linking each major Project activity and equipment group to the predicted noise and vibration levels, including road construction, quarry operations, blasting, drilling, aircraft operations, power generation, traffic, and port construction.

Proponent Response

The requested activity-specific noise and vibration information is provided in the IS Volume 5, Appendix 13B Noise and Vibration TMR. Major Project activities and equipment assumptions are described in Section 5, including port construction, road construction, quarry activities, aircraft, power generation, traffic, and other mobile and stationary equipment. Corresponding predicted noise effects are presented in Section 6.1, including road construction in Tables 6.2 and 6.3, water crossing/piling activities in Tables 6.6 and 6.7, and Jericho Station or aircraft activities in Tables 6.8 and 6.9. Predicted vibration effects from blasting are provided in Section 6.2.1, Tables 6.23 to 6.27, while drilling and other mobile or stationary equipment vibration effects are provided in Section 6.2.2, Tables 6.28 and 6.29. For this reason, WKR has not consolidated this information into a summary table.

NIRB 282. (IR-760)

Subject

Noise and Vibration Impact Assessment – Atmospheric Noise from Ground Transportation

Issue / Concern

Reviewer Comments / Reasoning: Ground transportation noise is assessed, including Project traffic and road-related activities. The technical information is generally provided; however, traffic noise effects are not clearly summarized by Project phase, road segment, receptor distance, and expected traffic intensity.

Missing Information / Gap: - 1. Predicted ground transportation noise effects have not been clearly summarized by Project phase and road segment. - 2. It is unclear how traffic volumes, receptor distances, and mitigation measures were incorporated into the assessment.

Information Request

Please provide a summary of predicted atmospheric noise effects from ground transportation by Project phase and road segment, including how traffic volumes, receptor distances, and mitigation measures were considered.

Proponent Response

The assessment considered road construction noise during Construction and road maintenance noise during Operations and Maintenance, using a buffer-distance approach, which is an approach commonly used in noise assessments where discrete receptor locations are difficult to define. Table 13.11 (Construction) and Table 13.17 (Operations and Maintenance) in Volume 5, Section 13.3.2.4 of the IS summarizes noise levels from the edge of the road PDA up to a distance of 3000 m from the edge of the road PDA and shows that noise levels are predicted to be below the Health Canada mitigation noise level (MNL) at all distances.

NIRB 283. (IR-761)

Subject

Noise and Vibration Impact Assessment – Air Transportation Noise

Issue / Concern

Reviewer Comments / Reasoning: Air transportation noise is included in the assessment. However, it is not clearly summarized how aircraft activity, including flight frequency, aircraft type, timing, and low-level flight assumptions, were incorporated into the predicted noise effects and wildlife disturbance assessment.

Missing Information / Gap: - 1. The assessment of air transportation noise has not been clearly described. - 2. Aircraft type, flight frequency, timing, flight paths, and altitudes have not been clearly identified. - 3. It is unclear how these assumptions were considered in assessing effects on human receptors and wildlife.

Information Request

Please clarify how air transportation noise was assessed, including aircraft type, frequency, timing, flight paths or altitudes, and how these assumptions were considered for human receptors and wildlife disturbance.

Proponent Response

Air transportation noise was assessed using BASEOPS, as described in Section 5.1.1 of the Noise and Vibration TMR (Volume 5, Appendix 13B of the IS), using aircraft takeoff and landing performance profiles. As described in Sections 5.1.2.1 and 5.1.3.1 or 5.1.3.4, Dash 6 or Dash 7 aircraft may be used; however, the larger Dash 7 was conservatively used in the noise model.

Sections 5.1.2.6 and 5.1.3.5 specify a maximum of one arrival and one departure during daytime on a scheduled flight day at Grays Bay Port and Jericho Station.

Specific flight altitude assumptions such as aircraft takeoff and landing were modelled using BASEOP aircraft performance profile. Specific flight altitude assumptions are incorporated through the aircraft takeoff or landing profile used in BASEOPS.

Based on Sections 5.1.2.6 and 5.1.3.5, helicopters may be used daily at varying locations but were not included in the noise model because their locations, frequency and schedules are uncertain.

Aircraft noise was included in the predicted effects for applicable human and TLMRU receptors, while effects on wildlife are addressed separately in the applicable wildlife VC assessments.

NIRB 284. (IR-762)

Subject

Noise and Vibration Impact Assessment – Construction Equipment and Power Generators

Issue / Concern

Reviewer Comments / Reasoning: Construction equipment and generators are assessed as noise and vibration sources. states that vibration from heavy equipment and stationary sources such as generators, crushers, and drilling rigs was assessed and found below applicable annoyance thresholds at receptors, except limited cases such as impact piling within 164 m. However, the assessment would benefit from clearer linkage between equipment assumptions, operating scenarios, and predicted results.

Missing Information / Gap: - 1. Equipment and generator noise and vibration assumptions have not been clearly summarized. - 2. Equipment types and operating scenarios used in the assessment have not been clearly identified. - 3. It is unclear how predicted effects were assessed at receptors and PDA boundaries.

Information Request

Please provide a clearer summary of equipment and generator noise/vibration assumptions, including equipment types, operating scenarios, and how predicted effects were assessed at receptors and PDA boundaries.

Proponent Response

Equipment types, quantities and sound power levels used in the noise model are provided in the IS in the Noise and Vibration Technical Modelling Report (Volume 5, Appendix 13B); specifically in Section 5.1.3 and Tables 5.8 to 5.10, with octave-band sound power levels provided in Appendix A of that report.

The assessment considered separate equipment configurations for the Grays Bay Port, Grays Bay Road, quarries, water crossings and Jericho Station. Construction modelling represents the worst-case construction year (Year 2), based on the highest quantity of mobile equipment, with 24-hour continuous construction assumed. For road construction, separate northern and southern construction crews were modelled. Equipment types, quantities and sound power levels for each construction activity are provided in Section 5.1.2 and Tables 5.2 to 5.6.

Results are presented in Section 6 for identified receptors and PDA boundaries. Where discrete TLMRU receptor locations could not be defined, a buffer-distance approach was used to predict effects at varying distances from the PDA. Equipment vibration is assessed in Section 6.2.2 and Table 6.29.

NIRB 285. (IR-763)

Subject

Noise and Vibration Impact Assessment – Marine Noise from Shipping and Noise Propagation

Issue / Concern

Reviewer Comments / Reasoning: Marine noise from shipping and marine construction is assessed. The Impact statements uses marine mammal behavioural disturbance thresholds and discusses vessel noise, pile driving, blasting, dredging, and mitigation. However, for some vessel-related effects, the assessment relies on modelled disturbance distances from other projects because vessel specifications for reasonably foreseeable induced activities are not known.

Missing Information / Gap: - 1. Expected underwater noise propagation from Project-related shipping and marine construction has not been clearly described. - 2. Predicted disturbance distances and the assumptions used in the assessment have not been clearly identified. - 3. Uncertainty related to vessel specifications has not been adequately assessed.

Information Request

Please provide additional information on expected underwater noise propagation from Project-related shipping and marine construction activities, including disturbance distances, assumptions used, and how uncertainty from vessel specifications was considered.

Proponent Response

Please refer to NIRB 277 (IR-755).

NIRB 286. (IR-764)

Subject

Noise and Vibration Impact Assessment – Effects on Humans and Human Activity

Issue / Concern

Reviewer Comments / Reasoning: Effects on human receptors and land-use areas are assessed using receptor locations and Traditional Land, Marine, and Resource Use considerations. However, the assessment notes that site-specific or situational mitigation may be required at some receptors and land-use areas. More clarity is needed on how temporary or mobile land users will be identified and protected during noisy activities.

Missing Information / Gap: - 1. Management of noise and vibration effects on human land users and Traditional Land, Marine, and Resource Use activities has not been clearly described. - 2. It is unclear how temporary or mobile land users will be identified before blasting, drilling, construction, or other high-noise activities.

Information Request

Please clarify how noise and vibration effects on human land users and Traditional Land, Marine, and Resource Use activities will be managed, including how temporary/mobile land users will be identified before blasting, drilling, construction, or high-noise activities.

Proponent Response

Noise and vibration effects on TLMRU and temporary/mobile land users will be managed through ongoing engagement with Inuit communities and other affected parties, together with site-specific and situational mitigation. WKR will notify communities of major project activities and schedules, including provision of Project maps and design components, and discuss key traditional harvesting periods. Engagement will be conducted with land users to determine location and usage information for areas such that avoidance of noise generating activities (i.e., pile driving, drilling) may be considered.

The assessment considered road construction noise during Construction and road maintenance noise during Operations and Maintenance, using a buffer-distance approach, which is an approach commonly used in noise assessments where discrete receptor locations are difficult to define. Table 13.11, Table 13.12, and Table 17 in Volume 5, Section 13.3.2.4 of the IS summarizes noise levels from the edge of the road PDA and permanent quarry PDA up to a distance of 3000 m from the edge of the PDA and shows that noise levels are predicted to be below the Health Canada mitigation noise level (MNL) at all distances.

NIRB 287. (IR-765)

Subject

Noise and Vibration Impact Assessment – Marine Mammal Responses

Issue / Concern

Reviewer Comments / Reasoning: Marine mammal effects from underwater noise are assessed using NOAA behavioural thresholds because Canada does not have formally established behavioural change thresholds for marine mammals. statements predicts that pile driving, blasting, dredging, and vessels may cause localized avoidance, masking, and disturbance. Missing Information / Gap: - 1. The basis for the selected marine mammal noise thresholds and predicted disturbance distances has not been clearly explained. - 2. The effectiveness of ramp-up/soft-start, bubble curtains, blast mats, vessel speed limits, and monitoring in reducing effects on marine mammals has not been demonstrated.

Information Request

Please clarify the basis for the selected marine mammal noise thresholds, predicted disturbance distances, and how mitigation measures such as ramp-up/soft-start, bubble curtains, blast mats, speed limits, and monitoring will reduce effects to marine mammals.

Proponent Response

The assessment of underwater noise effects on marine mammals was informed by acoustic criteria and guidance developed by the U.S. National Marine Fisheries Service (NMFS/NOAA Fisheries), which are commonly applied in Canadian environmental assessments because Canada does not currently have formal national underwater noise thresholds for marine mammals. Predicted disturbance and injury distances were informed by source-specific acoustic information, available modelling results from comparable Arctic projects, published scientific literature, species-specific hearing sensitivities, local bathymetry, and environmental conditions. Behavioural disturbance benchmarks of Sound Pressure Level (SPL) 160 dB re 1 µPa (rms) for impulsive noise sources (e.g., impact pile driving and blasting) and SPL 120 dB re 1 µPa (rms) for non-impulsive noise sources (e.g., vessel traffic, dredging, and vibratory pile driving) were used as screening-level benchmarks in conjunction with available acoustic information and proxy source data from comparable activities to qualitatively estimate the potential distances over which marine mammals may exhibit behavioural responses. These estimates were used to inform the assessment of the likely spatial extent of underwater noise effects and to support the development of mitigation and monitoring measures but were not used in isolation to determine the significance of effects. Injury considerations were informed by NMFS auditory injury criteria, which account for species-specific hearing groups and cumulative sound exposure.

A suite of mitigation measures will be implemented to reduce the likelihood and magnitude of adverse effects on marine mammals. Ramp-up or soft-start procedures will be used for pile driving and other applicable noise-generating activities, allowing sound levels to increase gradually and providing marine mammals an opportunity to move away from the area before peak sound levels are reached. Bubble

curtains and other practical noise attenuation measures will be considered around pile-driving activities, where feasible, to reduce the transmission of underwater sound and decrease the extent of disturbance and injury zones. Blast mats, modified blast designs, reduced charge weights, and other optimized blasting techniques will be used, where appropriate, to reduce sound pressure, overpressure, and vibration associated with blasting activities (Appendix B, blasting measures #178–181).

Vessel-related effects will be reduced through vessel speed restrictions, adherence to established navigation routes, avoidance measures, and procedures requiring vessel operators to reduce speed or alter course, where safe and practicable, when marine mammals are observed nearby. (Volume 1, Appendix B #312 – 10-knot vessel speed restriction, and reduction to under 7 knots within 1,000 m of the nearest marine mammal; implemented through the Port Management Plan, Volume 11, Appendix 37I) Reduced vessel speeds decrease underwater noise levels, lower the risk of vessel strikes, and provide operators and marine mammals with additional time to respond and avoid interactions.

Monitoring will be used to verify assessment assumptions and support adaptive management. Measures will include marine mammal observers, implementation of exclusion or management zones, underwater acoustic monitoring during high-noise activities such as impact pile driving, and ongoing monitoring of marine mammal presence and behaviour (Volume 1, Appendix B #214 – underwater noise monitoring during impact pile driving; #215 – marine mammal monitoring program with hydroacoustic and visual monitoring during in-water activities; #216 – sound thresholds to prevent acoustic disturbance). Monitoring results will be reviewed throughout Construction and Operation and, where warranted, mitigation measures, management zones, monitoring requirements, and operational procedures will be adjusted through adaptive management to ensure that effects remain consistent with assessment predictions and that risks to marine mammals are minimized (Port Management Plan, Volume 11, Appendix 37I).

NIRB 288. (IR-766)

Subject

Noise and Vibration Impact Assessment – Marine Fish and Benthic Invertebrates

Issue / Concern

Reviewer Comments / Reasoning: Effects on marine fish and benthic invertebrates are assessed through underwater noise, artificial lighting, water quality, turbidity, dredging, pile driving, blasting, and vessel activity. The assessment discusses localized avoidance and sensory masking, but the noise-specific effects on benthic invertebrates are less clearly separated from broader water-quality and sensory-disturbance pathways. Missing Information / Gap: - 1. Underwater noise and vibration effects on marine fish and benthic invertebrates have not been clearly assessed as separate pathways. - 2. It is unclear how these effects were distinguished from turbidity, artificial lighting, and water quality changes.

Information Request

Please clarify how underwater noise and vibration effects on marine fish and benthic invertebrates were assessed separately from other sensory disturbance pathways, including turbidity, artificial lighting, and water quality changes.

Proponent Response

The assessment of underwater noise and particle motion effects on marine fish and benthic invertebrates was conducted as a distinct sensory disturbance pathway and was evaluated separately from other pathways, including turbidity, artificial lighting, and water quality changes. Within the Impact Statement, changes in behaviour due to sensory disturbance, as well as changes in mortality and/or injury risk, were assessed according to the specific mechanism of effect (Volume 8, Section 22.3.3 – Change in Behaviour Caused by Sensory Disturbance; Section 22.3.4 – Change in Mortality and/or Injury Risk). Separate subsections describe the pathways, receptors, mitigation measures, and residual effects associated with underwater noise and particle motion, water and sediment quality changes, habitat alteration, artificial lighting, and other Project-related stressors (Volume 8, Section 22.3 – Change in Habitat (22.3.2), Sensory Disturbance (22.3.3), and Mortality/Injury Risk (22.3.4); with water and sediment quality assessed under the Marine Water and Sediment Quality VC, Volume 8, Section 21).

For underwater noise and particle motion, the assessment focused on the transmission of acoustic energy generated by activities such as dredging, pile installation, vessel traffic, drilling, blasting, and other marine construction and operational activities. The assessment considered the sensitivity of marine fish and benthic invertebrates to both sound pressure and particle motion, potential behavioural avoidance, temporary displacement, masking of biologically important cues, and, where applicable, the potential for injury in close proximity to high-intensity sound sources. The assessment was informed by Inuit, Indigenous, and Community Knowledge, available scientific literature, species-specific hearing capabilities where known, and professional judgment regarding the likely behavioural responses of fish and benthic invertebrates to elevated underwater noise. The assessment also recognized that many fish

species detect underwater sound primarily through particle motion and that established behavioural-response thresholds are generally unavailable for most Arctic fish and benthic invertebrate species (Volume 8, Section 22.3.3; assessment methods and analytical techniques at Sections 22.2 and 22.3.2.1; prediction confidence and uncertainty at Section 22.7).

In contrast, turbidity and water quality effects were assessed through separate pathways associated with increased suspended sediment concentrations, sediment deposition, contaminant mobilization, effluent discharge, and changes to water chemistry. These pathways focused on potential effects on habitat quality, feeding efficiency, respiration, egg and larval survival, and avoidance of altered environmental conditions, rather than acoustic or vibration-related disturbance (Volume 8, Section 22.3.2 – Change in Habitat, drawing on the Marine Water and Sediment Quality assessment, Volume 8, Section 21, including Section 21.2.2.2 – Marine Water Quality). Similarly, artificial lighting was assessed as a separate sensory disturbance pathway associated with potential attraction, avoidance, altered behaviour, and disruption of natural light regimes (Volume 8, Section 22.3.3).

The separation of these pathways in the assessment was intentional so the mechanisms of effect, spatial extent, duration, frequency, reversibility, and ecological consequences of each stressor could be evaluated independently. Residual effects determinations were therefore based on the specific Project activities, pathways, mitigation measures, and receptors applicable to each effect mechanism (Volume 8, Section 22.3). While assessed independently, the various pathways collectively informed the overall assessment of potential effects on the Marine Fish and Fish Habitat valued component (Volume 8, Section 22; prediction confidence and uncertainty at Section 22.7).

NIRB 289. (IR-767)

Subject

Noise and Vibration Impact Assessment – Cumulative Noise Effects

Issue / Concern

Reviewer Comments / Reasoning: considers cumulative noise effects from present mineral exploration, reasonably foreseeable induced mines, marine traffic, land transportation, renewable resource harvesting, land-based tourism, and scientific research. However, the cumulative noise assessment is mainly qualitative because public information on noise emission type, quantity, and frequency from other projects is limited. The IS also states that cumulative vibration was not carried forward because vibration is localized and intermittent. Additional clarity is needed on how uncertainty in cumulative noise and vibration effects was considered for land users, wildlife, and marine receptors.

Missing Information / Gap: - 1. Uncertainty in cumulative noise effects has not been adequately assessed. - 2. Potential overlap with induced projects, marine traffic, road traffic, air traffic, and other land-use activities has not been clearly considered. - 3. The rationale for excluding cumulative vibration effects from further assessment has not been clearly justified.

Information Request

Please provide additional information on how uncertainty in cumulative noise effects was considered, including potential overlap with reasonably foreseeable induced projects, marine traffic, road traffic, air traffic, and land-use activities, and explain why cumulative vibration effects do not require further assessment.

Proponent Response

Cumulative noise effects are assessed in Volume 5, Section 13.4 (Assessment of Cumulative Effects), with the interacting activities identified in Table 13.26 and the residual cumulative outcome in Table 13.27. The assessment considered overlap with present mineral exploration; reasonably foreseeable induced (RFI) mines, marine traffic, and land transportation; present and reasonably foreseeable renewable resource harvesting, land-based tourism, and scientific research; and Project air traffic. Spatial overlap was bounded by the noise and vibration RAA (a 3 km buffer around the PDA), which defines the area within which cumulative noise effects could realistically occur (Section 13.3.1).

Where public information on other activities' noise emissions (type, quantity, and frequency) was available, effects were assessed quantitatively; where it was not, the assessment proceeded qualitatively using conservative assumptions and the best available information, rather than omitting the interaction. This treatment of uncertainty is conservative: on a qualitative basis, cumulative noise effects are predicted to be moderate in magnitude, limited to the RAA, and unlikely to cause exceedance of applicable noise thresholds at receptors. Prediction confidence and the limitations arising from limited public data are discussed in Section 13.6 (Prediction Confidence and Uncertainty).

Cumulative vibration was not carried forward because Project-related vibration is highly localized and intermittent and attenuates over short distances. For a cumulative vibration effect to occur, Project vibration would need to overlap in space and time with vibration from another source; given its limited spatial extent, such overlap with other activities (which are themselves separated in distance and time) was considered unlikely. On that basis, cumulative vibration effects are not anticipated and do not require further assessment (Volume 5, Section 13; summary at Section 13.5). This reflects the standard treatment of vibration, which is evaluated against project-only event thresholds rather than against an additive background (Section 13.2.1.2).

NIRB 290. (IR-768)

Subject

Climate Baseline – Meteorological Data Representativeness and Extreme Events

Issue / Concern

Reviewer Comments / Reasoning: Impact Statement provides baseline climate information and climate projections using Inuit, Indigenous, and Community Knowledge together with western climate data. The Climate Profile uses a 1991– 2020 baseline and provides projections for the 2030s, 2050s, and 2080s. However, because the Project includes a long road corridor, port, aerodrome, Jericho Station, and shipping route, it is not clear how regional climate datasets and representative climate regions capture local variability, seasonal conditions, and extreme events relevant to Project design and operations.

Missing Information / Gap: - 1. The representativeness of selected climate data sources and climate regions for all Project areas has not been demonstrated. - 2. Local climate variability across Grays Bay Port, the road corridor, Jericho Station, the aerodrome, and shipping route has not been clearly addressed. - 3. Relevant historical and projected extreme climate events have not been clearly identified. - 4. It is unclear how heavy precipitation, high winds, freeze-thaw, snowfall, fog/whiteout, and extreme temperatures were incorporated into Project design and operations.

Information Request

Please clarify how the selected climate data sources and representative climate regions account for local variability across Grays Bay Port, the road corridor, Jericho Station, the aerodrome, and the proposed shipping route. Please also identify historical and projected extreme climate events relevant to Project design and operations, including heavy precipitation, high winds, freeze-thaw, snowfall, fog/whiteout, and extreme temperature events

Proponent Response

Due to the limited observational (station) data available in the Project region, station data was utilized when possible and supplemented with gridded data and specialized studies. The Lupin observational record was determined (by BGC 2013) to provide the closest representation of air temperature relative to the short and sporadic records available from Izok Lake, High Lake, and Grays Bay (Volume 5 Appendix 12A Section 3). Nevertheless, given the large geographic coverage of the Project region, northern, central, and southern regions were established to provide insight into climate variability, with Grays Bay climate data representative of the port, aerodrome, and northern portion of the road corridor, Ulu climate data representative of the central portion of the road corridor, and Jericho Station-Lupin representative of the Jericho station and the southern portion of the road corridor. The proposed shipping route, beyond operations within Grays Bay, is not in the scope of the IS. While localized variability in weather and climate conditions are not fully captured within the climate region approach, the regional approach provides sufficient climate information for Valued Component effects assessments and the Effects of the Environment on the Project assessment. Part of the Effects of the Environment on the

Project assessment, the Climate Change Risk Assessment (CCRA; Volume 5, Section 12.5 and Appendix 12B) assessed climate-related risk to the Project's permanent infrastructure and considered time horizons throughout the 21st century (2030s, 2050s, and 2080s). Uncertainty in climate data sources and representativeness is considered in the CCRA methodology and during the analysis through the use of a probability scale (Section 6.1 in Appendix 12B) (further discussed in IR-643 [NIRB 165]). Localized variability (e.g., permafrost thaw and terrain stability) is considered in the Project design (e.g., road embankment heights).

Historical weather and climate events, as recorded through Inuit, Indigenous, and Community Knowledge, observation stations, gridded data, and projections provided guidance into climate hazards and thresholds relevant to Project design and operations. For example, Inuit, Indigenous, and Community Knowledge included statements on changes in rain events (Volume 5 Section 12.3), and observed and projected extreme rainfall data (Volume 5 Appendix 12A Sections 5.2.2.1 and 5.2.2.2) are relevant to Project design criteria (e.g., stormwater system design) and used to define relevant extreme rainfall thresholds for the CCRA. Inuit, Indigenous, and Community Knowledge also provided insight and guidance on climate hazards relevant to Project operations, such as strong winds and blowing snow impacting the ability to travel in the region. Where applicable, extreme events are identified in the Climate Profile (Volume 5 Appendix 12A), such as extreme rainfall recorded at observation stations. For other climate parameters, various thresholds are presented instead of the single extreme value recorded as different thresholds are relevant to different infrastructure components and Valued Components. While single extreme values recorded are not presented, the thresholds selected do reflect the more extreme values recorded or projected to be experienced (e.g., daily maximum temperatures greater than 30°C; daily minimum temperature colder than -40°C).

NIRB 291. (IR-769)

Subject

Climate Baseline – Climate Trends and VEC Implications

Issue / Concern

Reviewer Comments / Reasoning: discusses climate trends and notes that climate change affects valued ecosystem components, including permafrost, vegetation, water, wildlife, and traditional use. However, the connection between climate trends and implications for each relevant VEC is spread across multiple VC sections and not clearly summarized in one place.

Missing Information / Gap: - 1. The effects of key climate trends on relevant valued ecosystem components have not been clearly summarized. - 2. It is unclear how warming, precipitation changes, snow and ice changes, permafrost thaw, and extreme events were incorporated into the assessment.

Information Request

Please provide a summary explaining how key climate trends, including warming, precipitation change, snow/ice changes, permafrost thaw, and extreme events, may affect relevant valued ecosystem components and how these trends were incorporated into the assessment.

Proponent Response

Due to the unique and nuanced potential effects of climate change on each VC, the assessments and results are presented in each respective VC section, within defined “Effects of Climate Change on…” subsections that follow a consistent structure across Volumes 5 to 9 (e.g., Volume 5, Section 11.3.5 – Effects of Climate Change on Air Quality; Volume 6, Section 14.3.7 – Effects of Climate Change on Terrain, Soils, and Permafrost; Volume 8, Section 23.3.7 – Effects of Climate Change on Marine Mammals; Volume 9, Section 24.3.9 – Effects of Climate Change on Traditional Land, Marine, and Resource Use; and the equivalent subsections in the other biophysical and socio-economic VCs).

The observed and projected climate trends that inform these subsections — warming temperatures, precipitation change, snow and ice changes, permafrost thaw, and extreme weather events — are characterized in the climate baseline at Volume 5, Section 12.3 (West Kitikmeot Region Climate), and carried into each VC assessment and into the Climate Change Risk Assessment (Volume 5, Section 12.5 and Appendix 12B), which evaluates how VC vulnerability may change over time.

The potential effects of climate change on the Valued Components (VCs) differ amongst the VCs, with the relative influence of each climate parameter varying and the climate parameters interconnected with potential effects (e.g., warming temperatures influence permafrost thaw which influences vegetation and ecosystem changes). This interconnection is why the assessment is carried out VC by VC rather than consolidated into a single table — each VC’s “Effects of Climate Change on…” subsection applies the relevant climate trends to that component’s specific pathways and receptors (Volume 5, Section 12.3 and Section 12.5; and the VC-specific subsections above).

NIRB 292. (IR-770)

Subject

Climate Impact Assessment – Emission Uncertainty and Low-Confidence Sources

Issue / Concern

Reviewer Comments / Reasoning: assessment discusses prediction confidence and uncertainty. For air quality modelling, the technical report notes moderate-to-high confidence for some diesel and power generation emissions, but low confidence for aircraft exhaust emissions and fugitive NO_2 from blasting because of limited emission factor certainty.

Missing Information / Gap: - 1. Uncertainty associated with low-confidence emission sources, including aircraft emissions and blasting-related NO_2, has not been clearly assessed. - 2. It is unclear how this uncertainty was incorporated into the climate and air quality assessment conclusions.

Information Request

Please clarify how uncertainty in low-confidence emission sources, including aircraft emissions and blasting-related NO_2, was considered in the climate and air quality assessment conclusions.

Proponent Response

The uncertainty associated with the Project's estimated air emissions, including the lower-confidence sources identified, is addressed in the Air Quality Technical Modelling Report (Volume 5, Appendix 11A, Section 8, Model Prediction Uncertainty).

The low-confidence sources make only minor contributions compared with the emission sources that have the greatest influence on the predicted air quality results. The emission inventory shows aircraft (Jet-A) combustion and blasting to be small contributors. For example, during the worst-case operations and maintenance year, the NO_X emissions are estimated at 0.032 tonnes per year from Jet-A combustion at Grays Bay Port and 0.72 tonnes per year of NO_X for blasting, compared with 261 tonnes per year of NO_X from diesel power generation and 39 tonnes per year from non-road equipment and on-road vehicles at the same location (Appendix 11A, Table 4.3). The maximum predicted NO_2 concentrations at the Port camp are primarily influenced by diesel combustion from the power plant and diesel combustion exhaust from non-road equipment and on-road vehicles at the Port (moderate-to-high confidence sources), rather than the low-confidence aircraft exhaust or blasting NO_2.

An ambient air quality and meteorology monitoring program is recommended during construction and operations and maintenance to confirm the model predictions and determine the effectiveness of fugitive dust mitigation. This is consistent with the effects assessment methodology; for cases where prediction confidence is low, the precautionary approach is applied and follow-up and monitoring are proposed.

NIRB 293. (IR-771)

Subject

Climate Impact Assessment – Criteria Air Contaminants and Climate Parameters

Issue / Concern

Reviewer Comments / Reasoning:

Missing Information / Gap: - 1. The relationship between Project-related greenhouse gases, criteria air contaminants, and climate or meteorological effects has not been clearly assessed. - 2. It is unclear whether emissions of SO_2, NOx, CO, VOCs, and O_3 could measurably affect local or regional climate parameters.

Information Request

Please clarify how Project-related greenhouse gases and criteria air contaminants, including SO2, NOx, CO, VOCs, and O3, were considered in relation to climate and meteorological effects, and explain whether any of these emissions are expected to measurably affect local or regional climate parameters.

Proponent Response

The identified combustion gases, ozone, and VOCs can influence climate through changes in atmospheric composition, leading to changes in the atmosphere's radiative forcing (often expressed as global warming potentials (GWPs). Over time and in large quantities, combustion gases, ozone, and VOCs in the atmosphere may lead to changes in climate parameters such as temperature or precipitation (von Schneidemesser et al. 2015). The effect, however, is primarily driven by the influence from GHGs such as carbon dioxide, methane, and nitrous oxide.

GHG emissions from the Project will contribute, albeit in a small way, to global atmospheric concentrations of carbon dioxide, methane, and nitrous oxide, which is linked to climate change including change in climate parameters. However, the magnitude of the effect on climate change from the Project's GHG emissions cannot be determined. While climate change is influencing some regions more rapidly and at larger magnitudes than other regions, climate change is driven by global GHG emissions and this is reflected in the projected changes in climate parameters (e.g. projections presented in Volume 5, Appendix 12A).

Reference

von Schneidemesser, Erika, Paul S. Monks, James D. Allan, Lori Bruhwiler, Piers Forster, David Fowler, Axel Lauer, William T. Morgan, Pauli Paasonen, Mattia Righi, Katerina Sindelarova, Mark A. Sutton. 2015. Chemistry and the Linkages Between Air Quality and Climate Change. Chemical Reviews, volume 115, issue 10, May 27, 2015.

NIRB 294. (IR-772)

Subject

Climate Impact Assessment – Climate Risk Implementation and Updates Over Project Life

Issue / Concern

Reviewer Comments / Reasoning: The Climate Change Risk Assessment uses recognized methods and identifies climate-related risks and adaptation recommendations for road system assets, Jericho Station, port marine assets, port landside assets, aerodrome, personnel, and operations. Appendix 12B also recommends that the assessment be revisited when new climate data becomes available or when major asset or infrastructure changes occur. However, it is not clear how the risk findings will be carried into final engineering, operations, maintenance, monitoring, and adaptive management, or whether updates to the CCRA are a firm Project commitment.

Missing Information / Gap: - 1. It is unclear how Climate Change Risk Assessment results and adaptation recommendations will be incorporated into design, operations, maintenance, monitoring, and adaptive management. - 2. Application of these measures to the road, port, aerodrome, and Jericho Station has not been clearly described. - 3. WKR's commitment to updating the Climate Change Risk Assessment throughout the Project life is unclear. - 4. Triggers, timing, responsibilities, and the use of updated results to inform infrastructure upgrades have not been identified.

Information Request

Please explain how Climate Change Risk Assessment results and adaptation recommendations will be incorporated into detailed engineering design, operations and maintenance planning, monitoring, and adaptive management for the road, port, aerodrome, and Jericho Station. Please also clarify whether WKR commits to updating the Climate Change Risk Assessment during the Project life, including proposed triggers, timing, responsibilities, and how updates will inform infrastructure upgrades.

Proponent Response

Refer to the response to ECCC-IR 18 (IR-178). That response states:

"Consistent with the approximately 10% (conceptual) design stage, the CCRA identifies a range of potential adaptation measures to address the identified high-risk climate hazards, rather than a final selection of the specific measures to be implemented. Selection and implementation of adaptation measures will occur during detailed engineering and design, when Project components are further advanced and site-specific requirements can be incorporated. Final adaptation measures will be developed and confirmed through subsequent regulatory, permitting, and design processes following issuance of the NIRB Project Certificate."

The CCRA's recommendations fall into two groups (Volume 5, Section 12.5):

- **Design recommendations** "are intended to provide insight and guidance for how engineers and designers might incorporate climate considerations into their design and monitoring plans."
- **Operations and Maintenance recommendations** "are intended to provide insight and guidance into how monitoring, responding, and/or adapting to climate-related hazards might be incorporated into maintenance, operations, and personnel health and safety policies and procedures."

The CCRA sets out risk results and adaptation strategy recommendations for each asset group (Volume 5, Appendix 12B, Section 7) and the Engineering Design Memos included in the Addendum (Appendix C) include how these recommendations need to be incorporated into the design of Project components and monitoring and maintenance plans will include the CCRA's adaptation strategy recommendations.

Regarding the commitment to update the CCRA during the Project life, please refer to NIRB 17 (IR-495).

NIRB 295. (IR-773)

Subject

Climate Impact Assessment – Cumulative Greenhouse Gas Emissions and Future Development

Issue / Concern

Reviewer Comments / Reasoning: The Project is intended to support future third-party use and future development, including mineral exploration, mine development, increased fuel storage, airstrip expansion, and future road connections. Future development components are outside the current Project scope but are relevant to cumulative effects. Volume 10 states that climate cumulative effects are addressed through Section 12. However, cumulative GHG implications of reasonably foreseeable induced activities and third-party use are not clearly summarized.

Missing Information / Gap: - 1. Cumulative greenhouse gas emissions from reasonably foreseeable induced activities have not been clearly assessed. - 2. Emissions associated with third-party users, future mine development, increased traffic, Project expansions, and other related activities have not been adequately considered in the climate assessment.

Information Request

Please provide additional information on how cumulative greenhouse gas emissions associated with reasonably foreseeable induced activities, third-party users, future mine development, increased traffic, and future Project expansions were considered in the climate assessment.

Proponent Response

Consistent with Section 12.4.1 (Scope of Assessment), the project-level GHG quantification covers emissions from Project activities under WKR's control over the Project lifetime. Emissions from third-party road and port users are not under WKR's control and are therefore outside the scope of the project-level GHG assessment (Section 12.4.1, p. 12-21). Project emissions are placed in a cumulative context through comparison to territorial and national totals (Section 12.4.4), and foreseeable future third-party development is described qualitatively in Volume 2, Section 2.3.

NIRB 296. (IR-774)

Subject

Air Quality Baseline – Representativeness of Baseline Data

Issue / Concern

Reviewer Comments / Reasoning: provides baseline ambient air quality information and states that baseline air quality in the LAA is very good. However, the baseline concentrations were determined using information from other recent environmental impact statements and project proposals submitted to NIRB, rather than Project-specific long-term air monitoring. This is understandable for a remote area, but the technical basis for representativeness should be clearer.

Missing Information / Gap: - 1. The representativeness of the selected baseline ambient air quality data for the Project LAA and RAA has not been demonstrated. - 2. It is unclear whether conditions at Grays Bay Port, the road corridor, Jericho Station, and areas near quarries and borrow sources are adequately represented.

Information Request

Please clarify how the selected baseline ambient air quality data are representative of conditions in the Project LAA and RAA, including Grays Bay Port, the road corridor, Jericho Station, and areas near proposed quarries and borrow sources.

Proponent Response

The ambient air quality baseline values were determined from ambient air quality data reported for five recently assessed projects located within the same regional airshed. The reviewed projects include Bathurst Inlet Port and Road Project, B2Gold Goose Mine, the High Lake and the Izok Corridor projects in the Kitikmeot region and the Mary River Project in the Qikiqtani region of Nunavut. The maximum baseline concentration values of air contaminants of potential interest (ACPI) across the reviewed projects were used as a conservative estimate of ambient baseline levels for the air quality assessment. Because these values were measured in the Kitikmeot and adjacent central Arctic region, they include the influence of long-range transport of ACPI, a substantial contributor to existing regional air quality (Volume 5, Section 11.2.3). The baseline concentrations represent the regional airshed within which the Project components reside, rather than location-specific conditions at individual components. Therefore, the selected baseline concentrations are representative for the Project LAA and RAA, including Grays Bay Port, the road corridor, Jericho Station, and areas near proposed quarries and borrow sources.

NIRB 297. (IR-775)

Subject

Air Quality – Cumulative Emissions, Monitoring, and Adaptive Management

Issue / Concern

Reviewer Comments / Reasoning: The cumulative air quality assessment states that cumulative effects are possible where emissions from other activities overlap spatially and temporally. It also states that present activities are captured in baseline values and that cumulative effects are unlikely to exceed acceptable levels with mitigation. However, the assessment relies on assumptions about limited overlap, limited public information for future activities, and mitigation by other proponents. It is not clear how monitoring and adaptive management will detect and respond to cumulative air quality effects if future traffic, third-party use, or induced development increases emissions in the Project area.

Missing Information / Gap: - 1. Cumulative air quality effects from overlapping present, foreseeable, and induced activities have not been clearly assessed. - 2. Emissions from marine and road traffic, future mine traffic, quarries, camps, aircraft, and fuel storage expansions have not been adequately considered. - 3. It is unclear how the Air Quality Monitoring and Management Plan will detect and respond to increased cumulative emissions from future traffic, third-party users, or induced developments.

Information Request

Please explain how cumulative air quality effects were assessed for overlapping emissions from present, reasonably foreseeable, and reasonably foreseeable induced activities, including marine traffic, road traffic, future mine traffic, quarries, camps, aircraft, and fuel storage expansions. Please also clarify how the Air Quality Monitoring and Management Plan will detect and respond to cumulative air quality effects if future traffic, third-party users, or induced developments increase emissions.

Proponent Response

Overlapping emissions from present activities were accounted for in the assessment of air quality by the addition of conservative ambient baseline concentrations to predicted ground-level concentrations. Because baseline values were measured in the Kitikmeot and adjacent central Arctic region, they include the influence of existing emissions sources within the region. Higher values were selected to use as ambient baseline levels to add to dispersion model predictions for the Project, potentially over-stating the maximum predicted concentrations.

Reasonably foreseeable physical activities identified in the Project Inclusion List (Arctic Economic and Security Corridor, Courageous Lake Mine and NICO) are greater than 50 km from the Project and due to the large separation distances, there will be negligible overlap of air emissions and therefore, negligible cumulative air quality effects. The reasonably foreseeable induced (RFI) activities identified in the Project Inclusion List (Izok, High Lake and Hackett mines) and their access roads, if approved, will contribute to increased road, marine, and air traffic. As discussed in the Air Quality Technical Modelling Report

(Volume 5, Appendix 11A), the marine vessels and aircraft do not contribute substantially to the maximum predicted ACPI concentrations along and outside the PDA boundary; therefore, additional marine and air traffic would likely not result in maximum predicted concentrations for air contaminants of potential interest above the standards, objectives and guidelines. The RFI mines will contribute additional road traffic on Grays Bay Road and their access roads (Volume 4, Appendix 9A, Section 9A2.4.2, Table 9A2.16).

The Project Air Quality Monitoring and Management Plan (AQMMP; conceptual plan provided in Volume 11, Appendix 37C) will manage the Project's effects on air quality. The AQMMP describes the mitigation measures to manage the Project's air emissions and includes an ambient air quality monitoring program to monitor ambient particulate matter (PM) and nitrogen dioxide (NO_2) concentrations during Project Construction and Operations and Maintenance. Once constructed, the Project, as proposed, will involve minimal Project-related activity (road, air, and marine) limited to that required for operations and maintenance.

As discussed in Volume 10, Section 32 (Cumulative Effects Assessment Overview), WKR is not responsible for other proponents, nor are these parties under WKR's care or control when using WKR-owned infrastructure. Each proponent of a RFI project is responsible for meeting all applicable regulatory requirements and, consistent with their regulatory assessment responsibilities, for assessing and managing the effects of their own activities. Access to WKR's infrastructure is provided under agreement, and all proponents must comply with their operational mitigations and commitments established to manage and reduce cumulative effects. The proponents of the RFI mines will be conducting environmental assessments (EAs), including cumulative assessments, for review and the monitoring and mitigation plans for those EAs will include best management practices and mitigation measures to control their project emissions, including fugitive road dust. It is also recognized that, although RFI proponents will develop their own project-specific monitoring and management plans, the RFI proponents will have shared responsibility to control fugitive dust on shared multi-user roads. Opportunities to participate in regional-scale multi-party-led and supported collaborative programs to manage air quality, (e.g., the Nunavut General Monitoring Plan) are being developed and continue to evolve. The RFI scenario was assessed for cumulative effects with the goal of assisting NIRB and other parties in continuing to develop plans, programs and policies to manage Nunavut's environment.

NIRB 298. (IR-776)

Subject

Air Quality Baseline – Seasonal and Climatic Variability

Issue / Concern

Reviewer Comments / Reasoning: Seasonal and climatic influences on air quality are discussed through meteorology and modelling. Appendix 11A indicates that five years of hourly meteorological data were used, which reduces uncertainty and is consistent with modelling guidance. However, the implications of seasonal conditions, such as wind, snow cover, dry road periods, winter road use, open-water shipping, and dust generation, are not clearly summarized for air quality.

Missing Information / Gap: - 1. It is unclear how seasonal and climatic conditions were incorporated into the air quality baseline and effects assessment. - 2. The influence of wind, snow cover, dry road periods, open-water shipping, winter road use, and dust-generating periods has not been clearly assessed.

Information Request

Please explain how seasonal and climatic conditions, including wind, snow cover, dry road periods, open-water shipping, winter road use, and dust-generating periods, were considered in the air quality baseline and effects assessment.

Proponent Response

Ambient air quality baseline is discussed in NIRB 296 (IR-774). Seasonal and climatic conditions were incorporated into the air quality assessment in two ways: through the meteorological basis of the dispersion modelling, which captures seasonal variability in wind and atmospheric dispersion conditions; and through the seasonal emission-estimation assumptions applied to individual sources, which reflect snow cover, dry periods, the open-water shipping season, and dust generation (Volume 5, Section 11.3.2 – Assessment of Project Effects on Air Quality; emission inventory and assumptions in Appendix 11A, Section 4).

Seasonal variability in wind and atmospheric dispersion conditions is captured through the meteorological dataset used for the AERMOD dispersion modelling. The five-year regional meteorological dataset is representative of the wide range of weather conditions that could occur in the region. It accounts for the seasonal and diurnal variation in the parameters that directly influence the dispersion of pollutants (i.e., wind speed and direction, atmospheric stability, and mixing layer depth) (Volume 5, Section 11.3.2; AERMOD implementation detail in Appendix 11A).

Seasonal conditions were built directly into the fugitive-dust emission estimates for unpaved roads and site works through season-specific control efficiencies. For unpaved road dust and dust generated from the off-road equipment movement at the Port, a control efficiency of 75% was assumed for the use of watering and chemical dust suppressants for summer operations (May to September) while a 95% control

efficiency was assumed for snow cover in winter. These assumptions reflect that the snow-covered season substantially suppresses dust generation, while the snow-free months are the primary dust-generating period and are managed through watering and suppressants (Volume 5, Section 11.3.2; emission inventory assumptions in Appendix 11A, Section 4).

The seasonality of marine shipping was reflected in the emission inventory. The shipping-vessel emissions were estimated for the open-water season, with the modelling assumption that shipping vessels will be docked at Gray's Bay Port August to October. Marine vessel emissions therefore contribute to predicted concentrations only during the open-water period, consistent with the Project's shipping season (Volume 5, Section 11.3.2; emission inventory assumptions in Appendix 11A, Section 4).

The winter road is located within the Southern Domain. The dispersion modelling focused on the Northern Domain because emissions in the Southern Domain are less than emissions in the Northern Domain, such that the model predictions for the Northern Domain provide a conservative estimate of the potential air quality effects for the entire Project (Volume 5, Section 11.3.2). The winter road's air quality contribution is therefore bounded by the modelled Northern-Domain worst case, and its unpaved-surface dust emissions occur during the frozen-ground, snow-covered period, to which the 95% winter dust-control condition applies (Appendix 11A, Section 4).

The magnitude and spatial distribution of the model-predicted maximum concentrations depend on many factors, including meteorological conditions, number and type of emission sources and magnitude and variability of emissions. Therefore, there is no strong correlation between the seasonality of the maximum predicted concentrations for the Project and the variability of a specific emission source. The maximum predicted concentrations of total suspended particulates (TSP) and inhalable particulate matter with an aerodynamic diameter less than 10 micrometres (PM_{10}) at the maximum point of impingement (MPOI, the point location where the maximum predicted concentration in the LAA from all meteorological hours is observed) during Project Construction and Operations and Maintenance occur in winter while road dust emissions are higher in summer (May to September). Similarly, the maximum predicted nitrogen dioxide (NO_2) concentration at the MPOI occurs in winter while marine vessels emissions are limited to the open water season (August to October). This shows that there are other emission sources and different meteorological conditions that contribute to the maximum predicted concentrations at the MPOI. It is also noted that the maximum predicted concentrations at other locations in the LAA may occur at different times of the day and days of the year than the maximum predicted concentration at the MPOI (Volume 5, Section 11.3.2.2 – Project Residual Effects; model-prediction results in Appendix 11A, Section 8).

NIRB 299. (IR-777)

Subject

Air Quality – Fugitive Dust Prediction Confidence and Monitoring

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement assesses fugitive dust from construction, land clearing, quarries, roads, and wind erosion. Appendix 11A identifies lower confidence for fugitive dust emissions and recommends ambient air quality and meteorology monitoring during construction and operations to confirm model predictions and mitigation effectiveness. However, the link between fugitive dust uncertainty, monitoring locations, monitoring triggers, and adaptive management actions is not clearly described.

Missing Information / Gap: - 1. The approach for verifying fugitive dust predictions during construction and operations has not been clearly described. - 2. Monitoring locations, indicators, thresholds, and triggers have not been identified. - 3. Adaptive management actions for exceedances or ineffective mitigation have not been clearly defined. - 4. Model uncertainty for fugitive dust has not been adequately considered in the residual effects conclusions.

Information Request

Please explain how fugitive dust predictions will be verified during construction and operations, including proposed monitoring locations, monitoring indicators, thresholds/triggers, and adaptive management actions if dust levels exceed predictions or mitigation is not effective. Please also explain how model uncertainty for fugitive dust was considered in residual effects conclusions.

Proponent Response

Fugitive dust emissions were estimated "without reduction," so PM concentration and deposition predictions "are expected to be conservative and overstated" (Volume 5, Section 11.6.1). Prediction confidence for fugitive dust emissions is rated low to moderate, with emissions expected to be over-estimated (Section 11.6.4).

Fugitive dust predictions will be checked as follows:

- Effectiveness checks: Visual inspection and ambient PM monitoring results will be used to assess the effectiveness of dust mitigation and evaluate the need for more rigorous mitigation (Section 11.3.2.3).
- Monitoring locations: The AQMMP proposes continuous PM monitoring at Grays Bay Port and dustfall monitoring at 3 to 5 locations along the road corridor, including sensitive receptor areas and near water bodies or caribou movement corridors. Dustfall samples will be collected monthly during the summer season (AQMMP Table 3.2 and Section 3.4).

- Model validation: One of the AQMMP's objectives is to "Validate the predictions of the atmospheric dispersion model" (AQMMP Section 1.1).
- Trigger Action Response Plan: A TARP will be developed following BC guidance. Its trigger levels will be pre-determined ambient TSP, PM10 and PM2.5 concentrations, set as a ratio of the SOGs. Additional mitigation will be implemented when trigger levels are reached (AQMMP Section 5.1).
- Reporting: Monthly and annual reports will be provided to GN-DOE, Kitikmiut, other Indigenous groups and potentially affected communities (AQMMP Section 4).

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 300. (IR-778)

Subject

Air Quality Impact Assessment – Modelling Domain and Southern Project Area

Issue / Concern

Reviewer Comments / Reasoning: The air quality modelling focused on the Northern Domain because the Southern Domain emissions were expected to be lower than the worst-case Northern Domain emissions. Appendix 11A notes that Jericho Station emissions during construction are less than half of the Port construction emissions. This rationale is provided, but the technical implications for sensitive receptors and local conditions near Jericho Station and the southern road corridor should be clearer.

Missing Information / Gap: - 1. The rationale for not completing detailed dispersion modelling for the Southern Domain has not been clearly provided. - 2. Air quality effects at Jericho Station and along the southern road corridor have not been adequately characterized. - 3. It is unclear how local receptors and site-specific meteorological and terrain conditions were considered.

Information Request

Please clarify why detailed dispersion modelling was not completed for the Southern Domain, including Jericho Station and the southern road corridor, and explain how local receptors and site-specific meteorological or terrain conditions were considered.

Proponent Response

The basis for the modelling domain and for the treatment of the Southern Domain, including Jericho Station and the southern road corridor, is documented in the Air Quality Technical Modelling Report (Volume 5, Appendix 11A, Sections 4.4 and 6) and summarized in Volume 5, Section 11.3.2.

During construction, emissions from the southern segment of Grays Bay Road are approximately the same as the emissions from the northern segment of the road, however, emissions from Jericho Station in the Southern Domain are less than half of the construction emissions from the Port in the Northern Domain. Therefore, the air quality effects (and model-predicted concentrations) from the Southern Domain will be less than the Northern Domain and subsequently, the Southern Domain was not modelled. The model predictions for the Northern Domain provide a conservative estimate of the potential air quality effects for the entire Project (Volume 5, Section 11.3.2). Receptors, site-specific meteorological conditions, and terrain were not modelled for the Southern Domain (Jericho Station and the southern corridor); effects are inferred from the Northern Domain results and are expected to be lower in magnitude on the emissions basis described above.

NIRB 301. (IR-779)

Subject

Air Quality Impact Assessment – Modelling Domain and Southern Project Area

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement predicts some exceedances of applicable criteria, particularly 1-hour NO_2 during construction and operations, although these are described as localized and infrequent. The Executive Summary also notes NO_2 exceedances near the Port PDA and over Grays Bay. More clarity is needed on how these exceedances will be managed and monitored.

Missing Information / Gap: - 1. Predicted NO_2 exceedances have not been clearly characterized by location, frequency, or affected receptor. - 2. Mitigation measures and the proposed monitoring approach for NO_2 exceedances have not been clearly described. - 3. Adaptive management actions to be implemented if exceedances occur have not been identified.

Information Request

Please provide additional detail on the predicted NO_2 exceedances, including locations, frequency, affected receptors, mitigation measures, monitoring approach, and adaptive management actions if exceedances occur.

Proponent Response

Project-related emissions of nitrogen dioxide (NO_2) are predicted to exceed the Nunavut Ambient Air Quality Standards (NAAQS), although these exceedances are predicted to be infrequent and localized.

During Construction, predicted maximum 1-hour NO_2 exceedances extend up to 2 km along the shoreline and 6 km over Grays Bay. Exceedance frequency is highest along the Project Development Area (PDA) boundary, up to 127 days/year, and decreases to fewer than 30 days/year within 1.5 km of the shoreline PDA boundary. Exceedance areas and frequencies are shown in Volume 5, Appendix C, Figures C.8 and C.9. As shown on Figure C.9, the area of exceedance of the 1-hour NO_2 Nunavut Ambient Air Quality Standards (NAAQS) greater than 10 days on the shoreline east of the PDA boundary is less than 50 hectares. The area of exceedance of the 1-hour NO_2 NAAQS greater than 10 days on the shoreline west of the PDA boundary is limited to the immediate area near the PDA boundary.

During Operations and Maintenance, predicted hourly NO_2 exceedances occur infrequently (14 days/year), and are limited to areas near the PDA boundary, as shown in Volume 5, Appendix D, Figures D.6 and D.7.

There are no permanent residences or overnight hunting and trapping camps within the areas of exceedance of the 1-hour NO_2 NAAQS during Construction and Operations and Maintenance and the public is unlikely to spend extended periods of time within the shoreline exceedance area. The area of exceedance of the 1-hour NO_2 NAAQS over Grays Bay covers a large body of water where public access is likely to be very rare.

A human health and ecological risk assessment was conducted for NO_2 for off-duty workers at the Grays Bay accommodation camp (Volume 9, Appendix 26A). The accommodation camp was selected as a representative human receptor for assessing potential health effects because Inuit, Indigenous, and Community country food harvesters outside the PDA would experience a lower degree of exposure than people at the accommodation camp (located inside the PDA). As described in Volume 9, Appendix 26A, for the worst-case dispersion scenario during the peak construction year (Year 3), elevated NO_2 concentrations above the World Health Organization (WHO) Air Quality Guidelines (AQG) at the accommodation camp are estimated to occur for up to 40% of the year. NO_2 concentrations during Operations and Maintenance are predicted to be lower. However, both the magnitude and frequency of these concentrations are likely overestimated due to conservative modelling assumptions, including the assumption of continuous operation of equipment and vehicles for 24 hours per day throughout the construction period. As stated in Volume 9, Appendix 26A, short-term exposure to NO_2 at the accommodation camp is expected to pose minimal health risks and health effects are primarily limited to a small subset of sensitive individuals, with no long-term or serious respiratory outcomes anticipated.

As stated in Volume 5, Appendix 11A, the maximum predicted NO_2 concentrations at the Port accommodation camp are primarily influenced by diesel combustion from the power plant and diesel combustion exhaust from mobile equipment and vehicles at the Port. Because the air quality model has predicted NO_2 concentrations at the Port accommodation camp to exceed the WHO AQG during the peak construction year (Year 3), continuous ambient NO_2 monitoring is proposed at the accommodation camp during the Construction and Operations and Maintenance phases to verify compliance with the relevant SOGs and WHO AQG.

The conceptual Air Quality Monitoring and Management Plan (AQMMP; Volume 11, Appendix 37C) describes the mitigation measures to reduce emissions from the Project activities and the conceptual ambient air quality monitoring program for particulate matter (PM) and NO_2. Relevant mitigation measures to reduce diesel combustion exhaust emissions, including NO_2, include regular maintenance of mobile equipment and vehicles, reducing idling times, regulating cold starts, encouraging construction contractors to use newer equipment that meets Tier 4 emission standards, speed limits for Project-road mobile equipment and encouraging multi-passenger crew transport.

Adaptive management and Trigger Action Response Plan (TARP) will be developed for PM and NO_2 in the detailed AQMMP. Monitoring results will be compared with predefined trigger levels, and additional mitigation measures will be implemented if the measured concentrations approach or have reached the trigger levels. The trigger levels for NO_2 will be based on the applicable SOGs and the WHO AQGs. The NO_2 trigger levels at the Port accommodation camp are protective of Inuit, Indigenous, and Community country food harvesters beyond the PDA because NO_2 concentrations at an increased distance from the emission sources beyond the PDA will be lower than the NO_2 concentrations at the accommodation

camp. If NO_2 concentrations measured at the accommodation camp approach or reach the WHO AQGs, an advisory will be issued for at risk populations residing at the camp, such as people with existing respiratory conditions, to restrict outdoor activities. This advisory will be applicable specifically to sensitive individuals residing at the camp and will not affect non-sensitive adult workers, who are anticipated to comprise the majority of the camp population, or Inuit, Indigenous, and Community country food harvesters beyond the PDA.

If NO_2 concentrations measured at the accommodation camp during the Construction phase are below the SOGs and WHO AQGs, WKR may request from the Government of Nunavut Department of Environment (GN-DOE) not to continue the NO_2 monitoring during the Operations and Maintenance phase when emissions are lower. Changes to the monitoring program will be decided based on an annual review of the results of the monitoring program in consultation with GN-DOE.

NIRB 302. (IR-780)

Subject

Air Quality/Terrestrial – Dust and Deposition Effects on Soil, Vegetation, Wildlife, Water, and TLMRU

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement discusses soil compaction, erosion, spills, dust deposition, air emissions, vegetation effects, wildlife habitat effects, freshwater effects, and TLMRU effects in separate sections. However, the technical connection between predicted dust deposition, soil quality, vegetation quality, wildlife habitat quality, freshwater receptors, and TLMRU/country food use is spread across multiple volumes and is not clearly integrated.

Missing Information / Gap: - 1. Dust deposition and related air emissions have not been clearly assessed across soil, vegetation, wildlife habitat, freshwater fish and fish habitat, and Traditional Land, Marine, and Resource Use. - 2. Relevant thresholds, assumptions, and receptor-specific criteria have not been clearly identified. - 3. Mitigation and monitoring for cross-VC dust and deposition effects have not been adequately described.

Information Request

Please explain how predicted dust deposition and related air emissions were considered in the assessments for soil quality, vegetation, wildlife habitat, freshwater fish and fish habitat, and Traditional Land, Marine, and Resource Use. Please identify any thresholds, assumptions, or receptor-specific criteria used, and explain how mitigation and monitoring will address cross-VC dust and deposition effects.

Proponent Response

The predicted dust deposition and related air emissions were assessed in the Air Quality VC (Volume 5, Section 11) and the outputs were carried into the soil, vegetation, wildlife, freshwater, and human-environment VC assessments through a defined integration mechanism, with the contaminant-uptake pathway evaluated in the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A).

The integration is documented in the receiving VC sections:

- Vegetation (Volume 6, Section 15).
- Caribou (Volume 6, Section 16).
- Terrain and Soils (Volume 6, Section 14.3.3, Change in Soil Properties). Freshwater Fish and Fish Habitat (Volume 7, Section 20) and Water Resources (Volume 7, Section 19).
- Traditional Land, Marine, and Resource Use (Volume 9, Section 24) and Food Security (Volume 9, Section 25).

The systems-level integration of these dust-deposition pathways across the VCs is compiled in the Holistic Assessment (Volume 10, Section 31.3.1, Effects on Land and Freshwater Environment).

Dust is controlled at source through the air quality mitigation measures (Volume 5, Section 11.3.2.3) — including road watering and dust suppressants following the Nunavut Environmental Guideline: Dust Suppressants, speed limits, and material-storage controls — which in turn reduce the dust-deposition inputs to the vegetation, soil, freshwater, and TLMRU pathways. In the freshwater pathway, "dust suppression will be conducted as necessary to reduce dust and sediment from entering watercourses or waterbodies," supported by the Erosion and Sediment Control Plan (Volume 7, Section 19.3.3; Volume 11). Monitoring is provided through the Air Quality Monitoring and Management Plan (Volume 11, Appendix 37C (Draft)), which includes ambient particulate and dustfall monitoring, the results of which are used to evaluate the effectiveness of dust mitigation and the need for additional measures.

NIRB 303. (IR-781)

Subject

Air Quality Impact Assessment – Human Health Effects from Air Pollutants

Issue / Concern

Reviewer Comments / Reasoning: The Human Health and Ecological Risk Assessment includes human receptors, chemicals of potential concern, exposure pathways, toxicity assessment, exposure assessment, and risk characterization. However, the connection between predicted air quality exceedances, exposure duration, temporary/seasonal land users, and health risk conclusions should be clearly summarized.

Missing Information / Gap: - 1. It is unclear how predicted NO_2 and particulate matter concentrations were incorporated into the human health risk assessment. - 2. Potential health effects on workers, temporary or seasonal land users, and nearby sensitive receptors have not been clearly assessed.

Information Request

Please provide a summary explaining how predicted air quality results, including NO_2 and particulate matter, were incorporated into the human health risk assessment for workers, temporary/seasonal land users, and nearby sensitive receptors.

Proponent Response

The HHERA (Volume 9, Appendix 26A) describes how the air quality modelling results were incorporated into the human health assessment. Modelled concentrations of NO_2, $PM_{2.5}$, PM_{10}, and SO_2 were initially screened against applicable WHO Air Quality Guidelines. NO_2 and $PM_{2.5}$ were identified as COPCs because predicted concentrations exceeded the applicable screening benchmarks under the modelled Project scenarios, whereas PM_{10} and SO_2 were below the applicable benchmarks and were not carried forward for detailed health risk characterization. For NO_2 and $PM_{2.5}$, the exposure assessment then considered the magnitude, frequency, duration, and spatial distribution of predicted concentrations rather than treating an exceedance of a screening benchmark as evidence of an adverse health effect. At the Grays Bay camp, the HHERA evaluated the frequency of predicted 24-hour concentrations and long-term average concentrations and considered the health effects associated with those exposure levels, including potential effects on individuals with pre-existing respiratory conditions. The modelling assumptions are conservative, including continuous operation of equipment and vehicles and extended construction activity adjacent to Grays Bay, and therefore tend to overestimate both the magnitude and frequency of potential exposure.

The receptor assessment also considers differences in location and duration of exposure. Off-duty workers residing at the Grays Bay camp have the greatest potential for both the magnitude and frequency of exposure because of their proximity to Project emission sources and time spent at the camp, and therefore provide the principal receptor for air quality risk characterization. Occupational exposure of

workers while on duty is addressed separately through occupational health and safety requirements. Temporary and seasonal land users, including Inuit and Indigenous harvesters, may be present near Project activities; however, air dispersion modelling demonstrates that Project-related NO_2 and $PM_{2.5}$ concentrations decrease substantially with distance from emission sources. Potential exposure of land users near Grays Bay and Jericho Station is therefore lower in magnitude and more intermittent than the exposure assessed for accommodation camp receptors. Sensitive individuals were considered through the toxicity assessment, which recognizes that people with pre-existing respiratory conditions, as well as children and Elders where present, may be more responsive to NO_2 and $PM_{2.5}$. The HHERA concludes that predicted short-term exposures may result in mild and transient respiratory effects in sensitive individuals under the conservative modelled conditions, while the potential for sustained long-term exposure is limited by worker rotation, intermittent land use, the finite construction period, and lower emissions during operations.

NIRB 304. (IR-782)

Subject

Air Quality Impact Assessment – Greenhouse Gas Contribution to Nunavut and Canada

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement assesses the Project's greenhouse gas contribution to Nunavut and Canada. This appears generally addressed. The main technical need is transparency around assumptions and how future third-party use or induced activity is handled.

Missing Information / Gap: - 1. It is unclear whether greenhouse gas estimates are limited to proposed Project activities. - 2. Emissions from foreseeable third-party use, induced development, and future traffic using Project infrastructure have not been clearly considered.

Information Request

Please clarify whether greenhouse gas estimates include only the proposed Project activities or also account for foreseeable third-party use, induced development, and future traffic that may use the Project infrastructure.

Proponent Response

Please refer to NIRB 295 (IR-773).

NIRB 305. (IR-783)

Subject

Ecosystemic Assessment – Integration of Inuit, Indigenous, and Community Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement states that Inuit, Indigenous, and Community Knowledge was incorporated into assessment boundaries, baseline conditions, project effects, cumulative effects, significance, and mitigation. However, because this information is repeated across many VC sections, it is not clear how specific knowledge inputs changed assessment methods, mitigation measures, monitoring, or significance conclusions.

Missing Information / Gap: - 1. It is unclear how Inuit, Indigenous, and Community Knowledge influenced assessment conclusions across ecosystemic VCs. - 2. Specific changes to mitigation measures, monitoring programs, and significance determinations resulting from this knowledge have not been clearly identified.

Information Request

Please provide a summary of how Inuit, Indigenous, and Community Knowledge specifically influenced key assessment conclusions, mitigation measures, monitoring programs, and significance determinations across ecosystemic VCs.

Proponent Response

Inuit, Indigenous, and Community Knowledge influenced various steps of the Valued Component (VC) assessments as outlined in Volume 4 (Effects Assessment Methodology) and described within each VC chapter.

Volume 3, Section 5.4 describes the integration of Inuit, Indigenous and Community Knowledge throughout the VC assessments, including how Inuit, Indigenous, and Community Knowledge was combined with measured scientific data to characterize baseline conditions for each VC. Each VC baseline conditions section includes a summary of feedback obtained from collaborative and Inuit-led knowledge gathering, publicly available information from Indigenous groups, and engagement feedback, along with WKR's response to the feedback and whether and how it has been furthered integrated into the IS.

As outlined in Volume 4, each VC assessment considered Inuit, Indigenous, and Community Knowledge in:

- establishing spatial assessment boundaries (Section 9.2.4.1);
- describing effects and effects pathways, including providing a rationale where a pathway was not carried forward (Section 9.4.1.1);

- developing mitigation measures for the Project, including providing a rationale where proposed measures were not selected (Section 9.4.1.2); and
- informing the significance determination, including identifying, where information was available, culturally relevant thresholds and how they were applied (Section 9.4.1.4).

Volume 4, Section 9.5 acknowledges that preliminary input obtained from Inuit influenced the development of monitoring and adaptive management measures presented in the IS, with WKR committing to involving affected Inuit in the development and execution of effective monitoring and management measures in the future.

Building on this, WKR acknowledges that because Inuit, Indigenous, and Community Knowledge is integrated across multiple VC chapters, its specific influence on individual assessment outcomes may be difficult to trace. To address this, WKR commits to providing an Inuit, Indigenous, and Community Knowledge integration table as part of the technical comment phase. For each VC, the table will identify key knowledge inputs and their sources, and describe how each input influenced assessment boundaries, effects pathways, mitigation measures, monitoring and adaptive management programs, and significance determinations where appropriate. Where knowledge was considered but did not result in a change, the table will give the rationale. This will provide a consolidated, traceable record of how Inuit, Indigenous, and Community Knowledge shaped the Impact Statement and its conclusions. WKR's consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Response Package. Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase.

NIRB 306. (IR-784)

Subject

Ecosystemic Assessment – Integration of Inuit, Indigenous, and Community Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement States that Inuit, Indigenous, and Community Knowledge was incorporated into assessment boundaries, baseline conditions, project effects, cumulative effects, significance, and mitigation. However, because this information is repeated across many VC sections, it is not clear how specific knowledge inputs changed assessment methods, mitigation measures, monitoring, or significance conclusions. Request additional information in comparison to CGC IR #14 and ADNLC-IR-04.

Missing Information / Gap: The IS states that Inuit Qaujimajatuqangit, Indigenous Knowledge and Community Knowledge were central to the assessment but does not demonstrate where or how. Specifically, it does not: identify how IQ/IK/CK framed the effect-pathway determinations for caribou, TLMRU, community health and well-being, food security and food sovereignty, or heritage resources; show whether IQ/IK/CK was applied beyond Valued Component selection — in the modelling, the significance analysis, the Caribou Herd Vulnerability Model, or habitat-selection analyses; describe the methodology by which the Project-specific IQ (including the Banci and Spicker 2024 report) was gathered and validated; or confirm whether the Impact Statement's conclusions were taken back to Knowledge Holders for corroboration. As a result, the influence of IQ/IK/CK on the assessment's conclusions and significance determinations cannot be traced or verified.

Information Request

Please provide a summary of how Inuit, Indigenous, and Community Knowledge (IQ/IK/CK) specifically influenced key assessment conclusions, mitigation measures, monitoring programs, and significance determinations across the ecosystemic VCs, including specifically caribou, TLMRU, community health and well-being, food security and food sovereignty, and heritage resources. In particular: (1) identify how IQ/IK/CK framed the effect-pathway determinations for each of those VCs; (2) state whether IQ/IK/CK was applied beyond the selection of Valued Components, specifically within the modelling, the significance analysis, the Caribou Herd Vulnerability Model, and habitat/habitat-selection analyses, and demonstrate how; (3) describe the methodology by which the Project-specific IQ referenced throughout the IS (including the Banci and Spicker 2024 report) was gathered and validated, consistent with OCAP principles; and (4) confirm whether the final conclusions of the Impact Statement were brought back to Knowledge Holders to validate or corroborate them, and if so provide an account of those discussions.

Proponent Response

WKR's consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge is provided in Appendix D, Engagement and Knowledge Supplement, to the Addendum to the Information Request Response Package.Appendix D identifies where each requested element is presented in the Impact Statement, explains WKR's approach to the requested standalone registers and matrices, describes the governance and stewardship of licensed Inuit Knowledge, and sets out WKR's commitment to provide an Inuit, Indigenous and Community Knowledge influence table during the technical review comment phase.

Please also refer to ADNLC IR 04 (IR-320) for further details.

NIRB 307. (IR-785)

Subject

Ecosystemic Assessment – Indicators, Thresholds, and Significance Criteria

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement identifies indicators, measurable parameters, residual effects characterization, and significance determinations across VCs. However, the technical justification for why specific indicators and significance thresholds were selected is not easy to trace, especially where thresholds are qualitative or based on professional judgment.

Missing Information / Gap: - 1. The indicators, measurable parameters, and significance thresholds used for each ecosystemic VC have not been clearly consolidated. - 2. The rationale for selecting these indicators, parameters, and thresholds has not been adequately explained. - 3. It is unclear how community input informed their selection and application.

Information Request

Please provide a consolidated summary of the indicators, measurable parameters, and significance thresholds used for each ecosystemic VC, including the rationale for their selection and how community input informed them.

Proponent Response

Please refer to NIRB 305 (IR-783).

NIRB 308. (IR-786)

Subject

Ecosystemic Assessment – Mitigation, Monitoring, and Management Plan Commitments

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement identifies mitigation measures across VC sections and includes several draft management plans. However, the linkage between predicted residual effects, mitigation measures, monitoring indicators, thresholds/triggers, adaptive management actions, and management plan commitments is not clearly shown for each VC. Some measures appear to be firm commitments, while others appear to be future planning details.

Missing Information / Gap: - 1. Predicted residual effects have not been clearly linked to mitigation measures, management plans, monitoring indicators, thresholds, follow-up measures, and adaptive management actions. - 2. Firm Project commitments have not been clearly distinguished from draft or conceptual measures. - 3. The timing and process for finalizing management plans before construction have not been clearly identified. - 4. It is unclear how monitoring results will trigger follow-up or adaptive management actions.

Information Request

Please provide a mitigation and monitoring crosswalk linking predicted residual effects to applicable mitigation measures, management plans, monitoring indicators, thresholds/triggers, follow-up measures, and adaptive management actions. Please also identify which mitigation and monitoring measures are firm Project commitments, which remain draft or conceptual, and the timing/process for finalizing management plans before construction.

Proponent Response

Volume 1, Appendix B (Mitigations and Commitments) lists the Project's mitigation measures and commitments. Each is classified as a Design Measure, Mitigation Measure or Commitment and linked to the applicable VC and Project phase. Monitoring, thresholds and adaptive management are described in the Volume 11 plans. Plans filed in draft are identified as "(Draft)" in Volume 11.

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

Refer also to the response to NIRB 413 (IR-891).

Please also see the preamble to NIRB's IRs for further context regarding the request for a crosswalk that summarizes issues, responses and conclusions for the IS.

NIRB 309. (IR-787)

Subject

Ecosystemic Assessment – Spatial Overlap of Effects Across VCs

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement defines different Project Development Area, Local Assessment Area, and Regional Assessment Area boundaries for different VCs. This is technically reasonable. However, the IS does not clearly summarize where effects from multiple VCs overlap spatially, such as dust, noise, habitat loss, water crossings, permafrost disturbance, and wildlife movement areas.

Missing Information / Gap: - 1. Areas where residual effects from multiple ecosystemic VCs overlap have not been clearly identified or mapped. - 2. Potential overlap near the road, port, aerodrome, quarries, water crossings, and Jericho Station has not been clearly summarized.

Information Request

Please provide a summary or map showing key areas where residual effects from multiple ecosystemic VCs overlap spatially, including areas near the road, port, aerodrome, quarries, water crossings, and Jericho Station.

Proponent Response

Please see Figure AD4 (Addendum Appendix E Supplemental Figures) which maps the Local Assessment Areas (LAAs) for all the Valued Components, showing the potential extent and overlap of direct and indirect Project effects.

NIRB 310. (IR-788)

Subject

Ecosystemic Assessment – Cumulative Effects and Induced Development

Issue / Concern

Reviewer Comments / Reasoning: The Project is intended to support future development and third-party use. The Impact Statement discusses future development and reasonably foreseeable induced activities, but it is not clear how induced development was considered consistently across ecosystemic VCs. Several cumulative effects conclusions rely on assumptions that other projects will implement standard mitigation and that residual effects will not exceed acceptable levels. The basis for these assumptions should be clearer, particularly for reasonably foreseeable induced activities.

Missing Information / Gap: - 1. Cumulative effects and reasonably foreseeable induced development have not been clearly assessed across ecosystemic VCs. - 2. Assumptions regarding present, reasonably foreseeable, and induced activities have not been adequately described. - 3. Future third-party use of Project infrastructure has not been clearly considered. - 4. It is unclear how mitigation and monitoring will be coordinated with future induced developments.

Information Request

Please clarify how cumulative effects and reasonably foreseeable induced development were assessed across ecosystemic VCs, including assumptions for present, reasonably foreseeable, and reasonably foreseeable induced activities. Please explain how future third-party use was considered and how mitigation and monitoring for the proposed Project may be aligned or coordinated with future induced developments.

Proponent Response

Please refer to NIRB 71 (IR-549). Additionally, the CEA included the assessment of a “reasonably foreseeable induced” scenario. This generally is based on the possible operation of three mines utilizing the Project road and port in support of transport and storage of ore concentrate. Detailed description of these physical activities, including assumed road and marine vessel traffic, is provided in Volume 9 Effects Assessment Methodology, Appendix 9A Project Inclusion List, and summarized in Volume 10 Section 32 Cumulative Effects Assessment Overview and Appendix A Cumulative Effects Assessment Addendum in response to this Information Request NIRB-310.

Mitigation Measures specific to addressing cumulative effects, versus those addressing direct effects of the Project, are largely dependent on available programs from government initiatives. The regional nature of cumulative effects subject to multiple types of anthropogenic physical activities requires resources and collaborative engagement beyond the means of any individual proponent of such activities. Volume 10 Cumulative Effects Assessment Overview, Section 32.3 Regional and Future Perspectives provides a general discussion of such possibilities as may apply for the Project, such as regional monitoring.

NIRB 311. (IR-789)

Subject

Reasonably foreseeable induced development, Project Inclusion List scope, third-party road use and marine vessel transit

Issue / Concern

Reviewer Comments / Reasoning: Arising from KHTO-IR-013 (+ RFI-scope component of KHTO-IR-012), GTC-13, and the RFI/traffic-scenario component of ADNLC-IR-03 and ADNLC-IR-15. All four parties ask overlapping questions about what development and traffic the Project enables and whether the PIL captures it. Vol 2 (p. 1-14) expressly excludes future third-party use and induced development from the effects assessment, while the stated Project purpose is to enable exactly that development. The PIL caps marine components at a 10 km radius although the IS names Tuktoyaktuk, NWT and Montreal, QC as origin ports for direct Project components.

Missing Information / Gap: No low/medium/high development scenarios; no third-party traffic scenarios; PIL omits full marine transit routes and Reasonably Foreseeable Induced projects; marine RAA excludes vessel ports of origin; RFI criteria rest on formal regulatory status; no list or map of the induced developments actually used in the CEA.

Information Request

Provide: (a) low, medium and high reasonably-foreseeable development scenarios reflecting the development the Project is intended to enable (mining expansion, exploration, pipelines, fuel storage, transport infrastructure); (b) the criteria used to determine whether a development is reasonably foreseeable, and how Inuit Qaujimajatuqangit and community knowledge of development trajectories informed that determination rather than formal regulatory status alone; (c) future third-party traffic scenarios (minimum to maximum) covering expected volume, frequency, timing and vehicle type; transport of dangerous goods; noise, vibration, light and other sensory disturbance; potential for harvest and poaching from the road; and the footprint of spur roads and connecting infrastructure; (d) the rationale for limiting marine components on the PIL to a 10 km radius given that Tuktoyaktuk and Montreal transits are direct Project components; (e) an updated PIL and Reasonably Foreseeable Induced list, and an updated marine RAA reflecting ports of origin, or the rationale for not doing so; (f) a list AND map of every induced development and component used in the cumulative effects assessment, with location, length, footprint and zone of influence assumptions for each; and (g) the cumulative effects assessment re-run against (a)-(f), for caribou, sea ice, Inuit harvesting and regional land use. Where already answered under KAA-61, cross-reference rather than repeat.

Proponent Response

As requested, matters already addressed in the response to KAA-61 (IR-61) are cross-referenced rather than repeated. Appendix A (Cumulative Effects Assessment Supplement) of this Information Request Response Package summarizes where cumulative effects information is located in the Impact Statement (IS). It also summarizes the reasonably foreseeable induced (RFI) scenario and describes a new High Use Development Scenario.

(a) **Development scenarios.**

- **RFI scenario (assessed).** The cumulative effects assessment (CEA) assessed an RFI scenario. It covers construction and operation of the Izok Lake, High Lake and Hackett River mines and their access roads, concentrate trucking to Grays Bay Port, bulk vessel loading and transits during the open-water season, winter road traffic, and use of the Project airstrip by RFI mines. It is summarized in Appendix A, Section A.3 and Figure A.2.
- **High Use Development Scenario (described, not assessed).** This describes the Project operating at the reasonable maximum mineral concentrate export capacity under the current Basis of Design. It is presented in Appendix A, Section A.4 and Figure A.3:
  - up to about 30 Handymax bulk vessels a year, each of about 50,000 deadweight tonnes
  - about 1.5 Mt of concentrate exported a year
  - about 30,000 truck round trips a year

The additional mines that would supply this scenario are hypothetical, and their environmental effects are not assessed.

Why a single RFI scenario was assessed. See the response to KAA-62 (IR-62), Part 3.

Under Guidelines Section 7.4.3, the NIRB will accept less detail and more uncertainty the further into the future, or the less certain, a development is.

(b) **Reasonably foreseeable criteria.** See the response to KAA-61 (IR-61), Parts 2 and 3. These cover the criteria for including or excluding developments, and the rationale for exclusion. See also KAA-62 (IR-62), Part 1.

RFI physical activities are defined by the Project's role in enabling them, not by their regulatory status. They are those that would only happen, or are highly likely to happen, if the Project were operational (Appendix A, Section A.2). How Inuit Knowledge and engagement informed the assessment is described in Volume 4, Section 9.2.3, and in each valued component (VC) assessment.

(c) **Third-party traffic.**

- **Traffic estimates.** RFI and High Use traffic estimates are in Appendix A, Sections A.4.3 and A.4.4:
  - RFI: about 15 vessels a year and about 15,200 truck round trips a year (about 51 a day)
  - High Use: about 30 vessels and about 30,000 truck round trips a year
- **Basis for the estimates.** See the response to KAA-62 (IR-62), Part 4. Further RFI details are in Volume 4, Attachment 9A2.
- **Harvest pressure and access control.** Harvest pressure and poaching from road access are assessed in Volume 6, Sections 16.4.4 and 16.5.5. Access control is in the Road Management Plan (Volume 11, Appendix 37A, Section 5.1.1).
- **Out of scope.** A full minimum-to-maximum range of traffic scenarios goes beyond the conceptual level of detail the Guidelines accept for less certain future development.

(d) and (e) **Marine Project Inclusion List radius and marine regional assessment area.** The rationale for spatial boundaries is given in each VC assessment (Volume 4, Section 9.2.4). Transboundary effects of marine transportation are assessed in Volume 10, Section 33. WKR does not propose to update the Project Inclusion List or the marine regional assessment area to include ports of origin.

(f) **List and map of induced developments.** See the response to KAA-61 (IR-61), Part 1, and KAA-62 (IR-62), Part 2 (Volume 4, Appendix 9A, Table 9A1). Spatial assumptions and maps are in Volume 4, Attachments 9A2 and 9A3. A consolidated map of the RFI scenario is in Appendix A, Figure A.2.

(g) **Re-running the CEA.** The Guidelines do not require the CEA to be re-run. Cumulative effects under the RFI scenario are assessed for:

- caribou (Volume 6, Section 16.5)
- marine VCs (Volume 8)
- traditional land, marine and resource use (Volume 9, Section 24.4)
- non-traditional land use (Volume 9, Section 29.4)

The High Use Development Scenario is provided for reference only and is not assessed (Appendix A, Section A.4.2).

NIRB 312. (IR-790)

Subject

Exclusion of other caribou herds (Beverly, Beverly/Ahiak, Bluenose-East) from the assessment and from cumulative effects

Issue / Concern

Reviewer Comments / Reasoning: Arising from GoC-IR 02 and ADNLC-IR-08. Both challenge the treatment of the Bathurst and Dolphin and Union herds as "representative" of mainland and island caribou. GoC targets the spatial scope of the caribou CEA (assessed only within BCH-RAA1 and DUH-RAA, excluding interactions such as the Arctic Economic and Security Corridor, and truncated at the non-biological NU-NWT border). ADNLC targets the exclusion of Beverly caribou specifically, including induced development, hunting access and sensory disturbance.

Missing Information / Gap: No assessment of, or reasoned rationale for excluding, other potentially affected herds; caribou cumulative effects assessed only within herd-specific RAAs and truncated at a jurisdictional rather than biological boundary; Beverly herd movement, range use and range shift not analysed.

Information Request

Provide: (a) assessment of, or a reasoned rationale for excluding, other potentially affected herds including Beverly, Beverly/Ahiak and Bluenose-East the statement that such herds "interact infrequently with the Project; however, when they do, their space use and movements are similar to those of the BCH" is not by itself sufficient; (b) for Beverly caribou, all available data on movement and annual/seasonal range use, including historic, current and potential future range shifts, and their potential interaction with the proposed route, addressing habitat, hunting access, human activity and sensory disturbance; (c) an updated spatial scope for the caribou cumulative effects assessment that is biologically rather than jurisdictionally bounded (i.e. not truncated at the Nunavut-Northwest Territories border) and that captures reasonably foreseeable and induced activities including the Arctic Economic and Security Corridor; and (d) inclusion of Beverly caribou in the induced-development and cumulative-effects analyses.

Proponent Response

Please refer to the response to GC-IR-02 (IR-149), which reinforces the rationale for assessing the Bathurst Caribou Herd (BCH) and Dolphin and Union Caribou Herd (DUH) as representative mainland and island herds, respectively, and why other herds are not considered explicitly in the assessment of potential effects (endpoints) (see Volume 6, Section 16.3.5) using the measurable parameters outlined in the Impact Statement (IS) (see Volume 6, Section 16.1.3). The response to NTI-7 (IR-404) provides additional supporting answers regarding other herds like the Bluenose East and Beverly/Ahiak herds.

Please also refer to the response to NTI-6 (IR-403) for further justification on why the BCH-RAA1 and DUH-RAA (i.e., herd range extents within Nunavut) are sufficient for addressing regional cumulative effects on the representative mainland and island caribou herds.

For the reasons outlined in the responses above, WKR contends that responses to items (b), (c), and (d) in the Information Request are not warranted.

NIRB 313. (IR-791)

Subject

Ecosystemic Assessment – Holistic Effects on Ecosystem Health and Integrity

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement includes a holistic assessment, and Volume 10 states that additional assessments supplement the VC assessments. However, the connection between individual VC residual effects and broader ecosystem health and integrity conclusions is not clear.

Missing Information / Gap: - 1. It is unclear how residual effects across individual VCs were considered together. - 2. The basis for conclusions on ecosystem health, ecosystem integrity, and the ability of natural systems to maintain structure and function has not been clearly demonstrated.

Information Request

Please provide a clearer summary explaining how individual VC residual effects were considered together to support conclusions on ecosystem health, ecosystem integrity, and the ability of natural systems to maintain structure and function.

Proponent Response

Refer to response provided for NIRB 6 (IR-484).

NIRB 314. (IR-792)

Subject

HHERA – Spatial and Temporal Extent of Predicted Contamination

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement identifies human receptors, exposure pathways, and potential contaminants. Section 26.3.8 states that air pollutant health-relevant exposure is limited to within 4 km of the PDA and noise health-relevant exposure is limited to within 1 km of the PDA. However, the spatial and temporal extent of potential contamination pathways across air, soil, water, country foods, and noise is not clearly summarized in one place.

Missing Information / Gap: - 1. The spatial and temporal extent of human and ecological exposure pathways has not been clearly described. - 2. Potential exposure through air, soil, surface water, groundwater, country foods, and noise has not been clearly characterized. - 3. Construction- and operations-related exposure pathways have not been separately assessed.

Information Request

Please provide details of the predicted spatial and temporal extent of potential human and ecological exposure pathways, including air, soil, surface water, groundwater, country foods, and noise, for construction and operations.

Proponent Response

The HHERA (Volume 9, Appendix 26A) identified no Project-related contamination of soil, surface water, or groundwater and, consequently, no operable exposure pathways through these media or through country foods. Therefore, there is no spatial or temporal extent of contaminant exposure to characterize for these pathways. The operable human health exposure pathways identified in the HHERA are associated with common air pollutants and noise, for which the spatial extents are described in Section 26.3.8 of the Impact Statement.

The HHERA assessed the Project scenario associated with the greatest predicted air quality and noise effects, which occurs during construction. Operations are associated with lower emissions and noise, primarily from road traffic and maintenance activities. The construction assessment therefore represents the bounding scenario for evaluating potential human health risks from air quality and noise and encompasses Project phases and activities with lower predicted concentrations or noise levels. Separate quantitative health risk characterization of lower-exposure operational scenarios would not alter the conclusions of the HHERA.

NIRB 315. (IR-793)

Subject

HHERA – COPC Screening and Country Food Exposure Pathways

Issue / Concern

Reviewer Comments / Reasoning: Appendix 26A includes a screening process for chemicals of potential concern and identifies exposure pathways for human and ecological receptors. The HHERA indicates that some pathways, including soil, surface water, groundwater, and country food pathways, were characterized as inoperable because one or more health risk requirements were absent and no Project-related COPCs were identified. However, the rationale for screening COPCs and country food pathways in or out is not clearly demonstrated across air emissions, dust deposition, soil, water, vegetation, fish, wildlife, and human consumption pathways.

Missing Information / Gap: - 1. Chemicals of potential concern screened in or out by medium and pathway have not been clearly identified. - 2. The technical rationale for screening decisions, including toxicity, persistence, and bioaccumulation, has not been adequately explained. - 3. Country food exposure pathways, including dust, air, soil, water, vegetation, fish, wildlife, and human consumption, have not been clearly evaluated.

Information Request

Please identify the chemicals of potential concern that were screened in or screened out by medium and pathway, and provide the technical rationale for each decision, including consideration of toxicity, persistence, and bioaccumulation. Please also explain how country food exposure pathways were evaluated, including potential dust deposition, air emissions, soil/water interactions, vegetation uptake, fish exposure, wildlife exposure, and human consumption.

Proponent Response

Please refer to NIRB 245 (IR-723).

NIRB 316. (IR-794)

Subject

HHERA – Human Receptors, Exposure Duration, and Exposure Assumptions

Issue / Concern

Reviewer Comments / Reasoning: The HHERA identifies human receptors, including off-duty workers, nearby camp users, hamlet residents, and country food harvesters. However, temporary and mobile land users may not be fully represented by fixed receptor locations. The assumptions for exposure duration, exposure frequency, seasonal use, and temporary land use are also not clearly summarized in the main assessment. This makes it difficult to confirm how workers, harvesters, travellers, nearby camp users, and seasonal land users were represented in the exposure assessment.

Missing Information / Gap: - 1. The basis for selecting human receptors has not been clearly explained. - 2. Temporary and mobile land users, including harvesters and travellers near roads, ports, quarries, and camps, have not been clearly considered. - 3. Exposure duration, frequency, seasonal use, and intake assumptions for each receptor type have not been identified. - 4. Uncertainty in the receptor and exposure assumptions has not been adequately assessed.

Information Request

Please clarify how human receptors were selected and how temporary or mobile land users, including harvesters and travellers near the road, port, quarry areas, or camps, were considered in the exposure assessment. Please identify the exposure duration, exposure frequency, seasonal use, and intake assumptions used for each receptor type, and explain how uncertainty in these assumptions was considered.

Proponent Response

Please refer to NIRB 246 (IR-724).

NIRB 317. (IR-795)

Subject

HHERA – Sensitivity of Receptors and Vulnerable Groups

Issue / Concern

Reviewer Comments / Reasoning: The guideline asks for consideration of sensitivity of individuals, including underlying health conditions and culturally significant areas. The IS discusses community health conditions and receptors, but the HHERA does not clearly summarize how sensitive sub-populations, such as children, Elders, people with respiratory conditions, or high country-food consumers, were considered in health risk conclusions.

Missing Information / Gap: - 1. Sensitive human receptors have not been clearly considered in the Human Health Risk Assessment. - 2. It is unclear how children, Elders, people with respiratory conditions, and high country-food consumers were assessed.

Information Request

Please clarify how sensitive human receptors, including children, Elders, people with respiratory conditions, and high country-food consumers, were considered in the Human Health Risk Assessment.

Proponent Response

Sensitive individuals are considered in the HHERA through the application of health-based air quality benchmarks and the interpretation of potential health effects associated with exposure to the identified air COPCs. The air quality guidelines applied in the HHERA are health-based benchmarks intended to protect public health, including sensitive members of the population. The health risk characterization also specifically considers that individuals with pre-existing respiratory conditions may be more sensitive to NO_2 and $PM_{2.5}$ exposure. Children and Elders are not expected to reside at the Project accommodation camps, which are occupied by workers; however, they could be present among Inuit and Indigenous land users in the broader region. Potential exposure of these individuals is therefore considered through the same health-based air quality benchmarks applied to Project-related concentrations.

High country-food consumers were not separately assessed because consumption of country foods was determined to be an inoperable chemical exposure pathway. This determination does not imply that country foods are not harvested or consumed within the region. Rather, the HHERA found no Project-related COPCs in country foods because no Project-related chemical contamination of soil or water was identified that could provide a mechanism for contaminants to accumulate in vegetation, fish, or wildlife.

Additionally please refer to Please refer to NIRB 246 (IR-724).

NIRB 318. (IR-796)

Subject

HHERA – Public Concern and Perceived Health Effects

Issue / Concern

Reviewer Comments / Reasoning: Public and Indigenous concerns related to health, dust, contaminants, country foods, and real or perceived effects are discussed. Engagement records show community concerns about dust, contaminants, caribou, road effects, and long-term monitoring. However, the link between perceived health effects, risk communication, mitigation, and follow-up monitoring is not fully clear.

Missing Information / Gap: - 1. It is unclear how public and Indigenous concerns about real or perceived health effects will be addressed. - 2. Risk communication measures related to dust, contaminants, country foods, and noise have not been clearly described. - 3. Monitoring and adaptive management actions for responding to health concerns have not been clearly identified.

Information Request

Please explain how public and Indigenous concerns regarding real or perceived health effects, including dust, contaminants, country foods, and noise, will be addressed through risk communication, monitoring, and adaptive management.

Proponent Response

Baseline community health conditions and indicators are addressed in the response to NIRB 235 (IR-713). Real and perceived health effects related to dust, contaminants, country foods, and noise are addressed through assessment, risk communication, and monitoring with adaptive management.

Potential health effects from dust and contaminants were quantitatively evaluated in the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A, Section 4.1), which found no unacceptable risks to human health and no Project-related contamination of country foods. Perceived effects on health and well-being are assessed directly in the Community Health and Well-being VC (Volume 9, Section 26, including Section 26.3.7), recognizing that perception can affect well-being even where measured risk is low.

Community concerns will be received and responded to through the Community Engagement Plan, a feedback and complaints process, a Kitikmeot community liaison officer, and advance notification of Project activities and harvesting periods (Volume 1, Appendix B, commitments #20, #21, #26, #27). These channels allow WKR to share monitoring results and address questions about dust, contaminants, country foods, and noise.

Dust and contaminant concerns are managed through the Air Quality Monitoring and Management Plan, including a dust control program and ambient PM10/TSP monitoring with adaptive management (Volume 11; Volume 5, Section 11.3.2.3); noise concerns through the Noise and Vibration Abatement Plan (Volume 11; Volume 5, Section 13); and country-food and harvesting concerns through continued engagement. Monitoring results are communicated back to communities through the engagement channels above.

NIRB 319. (IR-797)

Subject

HHRA – Significance Criteria for Human Health Risk

Issue / Concern

Reviewer Comments / Reasoning: The concordance table notes that "significance" is an environmental assessment term and that Appendix 26A describes health criteria but does not define what is significant or not. This is important because the guideline asks for criteria used to determine significance of impact.

Missing Information / Gap: - 1. It is unclear how Human Health Risk Assessment results informed the Impact Statement's significance determination. - 2. The health-based criteria or thresholds used to classify effects as adverse, acceptable, or significant have not been clearly identified.

Information Request

Please clarify how Human Health Risk Assessment results were translated into the Impact Statement's significance determination, including what health-based criteria or thresholds were used to determine whether effects are adverse, acceptable, or significant.

Proponent Response

Please see response to NIRB 248 (IR-276).

NIRB 320. (IR-798)

Subject

ERA – Ecological Receptors, Pathway Screening, and Toxicity Criteria

Issue / Concern

Reviewer Comments / Reasoning: The ERA identifies ecological receptors and exposure pathways and screens some pathways as inoperable or low risk. This may be reasonable, but the rationale should be clearly demonstrated because Project activities include dust generation, fuel use, blasting, road traffic, marine activity, and water crossings. The technical basis for ecological receptor selection, pathway screening, and toxicity criteria is not clearly summarized in one place.

Missing Information / Gap: - 1. The basis for selecting ecological receptors has not been clearly explained. - 2. Exposure pathways have not been clearly linked to vegetation, terrestrial wildlife, freshwater fish, marine fish, and marine mammals. - 3. The rationale for screening out ecological pathways has not been adequately provided. - 4. Potential exposure from dust deposition, spills, blasting residues, water quality changes, and biota uptake has not been clearly assessed. - 5. Ecological toxicity criteria or reference values and their application in the risk characterization have not been clearly identified.

Information Request

Please explain how ecological receptors were selected and how exposure pathways were linked to relevant VCs, including vegetation, terrestrial wildlife, freshwater fish, marine fish, and marine mammals. Please also provide the rationale for ecological pathways that were screened out or not carried forward, including consideration of dust deposition, spills, blasting residues, water quality changes, and biota exposure. Please identify the ecological toxicity criteria or reference values used and explain how they were applied in the risk characterization.

Proponent Response

Please refer to NIRB 249 (IR-727).

NIRB 321. (IR-799)

Subject

HHERA – Cumulative Human and Ecological Risk

Issue / Concern

Reviewer Comments / Reasoning: HHERA primarily evaluates Project-related pollutants and noise, while cumulative effects are addressed in the community health and cumulative effects sections. Given potential future traffic, induced development, mine traffic, increased marine shipping, camps, and road use, the cumulative exposure basis is not clearly summarized for human and ecological risk.

Missing Information / Gap: - 1. Cumulative human health and ecological risks from overlapping air, dust, noise, water quality, and country food pathways have not been clearly assessed. - 2. Potential combined effects from reasonably foreseeable and induced activities have not been adequately considered.

Information Request

Please provide additional explanation of how cumulative human health and ecological risk from overlapping air emissions, dust, noise, water quality changes, and country food pathways was considered, including reasonably foreseeable and induced activities.

Proponent Response

Please see NIRB 297 (IR-775).

NIRB 322. (IR-800)

Subject

HHERA – Mitigation, Monitoring, and Risk Management Linkage

Issue / Concern

Reviewer Comments / Reasoning: Section 26.3.8 states that mitigation from the Air Quality and Noise and Vibration VCs was incorporated into Project design and modelling, and that predicted concentrations and noise levels are not expected to result in adverse health effects. However, the link between HHERA conclusions, monitoring commitments, management plans, and corrective actions is not clearly summarized.

Missing Information / Gap: 1. HHERA conclusions have not been clearly linked to mitigation measures for air quality, dust, noise, water, soil, and country food pathways. 2. Monitoring indicators and thresholds or triggers for these pathways have not been clearly identified. 3. Adaptive management actions to be implemented when thresholds are approached or exceeded have not been clearly described.

Information Request

Please provide a summary linking HHERA conclusions to mitigation measures, monitoring indicators, thresholds/triggers, and adaptive management actions for air quality, dust, noise, water, soil, and country food pathways.

Proponent Response

Please refer to NIRB 247 (IR-725).

NIRB 323. (IR-801)

Subject

Terrestrial Wildlife Baseline – Wildlife Populations, Distribution, and Habitat Use

Issue / Concern

Reviewer Comments / Reasoning: The baseline information is currently difficult to compare across species and study areas. A consolidated table would clearly identify the ecological context, seasonal sensitivities, and spatial importance of habitats used by each VEC. This information is necessary to assess potential project interactions, evaluate the significance of effects, identify data gaps, and confirm that mitigation and monitoring measures are appropriately targeted.

Missing Information / Gap: 1. Baseline information for key terrestrial wildlife VECs has not been clearly consolidated. 2. Population status, distribution, seasonal habitat use, movement patterns, and important habitat areas have not been clearly compared. 3. Conditions within the Local Study Area and Regional Study Area have not been clearly distinguished.

Information Request

Please provide a consolidated baseline table or explanation comparing key terrestrial wildlife VECs, including population status, distribution, seasonal habitat use, movement patterns, and important habitat areas within the Local Study Area and Regional Study Area.

Proponent Response

WKR respectfully submits that the information requested can be found within Volume 6, as described below. Therefore, the requested table is not being provided as the information in the Impact Statement (IS) provides context on each Valued Component (VC) which is assessed independently in the IS as the Project-related interactions and residual effects will be different amongst the VCs. The Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B) provides mitigations and monitoring strategies for all wildlife, as well as for specific VCs, based on the findings in the Wildlife Baseline Report (Volume 6, Appendix 16A) and the IS (Sections 16, 17 and 18). The Wildlife Baseline Report (Volume 6, Appendix 16A) provides a robust and detailed summary of each wildlife VC. The three main caribou herds summarized include the Bathurst Caribou Herd (representative of mainland caribou) the Dolphin and Union Caribou Herd (representative of island caribou), and the Bluenose-East Caribou Herd. Sub-sections summarize each herd, including management, population, harvest and mortality, movements and distribution, and habitat use and diet. These provide the foundation for comparisons amongst herds. Other caribou herds (i.e., Beverly/Ahiak, and Peary) that could potentially interact with the Project for brief periods are also identified with some high level information. Robust summaries are also provided for other focal species, which includes other ungulates (i.e., muskox, moose) and carnivores (i.e., grizzly bear, wolf, wolverine) with sub-sections similar to the main caribou herds, which includes information on population, harvest and mortality, movements and distribution, and habitat use and diet. The consistent layout of ecological information allows for comparisons to be made regarding ecological context, seasonal sensitivities, and spatial importance of habitats of the focal species.

Important Habitat Areas

Eskers are recognized in the Wildlife Baseline Report as an important habitat feature for many species of wildlife. Volume 6, Appendix 16A, Section 3.1.1 (page 13) states the following:

Due to their importance as a wildlife habitat feature, eskers were also included in this Baseline Report. Inuit Knowledge shows that eskers are important as landmarks, for Inuit travel and camping locations, for caribou travel, grazing and relief from biting insects; and for a variety of wildlife habitat requirements (carnivore dens, travel, hunting habitat).

Eskers are explicitly acknowledged with their own section of information in the Wildlife Baseline Report (Volume 6, Appendix 16A, Section 7, page 198). Other important habitat areas include cliffs, rocks, and snowbanks that remain during the summer (identified as places of reprieve from mosquitoes for caribou – see Inuit Knowledge comments in Section 4.2.5.2, pages 87 - 88), wetlands identified as suitable forage sites as well as temperature regulation for caribou (see Inuit Knowledge comments in Section 4.2.5.2, pages 87 - 88) as well as suitable habitat for grizzly bear and wolverine (Section 5.1.2, Table 5.3, pages 157-158).

The Wildlife Baseline Report identifies only a Regional Study Area (RSA) and provides the rationale for its spatial selection in Volume 6, Appendix 16A, Section 1.4, pages 3 – 4. For “conditions” WKR interprets this comment to refer to habitat use and/or resource selection/habitat suitability within the RSA. Information for each VEC is presented in Table IR-801.1 below.

Table IR-801.1 Habitat Conditions Information in the Wildlife Baseline Report for each Wildlife Valued Component

VC	Habitat Type	Wildlife Baseline Report Location
Bathurst Caribou Herd	Pre-calving/Spring Migration	Section 4.2.4.2, pages 55-63
	Calving	Section 4.2.4.3, pages 64-74
	Fall Migration and Rut	Section 4.2.4.5, pages 77-79
	Calving/Post-calving Resource Selection	Section 4.2.5.1, pages 84-86
	Summer Resource Selection	Section 4.2.5.2, pages 87-89
	Fall Resource Selection	Section 4.2.5.3, pages 90-91
Dolphin and Union Caribou Herd	Spring and Fall Migration	Section 4.3.4.3, pages 109-118
	Habitat Use and Diet	Section 4.3.4.4, pages 118-120
Muskox	Habitat Use and Diet	Section 4.6.4, pages 140-142
Moose	Habitat Use and Diet	Section 4.7.4, page 149
Grizzly Bear	Habitat Use and Diet	Section 5.2.4, page 169-171
Wolf	Habitat Use and Diet	Section 5.3.4, pages 178-179
Wolverine	Habitat Use and Diet	Section 5.4.4, pages 191-193

NIRB 324. (IR-802)

Subject

Terrestrial Wildlife Baseline – Biodiversity, Food Chain Relationships, and Inuit/Community Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement includes available published information, field studies, Inuit Qaujimajatuqangit, Indigenous Knowledge, and community knowledge. However, the connection between biodiversity, predator-prey relationships, food chain interactions, and Inuit/community knowledge is not clearly summarized across terrestrial wildlife VECs. This makes it difficult to understand how knowledge sources influenced baseline characterization and assessment conclusions.

Missing Information / Gap: 1. It is unclear how published information, field studies, Inuit Qaujimajatuqangit, Indigenous Knowledge, and community knowledge were integrated into the terrestrial wildlife baseline. 2. Terrestrial wildlife biodiversity, food chain relationships, and predator-prey interactions have not been clearly characterized. 3. Species-specific baseline conditions and the contribution of each information source have not been clearly explained.

Information Request

Please explain how published information, field studies, Inuit Qaujimajatuqangit, Indigenous Knowledge, and community knowledge were used to characterize terrestrial wildlife biodiversity, food chain relationships, predator-prey interactions, and species-specific baseline conditions.

Proponent Response

Published information, field studies, Inuit Qaujimajatuqangit, Indigenous Knowledge, and Community Knowledge were the foundation of the information summarized in the Wildlife Baseline Report (Volume 6, Appendix 16A). A summary of how information from each of these knowledge groups was used is summarized below:

- Published Information: published and publicly available literature provided historical context, species status, and regional management frameworks:
    - Academic & Government Literature: Literature included species accounts, status assessments from the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), the federal Species at Risk Act (SARA), and territorial bodies (the Government of Nunavut - Department of Environment [GN-DOE], the Government of Northwest Territories - Environment and Climate Change [GNWT-ECC]), and regional management plans (e.g., Bathurst Caribou Range Plan).
    - Telemetry & Collar Datasets: Long-term satellite and GPS collar data supplied by territorial governments (GNWT-ECC and GN-DOE spanning from 1987–2024 depending on the herd) were analyzed to establish seasonal range boundaries and timing of migrations.

- Integration of Inuit Qaujimajatuqangit, Indigenous Knowledge, and Community Knowledge:
  - Naonaiyaotit Traditional Knowledge Project (NTKP): Data were sourced directly from the Kitikmeot Inuit Association's GIS database repository and the project-specific report Kitikmiut Knowledge of the Proposed Kogloktoakyok (Grays Bay) Port and Road Project. This data and information from Traditional Knowledge helped to information on historic species occurrence and distribution on the landscape, including important areas like wildlife denning and nesting areas.
  - Inuit Advisory Group (IAG) & Community Engagement: Direct knowledge, feedback, and advice were gathered through multiple IAG workshops (re-initiated in 2025), community visits, open houses, and meetings with local Hunters and Trappers Organizations (HTOs).
  - Contextualizing Wildlife Ecology: Statements and spatial mapping from Elders and Knowledge Holders were integrated directly alongside scientific findings to explain species distribution, seasonal migration corridors (e.g., nadlok or water crossings), habitat preferences (e.g., neeluk or year-round ice/springs used for insect relief), predator-prey dynamics, and historical population fluctuations.
- Field Studies: empirical field data were collected to fill critical spatial and temporal baseline data gaps. Some examples include:
  - Aerial Surveys: Standardized fixed-wing transect surveys (flown between 2004 and 2013 across seasonal periods) and helicopter snow-tracking/trail surveys (2012 and 2024) were conducted to determine species distribution, abundance, group composition, and movement trails.
  - Remote Camera Monitoring: 40 remote tri-pod camera stations were deployed in 2024 along key movement corridors and shorelines (informed by collar data and models) to capture wildlife interactions and timing of movements.
  - DNA Hair-Snagging Programs: Non-invasive hair-snagging inventory grids were deployed in 2008 and 2012 for grizzly bears and wolverines to obtain population and density estimates.
- Methodological Integration & Modeling: the report merged these data sources through formal quantitative and spatial modeling:
  - Resource Selection Functions (RSFs): GPS collar data were combined with land cover and elevation satellite imagery (ASTER, EOSD, NLC) to statistically model relative habitat selection across seasons for caribou herds.
  - Habitat Suitability Index (HSI) Ratings: Expert literature, field observations, and Inuit Knowledge were combined to establish qualitative habitat suitability ratings (High, Medium, Low, Nil) across mapped land cover types for species like muskox, grizzly bear, and wolverine.
  - Brownian Bridge Movement Models (BBMMs): GPS collar data were used to model probability distributions and visualize migration routes and corridor intensity.

In combination, these sources reinforced one another: Inuit, Indigenous, and Community Knowledge, co-presented with western science were integrated through the spatial and modelling methods above so that biodiversity, predator-prey relationships, and species-specific baseline conditions reflect both Indigenous understanding of the land and measured data. This approach underpins the baseline characterization and the assessment conclusions for each terrestrial wildlife VEC (Volume 6, Appendix 16A).

NIRB 325. (IR-803)

Subject

Terrestrial Wildlife Baseline – Sensitive Habitat, Critical Habitat, and Habitat Connectivity

Issue / Concern

Reviewer Comments / Reasoning: The relevant habitat and connectivity information appears to be dispersed across the assessment, making it difficult to understand where important wildlife areas may overlap with or be affected by the Project. A consolidated map or table would provide a clearer spatial and ecological basis for evaluating potential interactions, habitat fragmentation, movement disruption, and effects on sensitive life-history periods. It would also help demonstrate whether avoidance, design modifications, mitigation measures, and residual effects conclusions are appropriately linked to the most important terrestrial wildlife habitats and connectivity features.

Missing Information / Gap: 1. Key terrestrial wildlife habitat areas and connectivity features have not been clearly mapped or consolidated. 2. Caribou calving and post-calving areas, water crossings, movement corridors, eskers, sensitive species habitat, and predator-prey habitat have not been clearly identified. 3. It is unclear how these areas informed Project design, mitigation measures, and residual effects conclusions.

Information Request

Please provide a consolidated map or table identifying key terrestrial wildlife habitat areas and habitat connectivity features that may interact with the Project, including caribou calving/post-calving areas, water crossings, movement corridors, eskers, sensitive species habitat, and important predator/prey habitat. Please explain how these areas were considered in Project design, mitigation, and residual effects conclusions.

Proponent Response

A consolidated map of important wildlife areas would be difficult to view and interpret, given the breadth of different types of information for each of the VCs. As such, information has been separated out for each VC to allow for clear and concise review and interpretation. Presenting the information this way allows for a better understanding of species occurrence and distribution in relation to the Project, which in turn provided key details to include for mitigation and monitoring as presented in the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B). A summary of where the information can be found for each VC in the Effects Assessment on the Terrestrial Environment (Volume 6, Sections 16 and 18) is provided below.

Caribou

Figures related to range use (i.e., BCH seasonal range use and DUH mainland Nunavut winter range use), BCH peak calving areas, BCH calving and post-calving ranges, BCH (mainland caribou) and DUH (island caribou) migration corridors and movement routes, BCH and DUH Brownian bridge movement model outputs, and spatial information produced using Inuit Knowledge are provided in Section 16.2.2.4 (Figures 16.2 to 16.10) and Section 16.2.2.5 (Figures 16.11 and 16.12). Figures related to selected habitat, which can be interpreted as key/sensitive habitat, are provided in Section 16.2.2.5 (Figures 16.11 to 16.12). Caribou water crossings are shown in Figure 4.13 of Appendix 16A (Section 4.2.4.2). A discussion of eskers and their locations are provided in Appendix 16A, Section 7 (also see "GFR: Glaciofluvial sediments - Esker (all)" in figure Appendix D in Appendix 14A, Volume 6).

Specific predator–prey habitat is not delineated. Instead, predator–prey dynamics are assessed by considering how the Grays Bay Road may facilitate ambush predation. Please also refer to the response to Information Request IR-289 (GN-IR-09) for further details regarding ambush-style predation of caribou and the mitigations proposed to minimize that risk.

Some of the above information relates directly to measurable parameters used in the caribou assessment, which influenced the characterization or residual effects and significance determinations. The assessment conclusions rely on measurable parameters—not every caribou-related feature or effect pathway—which are interpreted using the assessment criteria. This link is explicitly summarized in Table 16.4 (Volume 6, Section 16.1.6, document page 16-20 to 16-22) and throughout Section 16.1.6 for all potential effects.

The compiled information helped to identify segments along the Grays Bay Road that are likely to be crossed by the Bathurst Caribou Herd and Dolphin and Union Caribou Herd. The Grays Bay Road embankments "*… will be designed, where possible, to 3:1 (≤18.5 degrees) to facilitate caribou crossings using finer material where applicable in "high potential areas" identified by 1) local knowledge, 2) collar data, 3) experience during road operations, 4) camera monitoring*" (Volume 6, Section 16.4.3.3, page 16-103), which is intended to facilitate caribou movement across the road. Flatter side slopes facilitate caribou crossing at any point along the road, reducing the likelihood of caribou being funneled along the road searching for a suitable crossing point.

Muskox

Muskox habitat use is summarized in Volume 6, Appendix 16A, Section 4.6.4, pages 140-142. This information was used to identify key terrestrial habitat areas for muskox that was used in the habitat suitability mapping for summer (Figure 4.46) and late winter (Figure 4.47).

Moose

Moose primarily occur in the north portion of the RSA (Volume 6, Appendix 16A, Section 4.7.3, pages 147 - 148). This is supported by Inuit Knowledge as depicted in Volume 6, Appendix 16A, Section 4.7, Figure 4.48, page 144. Habitat is primarily around river valleys and other areas supporting an abundance of low shrubs that provide suitable browse for moose.

Grizzly Bear

Den sites are a key habitat feature for grizzly bears. Den sites, along with grizzly bear observations is presented in Volume 6, Appendix 16A, Section 5.2.3, Figure 5.5, page 168. Eskers provide suitable deposits for excavating den sites (Volume 6, Appendix 16A, Section 7, page 198). Grizzly bears prey on newborn caribou calves, and some grizzly bears may venture to the caribou calving and post-calving areas for this prey item. The caribou calving and post-calving areas are identified in Volume 6, Appendix 16A, Section 4.2.5.1, Figure 4.26, page 85.

Wolverine

Inuit Knowledge identifies wolverine to occur at the north and south ends of the Project (Volume 6, Appendix 16A, Section 5.4, pages 180-181). A description of habitat modelled for the RAA is presented in Volume 6, Appendix 16A, Section 5.4.4, pages 191-193. There are no habitat connectivity concerns with wolverine as they are a nomadic, habitat generalist that inhabits areas with an adequate, year-round food supply and suitable denning sites.

NIRB 326. (IR-804)

Subject

Terrestrial Wildlife Impact Assessment – Habitat Loss, Habitat Alteration, and Sensory Disturbance

Issue / Concern

Reviewer Comments / Reasoning: Wildlife may be exposed to several Project-related stressors at the same time, and their combined influence may result in greater habitat avoidance, reduced habitat effectiveness, disrupted movement, altered behaviour, or decreased reproductive success than would be predicted by assessing each stressor separately. A clear explanation of the integrated assessment approach is needed to determine whether the full extent, timing, duration, and significance of potential effects have been adequately characterized. This information would also help demonstrate whether species-specific sensitivities and vulnerable life-history periods were appropriately considered in Project design, seasonal restrictions, mitigation, monitoring, and residual effects conclusions.

Missing Information / Gap: 1. Combined effects from habitat loss, alteration, sensory disturbance, dust, noise, vibration, light, traffic, and human activity have not been clearly assessed. 2. Effects on caribou, muskox, moose, grizzly bear, wolverine, and birds have not been clearly summarized. 3. Sensitive periods, including calving, post-calving, migration, denning, nesting, and wintering, have not been adequately considered.

Information Request

Please explain how habitat loss, habitat alteration, sensory disturbance, dust, noise, vibration, light, traffic, and human activity were considered together in the effects assessment for key terrestrial wildlife species, including caribou, muskox, moose, grizzly bear, wolverine, and birds. Please identify how sensitive periods, such as calving, post-calving, migration, denning, nesting, and wintering, were considered.

Proponent Response

Potential effects of habitat loss, habitat alteration, and Project-related disturbance on terrestrial wildlife were assessed in Volume 6, Sections 16, 17, and 18 through the Change in Habitat effects pathway for each VEC. This considered both direct and indirect habitat loss or alteration. Direct habitat loss was conservatively assessed as the Project Development Area (PDA) boundary. Indirect habitat loss used a zone of influence (ZOI) approach to factor in effects from sensory disturbances (i.e., noise, dust, visual stimuli, human activity). Further details on indirect habitat loss and the ZOI approach for each VEC is provided in the response to IR-748 (NIRB IR-270). Direct and indirect habitat effects were considered together in determining the overall magnitude of change in habitat for each VEC, thereby accounting for the combined influence of Project activities on habitat availability and effectiveness.

The assessment recognizes periods when wildlife may be particularly sensitive to Project disturbance:

- **Caribou:** The caribou assessment considers "specific periods when caribou are more susceptible to sensory disturbance, reduced access to forage, or predation-related mortality. In this assessment, sensitivity to disturbance during different lifecycle stages uses the criteria outlined in Appendix E (Assessment of Seasonal Range Assumptions) of the 2018 Bathurst Caribou Range Plan Supporting Report (GNWT 2018): spring migration = moderate; calving/ post-calving = very high; summer = high; fall = moderate; and winter = low" (Volume 6, Section 16.1.6.6, document page 16-25). These seasons account for different levels of interaction with the Project and potential responses by caribou when assessing habitat effects.
- **Muskox:** The habitat assessment considers seasonal habitat use (i.e., summer and late-winter habitat) when both direct and indirect habitat loss causes individuals to alter their regular behaviour, which may result in lost feeding time, stress, reduced reproductive potential or habitat avoidance.
- **Moose:** The IS identifies the RAA is at the edge of their range and has relatively poor habitat available/limited areas with sufficient forage. The residual effects predictions considered the winter period for the timing of the residual effects (i.e., most sensitive time-period for moose).
- **Grizzly bear:** The IS considers denning and den emergence, as well as periods when females with young may be particularly sensitive to disturbance. The IS identifies the denning period as a high-sensitivity period and recognizes that females generally enter dens earlier and remain denned longer than males.
- **Wolverine:** The IS identifies that habitat changes from the Project will overlap with the period of highest sensitivity (i.e., natal denning period). This was based on wolverine den sites occurring at least 1 km away from a road and is also an appropriate buffer in relation to wolverine movement and habitat use in proximity to roads.
- **Birds:** The IS identifies that habitat changes from the Project will overlap with the breeding/nesting and migration periods, when disturbance may affect habitat use, nesting activity, and movement. This is supported by bird behavior in proximity to human activity as identified in the ZOI approach for each bird guild.

These sensitive periods are further addressed through the Wildlife Mitigation and Monitoring Plan (WMMP) (Volume 11, Appendix 37B), which establishes sensitive-period notifications and species- and proximity-based human-activity management, together with wildlife monitoring and adaptive management. The WMMP specifically identifies “Human Activity Management in Relation to Wildlife” (Section 6) for notifying personnel when wildlife mitigation measures based on either sensitive time periods or wildlife sensitivities (e.g., active nest or den) may be required. More broadly, the WMMP is intended to address Project-related habitat loss, disturbance, monitor mitigation effectiveness, and adaptively manage unforeseen effects.

The Change in Habitat assessments integrate direct habitat loss or alteration within the PDA with indirect reductions in habitat effectiveness within species- or guild-specific ZOIs. The ZOI approach accounts for applicable sensory and activity-related disturbance pathways collectively in characterizing indirect habitat effects, while species-specific sensitive periods inform the timing and application of mitigation and monitoring and the characterization of residual effects. Sensitive time periods are further addressed in the WMMP to inform personnel and provide guidance.

NIRB 327. (IR-805)

Subject

Terrestrial Wildlife Impact Assessment – Movement, Migration, and Barriers to Connectivity

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement includes a long road corridor and associated infrastructure that could affect wildlife movement, migration, habitat connectivity, predator-prey relationships, energy balance, and access to seasonal habitat. The Impact Statement discusses these topics, but the assessment does not clearly summarize how the road and other linear infrastructure may alter movement pathways for key species across seasons and life stages.

Missing Information / Gap: 1. Potential effects on wildlife movement, migration routes, habitat connectivity, predator-prey dynamics, and access to seasonal habitat have not been clearly assessed. 2. Barrier effects from roads, traffic, snowbanks, infrastructure, and sensory disturbance have not been adequately considered. 3. Species-specific effects on caribou, muskox, moose, grizzly bear, and wolverine have not been clearly described.

Information Request

Please provide additional information on how the Project may affect terrestrial wildlife movement, migration routes, habitat connectivity, predator-prey dynamics, and access to seasonal habitat. Please explain how potential barrier effects from the road, traffic, snowbanks, infrastructure, and sensory disturbance were considered for key species, particularly caribou, muskox, moose, grizzly bear, and wolverine.

Proponent Response

Caribou

The caribou assessment (Volume 6, Section 16) provides discussion on how the Project may affect (1) movement, migration routes, and habitat connectivity, through movement filters (e.g., road, traffic, snowbanks, infrastructure, and sensory disturbance) (Section 16.4.3), (2) predator–prey dynamics through indirect mortality risk (Section 16.4.4), and access to seasonal habitat through direct and indirect habitat loss (Section 16.4.2). For additional discussion on caribou movement effects, please refer to the responses to Information Request IR-107 (KIA-IR-37). For additional discussion on caribou indirect mortality risk, please refer to the responses to Information Requests IR-289 (GN-IR-09).

Muskox

The muskox assessment (Volume 6, Section 18.4) evaluates how the Project may affect movement and migration routes through the Change in Movement assessment (Section 18.4.2). The Change in Movement assessment identifies and addresses Project-related activities and how they may be a potential physical or perceptual filter to muskox movement; see Section 18.4.2.2 for further details. Habitat connectivity and access to seasonal habitat is evaluated in the Change in Habitat assessment (Section 18.4.1). Predator-prey relationships for muskox are identified in the Wildlife Baseline Report (Volume 6, Appendix 16A, Section 4.6.2).

Moose

The Change in Movement assessment for moose (Section 18.8.2) outlines how the Project may influence moose movement. This section also identifies Project-related activities that may be perceived as a barrier to moose, focusing on the road, snow berms, and human activity as the physical or perceptual barriers (Section 18.8.2.2). The Wildlife Baseline Report identifies moose distribution and habitat requirements in tundra environments (Volume 6, Appendix 16A, Section 4.7.3). The Change in Habitat assessment (Section 18.8.1) outlines how Project-related effects on moose habitat was evaluated. Information on predator-prey dynamics involving moose can be found in the Wildlife Baseline Report (Volume 6, Appendix 16A, Section 4.7.2).

Grizzly Bear

The Change in Habitat assessment for grizzly bear (Volume 6, 18.12.2.1) considers habitat connectivity and seasonal shifts in habitat use. Sensory disturbances (e.g., noise, dust, lights, human activity) were considered to have indirect effects on habitat. Project-related effects on Change in Movement for grizzly bear are assessed in Volume 6, Section 18.12.2. Detailed descriptions on how the Project may pose potential barrier effects are described in Volume 6, Section 18.12.2.2. The Change in Movement assessment addresses both daily and seasonal movement and considers whether effects on broader movements could result in population-level consequences, including reduced genetic connectivity. Predator-prey dynamics for grizzly bear can be found in the Wildlife Baseline Report (Volume 6, Appendix 16A, Sections 5.2.3 and 5.2.4).

Wolverine

The assessment on Change in Movement for wolverine movement is presented in Volume 6, Section 18.16.2. An assessment on Change in Habitat (Section 18.6.1) outlines how the Project will influence wolverine habitat. For predator-prey dynamics, information can be found in the Wildlife Baseline Report (Volume 6, Appendix 16A, Section 5.4.4.

Human activity and sensory disturbance are considered in Volume 6, Section 18.16.2.2 which discusses how vehicle traffic, roads, infrastructure, mining, and other human activity potentially influences wolverine movement, including how the road may act as a barrier.

NIRB 328. (IR-806)

Subject

Terrestrial Wildlife Impact Assessment – Mortality Risk, Attraction, and Human-Wildlife Interactions

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement assesses wildlife mortality risk from Project activities, roads, traffic, open water, infrastructure, human presence, attraction to Project facilities, and potential defence of life or property incidents. However, it is not clear how these pathways are integrated across species, Project phases, and locations, or how monitoring and adaptive management will reduce mortality risk.

Missing Information / Gap: 1. Wildlife mortality risks across Project phases and locations have not been clearly assessed. 2. Risks from wildlife attraction, vehicle collisions, human-wildlife interactions, and defence-of-life/property incidents have not been adequately described. 3. Mitigation, monitoring, reporting, and adaptive management measures to reduce wildlife mortality have not been clearly identified.

Information Request

Please explain how mortality risk, wildlife attraction, vehicle collisions, increased human-wildlife interactions, and defence-of-life/property incidents were assessed across Project phases and locations. Please identify the mitigation, monitoring, reporting, and adaptive management measures that will be used to reduce wildlife mortality risk.

Proponent Response

WKR respectfully submits that the information requested in this IR was assessed in Volume 6, Sections 16 and 18 through species-specific evaluations of change in mortality risk for caribou, muskox, moose, grizzly bear, and wolverine during both Construction and Operations and Maintenance. The assessments consider direct and indirect mortality pathways associated with Project activities and infrastructure, including vehicle and equipment collisions, increased access and harvest, attraction to Project infrastructure or waste, increased human-wildlife interactions, and potential destruction of wildlife in defence of human life or property. The relative importance of these pathways was evaluated using species occurrence and behaviour, Inuit, Indigenous and Community Knowledge, baseline information, literature, Project activity levels, and the locations where interactions may occur, including the road, port, aerodrome, Jericho Station, camps, quarries, and other Project facilities. These effects are carried forward through the Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B) using traffic controls and wildlife right-of-way, attractant and waste management, wildlife-awareness and incident-reporting requirements, active and incidental wildlife monitoring, infrastructure and waste inspections, and procedures for responding to wildlife encounters. Monitoring of wildlife occurrence, collisions, near-misses, carcasses, infrastructure use, and human-wildlife interactions will be used to verify the IS predictions and mitigation effectiveness and to trigger adaptive management where observed mortality risks differ from those predicted.

Further details on the assessment of the change in mortality risk for each wildlife VEC can be found at the following:

- Caribou: Volume 6, Section 16.4.4 (pages 16-107 to 16-113)
- Birds: Volume 6, Section 17.4.2 (pages 17-44 to 17-49)
- Muskox: Volume 6, Section 18.4.3 (pages 18-75 to 18-78)
- Moose: Volume 6, Section 18.8.3 (pages 18-103 to 18-108)
- Grizzly bear: Volume 6, Section 18.12.3 (pages 18-129 to 18-136)
- Wolverine: Volume 6, Section 18.16.3 (pages 18-158 to 18-163)

NIRB 329. (IR-807)

Subject

Terrestrial Wildlife Impact Assessment – Increased Access, Hunting Pressure, and Harvest Monitoring

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement discusses potential increased hunting pressure, illegal harvest, overharvesting, meat wastage, and interference with harvesters due to improved access. However, the assessment does not clearly explain how increased access along the road will be monitored, who will be responsible for enforcement-related measures, and how concerns related to illegal harvest or harvest pressure will be addressed over the life of the

Missing Information / Gap: 1. Risks from increased access, illegal harvest, overharvesting, meat wastage, and interference with Inuit harvesters have not been clearly assessed. 2. Roles and responsibilities for harvest pressure and access management have not been clearly identified. 3. Monitoring methods, reporting procedures, and adaptive management measures have not been adequately described.

Information Request

Please clarify how increased access, potential illegal harvest, overharvesting, meat wastage, and interference with Inuit harvesters will be monitored and managed. Please identify proposed roles, responsibilities, monitoring methods, reporting procedures, and adaptive management measures related to harvest pressure and access management.

Proponent Response

The assessment of change in mortality risk considered increased access for harvest, including illegal harvest. Harvesting was not predicted to contribute to increased mortality risk (see Volume 6, Section 16.4.4.4) as access to the road will be controlled and harvesting will continue to occur in a controlled manner consistent with territorial legislation and co-management objectives. Users that want to access the road for harvesting purposes will require prior approval or permits from the Kitikmeot Inuit Association and the Hunters and Trappers Organizations, and these permits are expected to align with the current tagging system and total allowable harvest. See the response to Information Request KAA-2 (IR-2) for additional details about how access to the road will be controlled.

The Road Management Plan (Draft; Volume 11, Appendix 37A, Section 5.1.1, page 10) states the following:

> "*Access will be controlled through security gates operated by WKR staff at the Grays Bay Port and at Jericho Station on the IOL. These access points will manage and monitor road use through sign-in procedures and radio check-ins, helping to track users and ensure the safety of users. WKR will maintain logs recording the entry and exit of all vehicles using the road. Logs will also record any incidents or accidents for regulatory and safety audit purpose. Unauthorized use may lead to security alerts and reports to local authorities.*"
>
> *"Mining users will have access to the road on a tolled basis, with port and road use fees to be established through agreements between WKR and mining/exploration companies. Security and other public government users will have access to the road through agreements to be established between WKR and the relevant government department or agency. Community users will have free access to the road for travel and transportation purposes, subject to agreeing to abide by safe operating procedures. Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA)."*
>
> *"Permits will be issued jointly by the Kitikmeot Inuit Association and the Hunters and Trappers Association (HTA). WKR will be responsible for ensuring that permits and licences are in place before granting access to the road. The processes for access application and permit issuance for harvesting will be established through discussions with the Kitikmeot Inuit Association and the HTA"*
>
> *"Harvest licences and species authorization tag(s) will be managed through the existing Nunavut Hunting Regulations."*

A summary of the roles and responsibilities under the Road Management Plan are presented in Volume 11, Appendix 37A, Section 7.1. WKR will report any suspected incidents of illegal harvest or meat wastage to Nunavut's Department of Environment – Wildlife Operations and its conservation officers. WKR will also notify the local HTA of suspected meat wastage occurrences.

NIRB 330. (IR-808)

Subject

Terrestrial Wildlife Impact Assessment – Climate Change, Sea Ice, and Cumulative Disturbance

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement discusses climate change effects on terrestrial wildlife, including changes to sea ice, spring break up, fall freeze-up, wildfire, and cumulative disturbance. It also discusses reasonably foreseeable induced development. However, it is not clear how climate-related changes and future development were integrated with Project-related effects on movement, habitat use, mortality risk, and harvesting pressure.

Missing Information / Gap: 1. The combined effects of climate change, sea ice changes, wildfire risk, cumulative disturbance, and induced development have not been clearly assessed. 2. It is unclear how these factors may interact with Project-related habitat loss, movement barriers, mortality risk, sensory disturbance, and increased access. 3. The implications of these interactions for terrestrial wildlife effects conclusions have not been adequately described.

Information Request

Please explain how climate change, sea ice changes, wildfire risk, cumulative disturbance, and reasonably foreseeable induced development were considered together in the terrestrial wildlife effects assessment. Please describe how these factors may interact with Project-related habitat loss, movement barriers, mortality risk, sensory disturbance, and increased access.

Proponent Response

The Terrestrial Wildlife and Wildlife Habitat section of the Impact Statement (IS) requirements in the NIRB Guidelines (Section 8.1.11.2) states the following:

> *"ii. Potential impacts on population size, abundance, distribution, and behaviour of wildlife VECs from…… Direct and indirect impacts from climate change (including wildfire);"*

The IS (Volume 6) provides a comprehensive evaluation of how climate change affects wildlife VECs in the subsequent Effects of Climate Change sections:

- Caribou: Section 16.4.7 (pages 16-122 to 16-124)
- Birds: Section 17.4.4 (pages 17-50 to 17-51)
- Muskox: Section 18.4.5 (pages 18-79 to 18-80)
- Moose: Section 18.8.5 (pages 18-109 to 18-110)
- Grizzly Bear: Section 18.12.5 (pages 18-138 to 18-139)
- Wolverine: Section 18.16.5 (18-165 to 18-166)

The effects of climate change on cumulative disturbances and reasonably foreseeable induced projects in relation to VECs is difficult to predict. This is addressed in Volume 6, Section 16.8.6, page 16-163 which states:

> *"There is low-to-moderate confidence in the conclusions made on cumulative residual effects due to the uncertainty of future conditions, including climate change and related natural disturbances (e.g., insect outbreaks, tundra fires), caribou herd dynamics, and future developments. The effects of climate change are varied and difficult to know with accuracy or precision. From an ecological perspective, climate change can yield positive and negative outcomes for caribou (see Section 16.4.7.2). However, while climate-driven ecological shifts may alter baseline conditions over decades, they are unlikely to change the conclusions of the current assessment. Future uncertainties in the environment are compounded with the cyclic-yet-declining dynamics of mainland herds like the BCH (see Section 16.2.2.2), which are not well understood. Currently, the BCH has very limited exposure to human disturbances in its summer range (BCH-RAA1) and moderate exposure in its winter range (NT). However, caribou herds have increased in size in more developed regions of the Arctic (e.g., Porcupine Caribou Herd in Yukon and Central Arctic Herd in Alaska) while others have declined (e.g., Western Arctic Herd in Alaska). How much the climate and/ or human disturbances have contributed to these herd dynamics is unclear. Furthermore, the future level of human disturbance (i.e., RF and RFI physical activities) near the Project is also uncertain and will depend on applications by future proponents and the outcomes of their effects assessment. In other words, future project approvals are contingent on the state of the environment and caribou at that time. However, this caribou assessment considers a reasonable development scenario based on (see Volume 4, Section 9, Appendix 9A)."*

The Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B) provides an adaptive management framework which will allow the Project to adjust and implement measures in response to future uncertain conditions, including those driven by climate change.

NIRB 331. (IR-809)

Subject

Terrestrial Wildlife Impact Assessment – Transboundary Effects and Cumulative Caribou Effects

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement discusses transboundary effects and cumulative effects for caribou, including potential interactions with other physical activities and induced developments. However, the basis for determining the Project's contribution to cumulative and transboundary caribou effects is not clearly summarized, especially where induced developments are only evaluated if there is a project interaction.

Missing Information / Gap: 1. The Project's contribution to cumulative and transboundary caribou effects has not been clearly assessed. 2. Interactions with induced development, regional access, harvest pressure, road traffic, sensory disturbance, and habitat alteration have not been adequately considered. 3. Uncertainty related to future developments and caribou movement patterns has not been clearly addressed.

Information Request

Please clarify how the Project's contribution to cumulative and transboundary caribou effects was assessed, including interactions with induced developments, regional access, harvest pressure, road traffic, sensory disturbance, and habitat alteration. Please explain how uncertainty in future developments and caribou movement patterns was considered.

Proponent Response

WKR respectfully submits that the information requested in this IR is provided in Volume 6, Section 16.5.1. This section describes how residual effects from the Project (i.e., the Project's contribution to cumulative effects) were assumed to interact cumulatively with residual effects from other projects and activities. Section 16.6 describes how Project residual effects contribute to potential transboundary effects. As noted in Section 16.6.1 and 16.6.3 transboundary effects were evaluated using a hypothetical modelling framework (the Caribou Herd Vulnerability Model). See below for specific details regarding interactions with induced developments, regional access, harvest pressure, road traffic, sensory disturbance, and habitat alteration., and how uncertainty in future developments and caribou movement patterns was considered.

Project Contributions to Cumulative Effects

The Project's contribution to cumulative effects is summarized in Table 16.21 for the Bathurst Caribou Herd (BCH) and Table 16.22 for the Dolphin and Union Caribou Herd (DUH) (Volume 6, Section 16.5.6) in the Impact Statement (IS).

Project Contributions to Transboundary Effects

The Project's contribution to transboundary effects is summarized in Volume 6, Section 16.6.3.2 and Appendix 16B of the Impact Statement (IS).

Induced Developments

Interactions with reasonably foreseeable (RF) and reasonably foreseeable induced (RFI) developments are identified in Table 16.16 (Volume 6, Section 16.5.1) for mainland (BCH) and island (DUH) caribou.

Regional Access and Harvest Pressure

Discussion and assessment of the effects from regional access, particularly associated with harvest pressure (mortality risk), is provided in Sections 16.4.4.4 and 16.5.5.3. For example, as stated in the IS:

> "*Indirect mortality from harvesting is expected to occur in a controlled manner consistent with territorial legislation and co-management objectives. Harvesting will not contribute to excess mortality because it will occur within TAH limits. Access control is a key Project mitigation, management, and enhancement measure that could act to limit illegal harvesting and poaching. Users seeking access to the road for harvesting purposes will require prior approval (permit) from the Kitikmeot Inuit Association and an Inuit Wildlife Organization (HTA), and these permits are expected to align with the current tagging system and TAH.*" (Volume 6, Section 16.4.4.4, page 16-113)

Road Traffic

Discussions and assessments of the effects of road traffic on caribou are provided throughout the IS. The relevant effects pathways related to changes in movement are discussed in Section 16.4.3.2. For example:

> "*The presence of vehicles (traffic) and humans appears to create a perceptual filter that can alter caribou behaviour and movements. Traffic likely plays a role in risk-aversion responses, leading to reduced crossings (Prichard et al. 2022; Smith and Johnson 2023), especially at high traffic volumes (e.g., >60 vehicles/hour; Cronin et al. 1994). However, there is also limited evidence suggesting changes to caribou movements when traffic levels are low (<50 vehicles/day; Wilson et al. 2016) or very low (<5 vehicles/day; Severson et al. 2023)*." (Volume 6, Section 16.4.3.2, page 16-102)

The relevant effects pathways related to changes in mortality risk (direct) are discussed in Section 16.4.4.2. For example:

> "*Direct mortality events (e.g., vehicle collisions) occur infrequently and rarely in sufficient magnitude to be a population-limiting factor (Forman and Alexander 1998). Vehicles and mobile equipment using the Project may interact with caribou and, in rare instances, cause a collision-related mortality event […] Typically, these events are infrequent. For example, the first-ever caribou-vehicle collision mortality events (2) since mine opening in 1998 were recorded at the Ekati mine (NT) in the summer and fall of 2024 (ERM Consultants Canada Ltd. 2025b). From 2018 to 2023, only one vehicle- related caribou death was identified at the Meadowbank Complex, NU (Agnico Eagle Mines Ltd. 2024). No*

caribou mortalities have been reported from vehicle collisions at the Mary River mine (Baffin Island), even as caribou occurrence and abundance have increased in the region (EDI Environmental Dynamics Inc. 2022, 2023, 2024, 2025)." (Volume 6, Section 16.4.4.2, page 16-108)

Additionally, proposed mitigations address traffic explicitly in the IS:

"*A caribou trigger action response plan (TARP) to manage road Construction and Operations and Maintenance activities. As part of the TARP framework, MCCMs will inform adaptive road closures. If lead caribou (cows or cows with calves) or groups of caribou (≥25 animals) are observed near the road by Environmental Monitors, or if collar data provided by GN/GNWT suggest that caribou are on a trajectory to cross the road, then vehicle traffic will be suspended. Road closures will be lifted once road monitoring, supported by collar data, indicates that cows/calves or groups of caribou have moved out of the road area.*" (Volume 11, Appendix 37B, Section 7.1, Table 7.1, page 15)

"*Road closures, when needed, can reduce crossing delays during migration by up to 68% (Boulanger et al. 2024). Traffic management, such as convoying (under RFI conditions) may reduce the degree to which caribou avoid roads (Prichard et al. 2022).*" (Volume 6, Section 16.8.4, page 16-162)

Habitat Alteration and Sensory Disturbance

Discussion and assessment of the effects from habitat alteration and sensory disturbance are provided in Sections 16.4.2 and 16.5.3. For example, the IS states:

"*Indirect effects are caused by Project-related activities that produce sensory disturbances (e.g., noise and visual disturbances from blasting and vehicle traffic) or alter forage quality (e.g., dust deposition), thereby reducing habitat effectiveness (i.e., the habitat actually used by caribou); these effects occur to varying degrees throughout both phases of the Project. The magnitude and frequency of sensory disturbance will determine caribou responses, ranging from local behavioural changes (e.g., Prichard et al. 2022) to habitat avoidance (e.g., DeMars and Boutin 2018). Habitat avoidance is often described through ZOIs, within which caribou progressively decrease their occurrence at distances closer to the disturbance source.*" (Volume 6, Section 16.4.2.2, page 16-92)

"*This assessment builds upon seasonal RSFs developed for the BCH and DUH to describe their selection of biophysical attributes on the landscape (see Section 16.2.1.2) […] Baseline seasonal RSFs are modified to account for the direct (footprints) and indirect (ZOI) effects from past and present disturbances identified in the PIL for the Baseline Reference Point (2025) (see Section 16.2.2.6). ZOI buffers vary by the type of physical activity and disturbance. The assessment of change in habitat relies on defensible, ecologically relevant ZOI buffers grounded in recent studies (ERM Consultants Canada Ltd. 2025a); see the "ERM ZOI (km)" columns in Table 16.8 and Table 16.9 […] To determine Project-related change in habitat, seasonal RSFs are further modified to account for the Project's direct and indirect effects, and the differences between Project conditions and baseline conditions are calculated […] Indirect effects of the Project consider the net sensory disturbance from Project-related activities that cause caribou to avoid the Project beyond the PDA.*" (Volume 6, Section 16.4.2.1, page 16-89)

> "*The assessment of changes in habitat (see Section 16.4.2), which considers past/present and Project-related physical activities, is extended to include cumulative effects under RFI conditions.*" (Volume 6, Section 16.5.3.3, page 16-132)

Uncertainty in Future Developments and Caribou Movement

Uncertainty related to future conditions is addressed in Section 16.8.6:

> "*There is low-to-moderate confidence in the conclusions made on cumulative residual effects due to the uncertainty of future conditions, including climate change and related natural disturbances (e.g., insect outbreaks, tundra fires), caribou herd dynamics, and future developments […] Furthermore, the future level of human disturbance (i.e., RF and RFI physical activities) near the Project is also uncertain and will depend on applications by future proponents and the outcomes of their effects assessment. In other words, future project approvals are contingent on the state of the environment and caribou at that time.*" (Volume 6, Section 16.8.6, page 16-163)

Uncertainty related to caribou distribution and movement are addressed in Section 16.8.2 and 16.8.3.2, specifically regarding the GPS collar data used to infer distribution/ movement and the analyses conducted using those data:

> "*Assessments of Project-related and cumulative residual effects on habitat and movement relied on decades of high-quality GPS collar data from the representative mainland herd (BCH, 1996 to 2024; GNWT 2024a) and island herd (DUH, 1987 to 2024; GN 2025). These data are representative of their respective herds given the total number of collared individuals (BCH: >196 animals; DUH: >61 animals) and GPS locations (BCH: >67,845 locations; DUH: >15,197 locations).*" (Volume 6, Section 16.8.2, page 16-161)

> "*The combined utilization distributions of multiple individuals across many years formed the population-level maps to support the assessment of effects on migration (see Figure 16.5 and Figure 16.9). level maps to support the assessment of effects on migration (see Figure 16.5 and Figure 16.9). The calculation of exposure rates assumed occurrences within ZOIs resulted in changes to movement; predictions were higher in accuracy for individuals with frequent fix rates (e.g., 4-hour intervals) but exposure was likely overestimated for individuals with infrequent fix rates (i.e., 24-hour intervals).*" (Volume 6, Section 16.8.3.2, page 16-162).

NIRB 332. (IR-810)

Subject

Birds Baseline – Bird Populations, Distribution, Habitat Use, and Sensitive Periods

Issue / Concern

Reviewer Comments / Reasoning: The relevant bird baseline and effects information is dispersed across multiple sections, making it difficult to understand which species and seasonal habitats are most likely to interact with the Project. A consolidated table or explanation would provide a clearer basis for evaluating potential effects on breeding, migration, staging, moulting, foraging, and wintering activities. It would also help demonstrate whether sensitive periods and important habitat areas were appropriately considered in Project design, mitigation, monitoring, and residual effects conclusions

Missing Information / Gap: 1. Baseline information for key bird species and groups has not been clearly consolidated. 2. Distribution, seasonal habitat use, nesting and staging areas, migration periods, and sensitive periods have not been clearly identified. 3. Project areas where interactions with birds may occur have not been clearly described.

Information Request

Please provide a consolidated table or explanation identifying key bird species and bird groups, their distribution, seasonal habitat use, nesting/staging areas, migration periods, sensitive periods, and the Project areas where interactions may occur.

Proponent Response

The structure of the IS was designed to best address the NIRB guidelines and to follow standard environmental practices for projects previously reviewed by the NIRB in Nunavut. The Bird Baseline Report (Volume 6, Appendix 17A) includes information on existing conditions. An overview of the baseline conditions and assessment of potential effects on birds are provided in Volume 6, Section 17, and a mitigation and monitoring framework is provided in the WMMP (Volume 11, Appendix 37B). This three-way split of existing conditions, potential effects, and future monitoring is a standard environmental assessment approach familiar to the NIRB.

Context from the Impact Statement

Bird baseline information that supports the effects assessment is presented in the Birds Baseline Report (Volume 6, Appendix 17A). The information is organized to characterize the bird community, species of conservation concern, important habitat features, distribution, and seasonal habitat use within the marine and terrestrial study areas. The baseline characterization draws on Inuit, Indigenous and Community Knowledge, regional literature and species information, Project-specific field studies, and habitat suitability assessments.

Project activities and their potential to interact with birds is presented in Volume 6, Section 17.3, Table 17.9 on Pages 17-32 to 17-34. The Change in Habitat assessment (Volume 6, Section 17.4.1) considers direct habitat loss within the Project footprint and indirect changes in habitat effectiveness associated with sensory disturbance. The Change in Mortality Risk assessment (Volume 6, Section 17.4.2) considers pathways including incidental take and interactions with vehicles and equipment, aircraft, marine vessels, structures, and artificial lighting. The WMMP provides the mitigation and monitoring framework (Volume 11, Appendix 37B). Volume 6, Section 17, page 17-1 establishes the guild-based framework used to facilitate the effects assessment:

> *"Given the variety of birds in the Project area and differences in species' ecology and habitat use, birds were grouped into guilds to facilitate assessment of potential effects. The bird groupings included passerines, waterbirds (composed of seabirds, shorebirds, and waterfowl), and cliff-nesting raptors."*

Volume 6, Section 17 also integrates western science with Inuit, Indigenous and Community Knowledge to characterize baseline conditions and evaluate potential effects on birds and bird habitat. Appendix 17A presents the supporting information in greater detail, as summarized below.

Important Bird Harvesting and Habitat Areas from Inuit and Community Knowledge

The Bird Baseline Report provides the regional overview of birds and bird habitat and consolidates information on species occurrence, species at risk, protected areas and key habitat sites, and important habitat features (Volume 6, Appendix 17A, Section 3, pages 26 to 43). Information from Inuit and Community Knowledge identifies 19 bird harvesting and habitat locations, of which four locations occur within the Project's terrestrial or marine RSA: Grays Bay, Hepburn Island, Hood River, and the mouth of the Kennarctic River (Volume 6, Appendix 17A, Table 3.1, page 31).

This information is supplemented by broader Inuit Knowledge regarding bird distribution within the study areas. For example, Inuit Knowledge identifies waterfowl along the coastline and in areas between Napaktolik Lake and Contwoyto Lake traversed by the southern portion of the road. The same section identifies short-eared owl nesting north of the Hood River, and raptor nesting on cliffs along the northwest shoreline of Contwoyto Lake near the southern end of the road (see Volume Appendix 17A, Section 3.1, pages 26 to 32, and Figure 3.1).

Species at Risk and Other Species of Conservation Concern

A description of SARA-listed bird species at risk that are confirmed or have the potential to occur within the terrestrial and marine study areas is presented in Appendix 17A, Section 3.1.1, pages 32 to 43. This includes detailed information on their ecology and occurrence.

The WMMP (Appendix 37B) also identifies SARA-listed bird species and describes their nest types, typical nesting locations, and applicable protection requirements (see Volume 11, Appendix 37B, Section 7.3 and Table 7.3, pages 19 to 20).

Protected Areas, Key Habitat Sites, and Important Habitat Features

The Bird Baseline Report specifically considers protected areas and recognized key habitat sites (see Volume 6, Appendix 17A, Section 3.2, page 43) which states:

> "*No protected areas or key habitat sites for birds are located within the terrestrial RSA*."

The Bird Baseline Report also identifies important habitat features for terrestrial and marine birds, including polynyas, coastal areas and wetlands, and cliffs and precipices (see Volume 6, Appendix 17A, Section 3.3, page 43).

Seabirds, Waterfowl, and Other Waterbirds

Detailed information on seabirds, waterfowl, and other waterbirds can be found in Volume 6, Appendix 17A, Section 4, pages 44 to 66. The section addresses general ecology, populations, threats, mortality and harvest, occurrence within the marine RSA and LSA, and occurrence within the terrestrial RSA. Marine occurrence is further organized into spring migration (Section 4.2.1), breeding (Section 4.2.2), summer/moulting (Section 4.2.3), and fall staging (Section 4.2.4), providing a seasonal characterization of waterbird occurrence within the study area. Twenty-seven species of seabirds, waterfowl, and other waterbirds were identified in the Grays Bay area, including long-tailed duck, white-winged scoter, greater scaup, common eider, common and red-breasted mergansers, glaucous gull, and Thayer's gull. Appendix 17A, Section 4.4, page 66 concludes:

> "*the marine LSA does not support a large nesting population of seabirds, waterfowl, or waterbirds; however, the area is used by moulting and staging seabirds and waterfowl, mostly concentrated along shoreline areas."*

This distinction between nesting, moulting, staging, and migration use provides the seasonal and spatial context subsequently applied in the effects assessment.

Raptors

Detailed information on raptors is in Volume 6, Appendix 17A, Section 5, pages 67 to 79. This section provides detailed baseline information on raptor ecology, populations, threats and mortality, occurrence within the terrestrial RSA, reproduction, and habitat use and diet. Nine raptor species were identified within the terrestrial RSA, including golden eagle, bald eagle, gyrfalcon, peregrine falcon, rough-legged hawk, common raven, short-eared owl, snowy owl, and northern harrier. The baseline distinguishes cliff-nesting and ground-nesting species by nesting ecology and identifies suitable nesting structures and prey availability as key factors influencing raptor distribution. Habitat suitability modelling was also completed for peregrine falcon, which incorporated landcover and nesting information, with the highest-quality habitat associated with areas within 2 km of nest sites.

Tundra Breeding Birds

Volume 6, Appendix 17A, Section 6, pages 80 to 101 summarize tundra breeding birds. Tundra breeding birds include passerines, shorebirds, and upland game birds such as ptarmigan. This section summarizes general ecology, populations, threats and mortality, and occurrence within the terrestrial RSA, and provides specific subsections for shorebirds, upland game birds, and passerines. Most tundra breeding birds are seasonal migrants, except for some ptarmigan species. The baseline identifies early to mid-June through August as the general breeding period for most species in this group.

Please also see the preamble to NIRB's IRs for further context regarding the request for a table to further consolidate information presented in the IS.

NIRB 333. (IR-811)

Subject

Birds Impact Assessment – Habitat Loss, Habitat Alteration, and Sensory Disturbance

Issue / Concern

Reviewer Comments / Reasoning: Birds may be exposed to multiple Project-related stressors simultaneously, and these combined effects may reduce habitat quality or effectiveness, alter behaviour and movement, increase displacement or collision risk, affect food availability, or reduce nesting and reproductive success. A clear explanation of the integrated assessment approach is needed to determine whether the full spatial, temporal, and ecological extent of potential effects on birds and bird habitat has been adequately characterized. This information would also help demonstrate whether sensitive species, important habitats, and vulnerable seasonal periods were appropriately considered in Project design, avoidance measures, timing restrictions, mitigation, monitoring, and residual effects conclusions.

Missing Information / Gap: 1. Combined effects from habitat loss, habitat alteration, vegetation changes, contaminants, water quality, noise, vibration, traffic, and human activity on birds and bird habitat have not been clearly assessed. 2. Effects during nesting, staging, migration, and other sensitive periods have not been adequately considered.

Information Request

Please explain how habitat loss, habitat alteration, vegetation effects, contaminants, water quality, noise, vibration, traffic, and human activity were considered together in the assessment of effects on birds and bird habitat, including during nesting, staging, migration, and other sensitive matters.

Proponent Response

The IS considers the potential stressors on birds and bird habitat identified in the Information Request through an integrated, pathway-based assessment of Change in Habitat. Vegetation clearing and other ground disturbance activities were considered in direct habitat effects. Indirect habitat effects included consideration of noise, dust, traffic, equipment operation, blasting, and Project-related human activity that could influence bird behaviour, habitat use, and foraging. Indirect habitat effects were reflected in guild-specific zones of influence (ZOIs). The ZOIs were used to downgrade habitat by one habitat suitability ranking. Moderate habitat downgraded to Low was considered indirect habitat loss, while High habitat downgraded to Moderate was considered indirect habitat alteration but remained suitable for bird use.

Context from the Impact Statement

Volume 6, Section 17, page 17-1 establishes the integrated nature of the assessment, linking the Birds VC to Vegetation, Air Quality, Noise and Vibration, Terrain, Soils and Permafrost, and Water Resources. The IS describes how each valued component relates to the birds and bird habitat assessment.

Potential changes in these linked valued components informed the assessment of effects on birds and bird habitat, including changes in habitat quality and use.

Habitat Loss, Habitat Alteration, Vegetation, Noise, Traffic and Human Activity

The direct and indirect pathways through which these stressors affect bird habitat are described together in Volume 6, Section 17.4.1.2, page 17-36. The IS distinguishes direct habitat loss caused by site preparation, ground clearing, and vegetation removal from indirect habitat loss or alteration caused by sensory disturbance.

Section 17.4.1.2 further describes how noise, human activity, and dust may influence bird occurrence and habitat use. These indirect effects are incorporated through the guild-specific ZOIs (see Volume 6, Section 17.4.1.1 and Table 17.10, page 17-35). Within each guild-specific ZOI, habitat suitability was downgraded by one ranking to account for the predicted influence of Project-related disturbance on bird behaviour and habitat use. Moderate habitat downgraded to Low was classified as indirect habitat loss because it changed from suitable to unsuitable habitat, whereas High habitat downgraded to Moderate was classified as indirect habitat alteration because it remained suitable for bird use. This approach incorporates both direct habitat removal within the PDA and predicted reductions in habitat suitability within the applicable ZOI into the assessment of Project-related changes in bird habitat.

The residual effects from the integrated assessment are presented in Volume 6, Section 17.4.1.4, pages 17-37 to 17-40 for each bird guild.

Water Quality and Contaminant-Related Pathways

Water quality and quantity are recognized as important to the health and well-being of birds, particularly migratory birds that use ponds and lakes for foraging, nesting, and staging during migration (Volume 6, Section 17, Page 17-1). The Water Resources effects assessment (Volume 7, Section 19) evaluates potential changes to surface water and sediment quality associated with suspended sediment and contaminants, including runoff from disturbed areas, dust deposition, altered drainage, metal leaching and acid rock drainage (ML/ARD), and nitrogen compounds associated with blasting (see Volume 7, Section 19.3.3, pages 19-63 to 19-65). The water quality assessment also incorporates findings from the Air Quality VC (Volume 5, Section 11) regarding dust deposition and considers drainage patterns and potential pathways for contaminants to reach receiving waterbodies. For birds that use freshwater habitats, these pathways are relevant because Project-related sediment or contaminants entering receiving waterbodies could affect the quality of aquatic habitat used for foraging, nesting, and staging and, where contaminants may accumulate in aquatic organisms, could potentially provide an indirect exposure pathway through aquatic prey.

With implementation of the mitigation measures residual effects from Project-related sediment or contaminants on water quality are predicted to be low in magnitude (i.e., residual effects are within the range of natural variability and below guideline thresholds for aquatic life and human health [Volume 7, Section 19.3.3.4, pages 19-70 to 19-72]). Residual effects are also expected to be geographically limited to the LAA, irregular in frequency, and reversible. Given that Project-related changes in water and sediment quality are predicted to remain generally within natural variability and below applicable

ecological guideline thresholds, the associated pathway for contaminant exposure through freshwater habitat and aquatic prey is not expected to measurably change bird mortality risk.

Traffic, Equipment, Lighting and Mortality Risk

The assessment considers Project activities that may interact with birds and change the mortality risk for birds. Volume 6, Section 17.4.2.2, pages 17-44 to 17-46 identifies the principal mortality pathways as incidental take associated with vegetation clearing and ground disturbance; collisions with vehicles, construction equipment, marine vessels, aircraft, and structures; and risks associated with artificial lighting.

Nesting, Staging, Migration, Moulting and Other Sensitive Periods

The IS identifies seasonal sensitivity in Volume 6, Section 17.4.1.4, page 17-40, which states:

> *"The Project's residual effects on habitat loss and alteration for waterbirds will be evident during their breeding and migration periods."*

The Change in Mortality Risk assessment in Volume 6, Section 17.4.2.4, pages 17-47 to 17-49, similarly considers interactions during breeding and migration, including incidental take associated with nesting birds and collision risk associated with vehicles and equipment, aircraft, marine vessels, and lighting. For raptors, Section 17.4.2.4 specifically identifies residual mortality risk during the breeding and migration periods, while Section 17.4.3, page 17-49 identifies the breeding season as the most sensitive period for the overall residual-effects assessment. These seasonal considerations are reflected in the mitigation measures in Section 17.4.2.3, pages 17-46 to 17-47, including timing restrictions for vegetation clearing and ground disturbance, wildlife sweeps, no-disturbance buffers, and species-specific protection measures. Therefore, the baseline characterization, effects assessment, residual-effects characterization, and development of mitigation measures consider nesting, breeding, brood rearing, moulting, staging, and migration.

The Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B) further incorporates these seasonal considerations into Project implementation. Tables 6.2 and 7.2 in the WMMP identify sensitive time periods for birds. The Wildlife Mitigation and Monitoring Plan also identifies the following:

- Human activity management in relation to wildlife that identifies sensitive bird concerns: specifically site notifications to remind Project personnel of the sensitive wildlife periods (Section 6.2), site alerts when an active bird nest is located on Project buildings or other infrastructure (Section 6.3); and temporary suspension of human activity due to bird behaviour (Section 6.4);
- Minimum setback distances for any wildlife features identified (Section 7.2); and,
- Monitoring metrics for wildlife, including birds (Section 8.1).

NIRB 334. (IR-812)

Subject

Birds Impact Assessment – Migration Routes, Flight Paths, and Collision Risk

Issue / Concern

Reviewer Comments / Reasoning: The Impact Statement discusses potential alteration of migration routes, flight impact zones, aircraft collision risk, and collision risk with structures, overhead wires, or guy wires. However, the technical basis for how bird movement routes, flight paths, and collision risks were assessed is not clearly summarized.

Missing Information / Gap: 1. Bird collision risks associated with migration routes, flight paths, aircraft activity, structures, overhead wires, guy wires, and other Project features have not been clearly assessed. 2. Flight impact zones and locations of higher collision risk have not been clearly identified. 3. Mitigation and monitoring measures to reduce bird collision risk have not been adequately described.

Information Request

Please explain how bird migration routes, flight paths, flight impact zones, aircraft activity, structures, overhead wires, guy wires, and other collision risk features were assessed. Please identify the mitigation and monitoring measures that will be used to reduce collision risk for birds.

Proponent Response

Bird collision risk was assessed under Change in Mortality Risk using a qualitative, pathway-based approach that considers baseline information on bird occurrence, distribution, seasonal movements, and habitat use in relation to the location, timing, and characteristics of Project activities and infrastructure. The assessment considers collision pathways associated with aircraft, vehicles and equipment, marine vessels, Project structures, and artificial lighting, including circumstances that may increase exposure or collision potential, such as aircraft take-off and landing, road use, marine vessel activity, migration periods, and low-visibility conditions. Collision risk was evaluated in relation to the Project components, structures, and operating conditions where bird interactions may occur, rather than through the delineation of discrete bird flight corridors or mapped flight impact zones. The Project Description does not identify overhead wires or guy wires as part of the Project infrastructure (Volume 2). The identified pathways are addressed through mitigation, management and enhancement measures (Volume 6, Section 17.4.2.3, Pages 17-46 and 17-47). The Wildlife Mitigation and Monitoring Plan (Volume 11, Appendix 37B) outlines follow-up monitoring to document bird occurrence and mortality events, identify areas or circumstances of increased mortality risk, and support adaptive management where warranted. The information below consolidates the technical basis for the collision-risk assessment and identifies the corresponding mitigation and monitoring measures.

Context from the Impact Statement

Volume 6, Section 17.1.3, page 17-8 establishes Change in Mortality Risk as one of the principal effects assessed for birds. Table 17.3 identifies relevant pathways as:

> "*Collisions with vehicles, equipment, aircraft, and marine vessels during Construction and Operations and Maintenance activities."*

and:

> "*Collisions with infrastructure due to Project lighting during Construction and Operations and Maintenance activities."*

The measurable parameter is a qualitative prediction of changes in mortality risk based on the potential for incidental take and collisions with vehicles, equipment, aircraft, marine vessels, and infrastructure (Volume 6, Section 17.1.3, Table 17.3, Page 17-8). The technical basis for this approach is further described in Volume 6, Section 17.4.2.1, page 17-44, which states:

> "*A qualitative assessment involved literature reviews and the evaluation of project-related activities that can influence mortality risk..."*

Therefore, the qualitative assessment evaluates the potential for bird mortality by considering the relevant Project activities and collision pathways in the context of bird occurrence, seasonal presence, habitat use, and behaviour. This provides the basis for identifying the Project components and operating conditions where interactions may occur and for evaluating the corresponding mortality risk.

Migration Routes and Bird Flight Paths

Migration and seasonal movement were incorporated through baseline information on bird occurrence, distribution, migration timing, and seasonal habitat use. Inuit Knowledge incorporated into the bird baseline describes regional movement patterns, including ducks and loons following open water north during spring migration and remaining over marine waters in fall until ice formation, when they follow available open water during southward migration. The baseline also identifies the timing of migratory bird arrival and departure and areas used by waterbirds during migration, moulting, and staging.

Volume 6, Section 17.1.3, page 17-9 also considers the potential for disruption or alteration of migration routes. The IS recognizes the Project is located near the end of the migration paths of some migratory birds and addresses potential Project interactions in the context of their seasonal presence and subsequent use of breeding habitat. Migration timing is then carried forward into the Change in Mortality Risk assessment as a factor influencing when birds may be more susceptible to Project-related collision pathways. For passerines, Volume 6, Section 17.4.2.4, page 17-47 states:

> "*The risk of aircraft-bird collisions is elevated at dawn and dusk and during specific seasons, such as spring and fall migration periods..."*

The assessment evaluates migration-related collision risk using information on seasonal bird presence, timing, habitat use, and the Project activities and locations where interactions may occur. Discrete migration corridors and individual bird flight paths were not mapped for the Birds VC; instead, the assessment identifies periods and Project components associated with increased potential for interaction and carries these forward in the Change in Mortality Risk assessment.

Aircraft Activity and Areas of Higher Collision Potential

Aircraft collision risk is assessed in Volume 6, Section 17.4.2.2, pages 17-45 to 17-46. The temporary airstrip and subsequent aerodrome operations represent the principal Project components associated with bird-aircraft interactions. The assessment identifies flight altitude, particularly during take-off and landing, as an important factor influencing collision risk. Volume 6, Section 17.4.2.2, page 17-45 states:

> "*Seventy-five percent of all bird strikes occur when aircraft are at or below 500 feet above ground level... which usually occurs during aircraft take-offs and landings."*

Aircraft take-offs and landings are the primary concern with increased aircraft-bird collision potential. Rather than defining a discrete mapped "flight impact zone," the assessment characterizes higher collision potential spatially through the Project components where low-altitude aircraft operations occur and temporally through the periods and conditions when birds are more susceptible to interaction.

The residual effects section acknowledges this risk by bird guild (Volume 6, Section 17.4.2.4) as in the following:

- *Once the aerodrome is built and operational, passerines will face increased mortality risk from aircraft taking off and landing. The risk of aircraft-bird collisions is elevated at dawn and dusk and during specific seasons, such as spring and fall migration periods (Transport Canada 2007).*
- *Once the aerodrome is built and operational, aircraft using it may collide with waterbirds (most notably during take-offs and landings), resulting in mortality.*
- *Vehicle and aircraft collisions with raptors are the most likely residual effect from the Project. Low-flying raptors are usually more susceptible to collisions than raptors that typically fly at higher altitudes (Rytwinski and Fahrig 2015).*

For each guild, the overall residual effect of collisions resulting in bird mortality is predicted to be low.

Structures, Vehicles, Marine Vessels and Lighting

The Change in Mortality Risk assessment identifies collision risk associated with marine vessels, vehicles, construction equipment, aircraft, and structures and describes the mechanisms by which birds may interact with these Project components (Volume 6, Section 17.4.2.2, page 17-45). For marine vessels, potential interactions with barges are identified for seabirds and diving waterfowl using the intertidal environment near the Port. Artificial lighting is also identified as a potential collision-risk mechanism because it may attract or disorient birds in flight, particularly under low-visibility conditions. Road-related collision risk is evaluated based on bird behaviour and the potential for birds to interact with vehicles while using or crossing roadways. Volume 6, Section 17.4.2.2, page 17-45 states:

> "*Collisions occur when birds fly across a roadway that intersects a vehicle, when birds are attracted to roads as locations of concentrated resources, or when birds are attracted to puddles as water sources...*"

The assessment also identifies that raptors may be attracted to roadkill, providing an additional mechanism for exposure to vehicle collisions. Bird collision risk associated with Project infrastructure is identified as a potential source of bird mortality (see Volume 6, Section 17.4.2.2, page 17-45) and mitigations to address these concerns are provided in Section 17.4.2.3 (page 17-46). Therefore, the assessment considers the potential for Project infrastructure and activities to interact with birds resulting in a potential collision.

Mitigation Measures

Mitigation measures addressing the collision pathways identified in the assessment are provided in Volume 6, Section 17.4.2.3, pages 17-46 to 17-47, including measures applicable to collision/strikes with project vehicles, aircraft, vessels, equipment and/or infrastructure. The Wildlife Mitigation and Monitoring Plan (Appendix 37B, Section 6, page 11) provides operational measures for aircraft when wildlife occurs near the Aerodrome or other Project infrastructure:

> "*Helicopters and fixed-winged aircraft will be notified when wildlife occurs in proximity to the aerodrome or other Project infrastructure, and that appropriate horizontal and/or elevation buffers must be maintained.*"

The Wildlife Mitigation and Monitoring Plan also identifies the monitoring framework to verify the mortality-risk predictions, evaluate mitigation effectiveness, and identify unanticipated conditions or effects that may require additional management measures. Monitoring metrics are presented in Table 8.1 (Appendix 37B, Section 8, page 21) that include species occurrence and distribution, nesting activity within the Project Development Area and adjacent areas, and bird mortality events and follow-up research.

This information clarifies the technical basis for assessing bird collision risk, including the Project components and operating conditions associated with increased collision potential, and identifies the corresponding mitigation, monitoring, and adaptive management measures.

NIRB 335. (IR-813)

Subject

Birds Impact Assessment – Marine Bird Disturbance from Shipping and IceBreaking

Issue / Concern

Reviewer Comments / Reasoning: Marine birds may be particularly sensitive to vessel traffic and construction during migration, staging, moulting, feeding, and breeding periods, when large numbers of birds may be concentrated in specific coastal or offshore areas. Shipping and icebreaking may cause repeated disturbance, displacement from important habitat, changes in movement patterns, and increased collision or mortality risk, while marine construction may alter habitat quality and prey availability. A clear, integrated explanation is needed to determine whether the spatial, seasonal, and cumulative nature of these interactions has been adequately assessed and whether mitigation, monitoring, and adaptive management measures are sufficient to protect important marine bird habitats and sensitive life-history periods.

Missing Information / Gap: 1. Effects of marine shipping, ice-breaking, vessel traffic, open-water activities, and marine construction on marine birds have not been clearly assessed. 2. Potential disturbance, displacement, mortality, habitat alteration, and effects on migration and staging areas have not been adequately described. 3. Mitigation and monitoring measures for marine bird interactions with shipping have not been clearly identified.

Information Request

Please explain how marine shipping, ice-breaking, vessel traffic, open-water season activities, and marine construction may affect marine birds, including disturbance, displacement, mortality risk, habitat alteration, migration timing, and staging areas. Please describe mitigation and monitoring measures for marine bird interactions with shipping.

Proponent Response

The IS evaluates how Port construction, operations, and vessel/barge traffic at Grays Bay affects marine birds through the Change in Habitat and Change in Mortality Risk pathways. Information on seasonal occurrence, distribution and habitat data summarized in the Bird Baseline Report (Volume 6, Appendix 17A) is used in the effects assessment analysis on direct habitat disturbances, indirect habitat disturbances (i.e., from dust, noise, and human activity), and the potential for either incidental take and/or collision risks. The assessment focuses specifically on open-water marine activities within and adjacent to the Port Project Development Area, including supply barge transport, but does not consider icebreaking as icebreaking will not be introduced by the Project. Mitigations and monitoring strategies are present in the Wildlife Monitoring and Mitigation Plan to prevent or reduce Project-related effects on marine birds (Volume 11, Appendix 37B, Sections 7 and 8).

Context from the Impact Statement

The information provided below outlines how Project-related activities with marine activities may interact with birds, and how it was considered in the IS.

Marine Bird Baseline and Seasonal Use

The Baseline Conditions section of the IS (Volume 6, Section 17.2.1.3, pages 17-16) provides a high-level outline of the baseline studies completed for seabirds, which states:

> *"Seabird Surveys: Seabird surveys were completed in 2004, 2008, 2012, and 2025. These included aerial and ground-based surveys to document species occurrence, abundance, distribution, and habitat use during breeding, moulting, and fall staging periods."*

Survey coverage included the Grays Bay coastline and areas offshore of the proposed Port, with the 2012 program extending across most of the marine Regional Study Area, including the Coronation Gulf and Dease Strait. These surveys identified 27 sea duck, waterfowl, and other waterbird species within the marine Local Study Area and described their seasonal occurrence during spring migration, summer and moulting, and fall staging (Volume 6, Appendix 17A, Section 4.2, pages 46-58). The IS also notes that birds are "*typically concentrated along shoreline areas during summer*" and that large concentrations of seabirds were not observed within the marine Local Study Area or Regional Study Area during fall staging (Volume 6, Section 17.2.2.6, page 17-29). These results provide spatial and seasonal context for evaluating potential interactions between marine birds and Project activities.

The Baseline Conditions section of the IS also establishes the biological basis for considering seasonal sensitivity in the effects assessment (Volume 6, Appendix 17A, Section 4.1.2, page 45) which states:

> "*Migratory seabirds and waterfowl are sensitive to disturbance during all the stages of their life cycle: nesting, brood-rearing, moulting, and migration..."*

This section also identifies coastal development and increased shipping traffic among potential threats to marine birds and recognizes the importance of migration stopover sites, open-water leads, and areas where marine birds aggregate for feeding or resting. These baseline studies survey results combined with the supporting ecological information characterize the spatial and seasonal occurrence of marine birds in the Project area that was used to evaluate potential Project interactions during migration, breeding, moulting, staging, and other periods of concentrated marine bird use.

Marine Vessel Activity and Icebreaking

The effects assessment for birds states the following regarding marine vessels in the Project Effects Pathways for Change in Mortality Risk (Volume 6, Section 17.4.2.2, page 17-45) in relation to increased bird mortality risk:

- *"Marine vessels will primarily be barges and tugs to shuttle construction equipment to the port site, two cargo ships per year to shuttle construction.*
- *Barges transporting equipment and supplies from the marine vessel to the mainland of the port site may collide with waterbirds."*

The assessment identifies seabirds and waterfowl, particularly diving ducks foraging for fish and invertebrates in the intertidal zone, as potentially susceptible to this interaction. The marine bird assessment evaluates the spatial and seasonal overlap between marine birds and the Project vessel, barge, marine construction, and port activities identified in Section 17, including the associated habitat-disturbance and mortality-risk pathways.

The Project does not propose any ice-breaking; see WKR's response to comments regarding recommendations from the Inuit Advisory Group regarding icebreaking (Volume 6, Section 16.2.2.1, Table 16.7, page 16-33).

Marine Construction, Disturbance and Displacement

Potential effects of marine construction and vessel activity on marine bird habitat are assessed through Change in Habitat. Volume 6, Section 17.4.1.2, page 17-36 distinguishes direct habitat loss from indirect habitat loss or alteration associated with sensory disturbance. The IS states:

> "*Indirect habitat loss or habitat alteration will occur through human-made sensory disturbances, such as noise (from equipment and human activity) and dust...*"

The assessment also identifies that these disturbances may influence bird occurrence and habitat use and disrupt behaviour, communication, and reproductive success. For marine birds specifically, Volume 6, Section 17.4.1.2, page 17-36 states:

> "*Noise from the construction of port facilities and ship engines can affect the foraging behaviour of seabirds and sea ducks (Goodship and Furness 2022)"*

A quantitative assessment was completed on Change in Habitat using a 250 m Zone of Influence (ZOI) for waterbirds (Volume 6, Section 17.4.1.1 and Table 17.10, page 17-35). The ZOI reflects documented responses of waterfowl to human presence and noise within 100–250 m and shorebird flight-initiation distances ranging from 61–186 m. Habitat within the ZOI was downgraded by one suitability rating to account for reduced habitat effectiveness associated with Project-related sensory disturbance. Moderate habitat downgraded to Low was classified as indirect habitat loss, while High habitat downgraded to Moderate was classified as habitat alteration and remained suitable for use. This approach incorporates the potential for localized avoidance, displacement, and reduced habitat use associated with marine

construction and other Project-related disturbance directly into the quantitative habitat-effects assessment.

The resulting residual effects are quantified in Volume 6, Section 17.4.1.4, pages 17-40 to 17-42 and Table 17.12, page 17-40. Development of the Project Development Area is predicted to result in direct habitat loss of approximately 0.65% of suitable waterbird habitat within the Regional Assessment Area (rounded to 0.7% in Table 17.12), while indirect habitat loss within the waterbird ZOI represents approximately 1.4%. The overall residual habitat loss is approximately 2.1% and is characterized as a low-magnitude residual effect. A further 0.4% of the Regional Assessment Area is predicted to undergo indirect habitat alteration, from High to Moderate suitability, while remaining suitable for waterbird use.

Migration, Staging, Moulting and Feeding

Seasonal vulnerability is incorporated through both the baseline characterization and the effects assessment. Volume 6, Appendix 17A, Section 2.4.4, pages 19 to 20 describe marine bird surveys undertaken during spring migration, breeding, moulting, and fall staging, providing information on seasonal occurrence, distribution, abundance, and habitat use against which potential Project interactions were evaluated. Inuit Knowledge provides additional information on seasonal marine movement. Volume 6, Section 17.2.2.1, page 17-23 describes ducks and loons following open water north during spring migration and remaining over marine waters in fall until ice formation before moving south along available open water.

Potential effects on feeding habitat and behaviour are also considered. Volume 6, Section 17.4.1.2, page 17-36 identifies the potential for noise from port construction and ship engines to affect the foraging behaviour of seabirds and sea ducks. Section 17.4.2.2, page 17-45 further identifies seabirds and waterfowl, particularly diving ducks foraging for fish and invertebrates in the intertidal zone, as potentially susceptible to interactions with barges. This information establishes the seasonal and ecological context for evaluating Project interactions with marine birds, including periods of migration, breeding, moulting, staging, and feeding. The residual-effects assessment considers these interactions in relation to the timing and distribution of marine bird use and Project activities at and adjacent to the Port Project Development Area.

Mitigation and Monitoring for Marine Bird Interactions

Mitigations are presented to address potential effects on marine birds through Change in Habitat and Change in Mortality Risk. To summarize, these include:

- Habitat and Sensory concerns: limit Project footprint; avoiding site preparation/ vegetation/clearing/ground disturbance as much as possible during the general nesting periods; wildlife sweeps ahead of construction activities, establishing buffers around nest sites; dust suppression; and using noise-abatement strategies (e.g., mufflers) on equipment.

- Lighting and potential collision risk: outdoor lighting will be shielded/pointed downwards; vessel deck lights dimmed or turned off (except for navigation and safety) to prevent disorienting flying birds.
- Nest protections: species-specific buffers around active nest sites; restricting human activity until the young have fledged.

The Wildlife Monitoring and Mitigation Plan presents a monitoring framework for birds, which includes documenting species occurrence through active monitoring and encouraging site personnel to document observations in wildlife logbooks, identifying nesting activity within or near the Project and monitoring, as well as documenting and investigating any bird mortality events. The Wildlife Monitoring and Mitigation Plan monitoring framework supports verification of predicted bird effects associated with Project activities at the Port Project Development Area and provides for follow-up and adaptive management where monitoring identifies effects or mortality risks that differ from those predicted in the IS.

NIRB 336. (IR-814)

Subject

Birds Impact Assessment – Ground and Air Traffic Disturbance Near Sensitive Bird Habitat

Issue / Concern

Reviewer Comments / Reasoning: Ground vehicles and aircraft may cause repeated disturbance, displacement, nest abandonment, reduced feeding or resting opportunities, altered migration or staging behaviour, and increased collision or mortality risk. These effects may be more pronounced where traffic occurs frequently, at low altitude, or near areas where birds are concentrated during sensitive life-history periods. A clear description of the proposed restrictions, buffers, monitoring, and adaptive management approach is needed to determine whether disturbance will be effectively avoided or reduced and whether mitigation can be adjusted if monitoring identifies unexpected bird responses or recurring interactions.

Missing Information / Gap: 1. Management of ground and air traffic disturbance to birds has not been clearly described. 2. Effects near low-level flight corridors, nesting areas, and staging areas have not been adequately addressed. 3. Timing restrictions, setback distances, monitoring, and adaptive management measures for sensitive periods have not been clearly identified.

Information Request

Please explain how ground traffic and air traffic disturbance to birds will be managed, particularly near low-level flight corridors, nesting areas, staging areas, and during moulting, nesting, migration, and other sensitive periods. Please identify timing restrictions, setback distances, monitoring, and adaptive management measures where applicable.

Proponent Response

Ground and air traffic effects on birds were assessed in Volume 6, Section 17 through the Change in Habitat and Change in Mortality Risk pathways, considering bird occurrence, habitat use, seasonal sensitivity, and Project activities. Disturbance and displacement associated with vehicles, equipment, aircraft, and human activity are incorporated through guild-specific Zones of Influence (ZOIs), while mortality risk considers interactions with vehicles, equipment, and aircraft, including during aircraft take-off and landing and sensitive migration periods. These effects are managed through aircraft altitude requirements, traffic controls, sensitive-period notifications, pre-construction wildlife sweeps, and species- and group-specific setbacks around active nests. The Wildlife Monitoring and Mitigation Plan (WMMP; Volume 6, Appendix 37B) outlines the timing restrictions, setback distances, monitoring strategies, management of human activity around wildlife, and adaptive management. The WMMP also outlines monitoring to verify effects predictions and mitigation effectiveness, together with adaptive management to review and adjust mitigation where observed bird responses or recurring interactions differ from those predicted in the IS.

Context from the Impact Statement

Volume 6, Section 17.4.1.2, page 17-36 identifies vehicle and equipment operation, human activity, and associated noise as sources of indirect habitat effects. The IS states:

> *"Noise and human activity from vehicle and equipment operation, as well as blasting activities, can influence bird occurrence and habitat use."*

The IS further identifies these disturbances may affect bird behaviour, communication, and reproductive success and categorizes the northern portion of the Regional Assessment Area near Grays Bay Port as an area where effects are more likely because of higher traffic volumes, air traffic, and overall levels of sensory disturbance. These indirect effects are incorporated quantitatively into the habitat assessment in Volume 6, Section 17.4.1.1 and Table 17.10, page 17-35. Habitat adjacent to the Project Development Area is downgraded within guild-specific ZOIs to account for Project-related changes in bird behaviour and habitat use. The ZOIs are 300 m for passerines, 250 m for waterbirds, and 1,500 m for cliff-nesting raptors. Within each ZOI, habitat is downgraded by one suitability rating, such that Moderate habitat reduced to Low is treated as indirect habitat loss, while High habitat reduced to Moderate is treated as habitat alteration and remains suitable for use. The ZOI distances are supported by information on bird responses to human activity and transportation-related disturbance presented in Table 17.10. The supporting information includes reduced passerine density within 250 m of roads, waterfowl flight responses to human presence and noise within 100 to 250 m, and disturbance-distance information used to establish the 1,500 m ZOI for cliff-nesting raptors. The habitat assessment therefore accounts for both direct disturbance within the Project footprint and potential reductions in habitat effectiveness in surrounding areas associated with traffic, aircraft activity, noise, and human presence.

Ground Traffic

Ground-traffic effects are addressed through both disturbance and mortality pathways. Volume 6, Section 17.4.1.2, page 17-36 identifies vehicle and equipment operation as sources of noise and human activity that may influence bird occurrence and habitat use. The ZOI methodology incorporates potential avoidance and reduced habitat effectiveness associated with these disturbances, thereby accounting for effects beyond direct habitat loss within the Project footprint. Road use is also explicitly identified as a mortality-risk pathway. During Operations and Maintenance, Volume 6, Table 17.9, pages 17-33 to 17-34 identifies road maintenance and use, including the transport of equipment, workers, and supplies, as interacting with Change in Mortality Risk. Ground traffic is therefore assessed in relation to both behavioural disturbance and the potential for direct interactions between birds and Project vehicles and equipment. These pathways are managed through operational traffic controls, wildlife-awareness requirements, reporting, and restrictions on vehicle use. The Project's road-management framework requires compliance with posted speed limits, wildlife having the right-of-way, reporting of wildlife observations and wildlife-related incidents, and restrictions on recreational ATV and snowmachine use by Project personnel. Together with the bird-specific nest setbacks and sensitive-period measures established in the WMMP, these controls are intended to reduce disturbance and mortality risk where ground traffic may interact with birds during Project implementation.

Air Traffic and Low-Level Flight

Aircraft effects are considered through both sensory disturbance and collision risk. The assessment recognizes that air traffic contributes to overall sensory disturbance, particularly in the northern portion of the Regional Assessment Area near Grays Bay Port, where air traffic and other Project activities are concentrated. The mortality-risk assessment further considers the circumstances under which aircraft and birds are most likely to interact. Volume 6, Section 17.4.2.4, pages 17-47 to 17-49 identifies increased aircraft-collision susceptibility for passerines at dawn and dusk and during spring and fall migration. For waterbirds, aircraft interactions are considered particularly during take-off and landing, while for raptors, low-flying individuals are recognized as more susceptible to collisions than birds flying at greater altitudes. These considerations account for both the operating conditions associated with lower-altitude aircraft activity and periods when birds may be more susceptible to aircraft interactions.

Operational controls are applied to reduce exposure to low-level aircraft activity. Volume 6, Section 17.4.2.3, pages 17-46 to 17-47 requires aircraft to maintain a minimum cruising altitude of 610 m above ground level, except during take-off and landing, inclement weather, or where operationally required. Low-level aircraft interactions are therefore addressed in relation to the Project activities and operating circumstances under which they may occur, particularly take-off and landing near the Aerodrome Project Development Area, together with aircraft operating requirements and wildlife monitoring under the WMMP. This approach allows aircraft-related bird interactions identified during Project implementation to inform additional management measures, where necessary.

Nesting Areas and Setback Distances

The WMMP identifies minimum setback requirements around active bird nests to manage disturbance from Project activities (Volume 11, Section 7.2, Table 7.2, pages 18 and 19). These setback distances align with established management practices on other Arctic projects (Agnico Eagle Mines Ltd., 2025; Baffinland Iron Mines Corporation, 2023; ERM Consultants Canada Ltd., 2024; WSP Canada Group Ltd., 2025).

Nesting, Moulting, Migration, Staging and Other Sensitive Periods

The assessment uses seasonal bird data to understand when and where the Project is most likely to interact with birds. Construction activities and their associated risks – such as direct habitat effects or collisions with birds, will peak during the breeding periods, as well as during migration periods. The WMMP presents mitigations to help inform Project personnel, including site alerts during the bird nesting period, wildlife sweeps ahead of construction activities, setback distances from active nest sites, and strategies to prevent or reduce potential human-wildlife conflicts. Collectively, the baseline, effects assessment, operational measures, and monitoring account for seasonal variation in bird presence and sensitivity when evaluating and managing potential interactions with ground and air traffic.

References

Agnico Eagle Mines Ltd. (2025, April). Wildlife Mitigation and Monitoring Plan—Agnico Eagle Hope Bay.

Baffinland Iron Mines Corporation. (2023). Terrestrial environment mitigation and monitoring plan, BAF-PH-830-P16-0027, Rev. 2.

ERM Consultants Canada Ltd. (2024, October). Back River Mine Wildlife Mitigation and Monitoring Program Plan (Version 13).

WSP Canada Group Ltd. (2025). Meliadine Appendix 26 2024 Terrestrial Environment Management and Monitoring Plan Report (NIRB 250331-11MN034-2024 Annual Report-App 26 TEMMP Report-Pt 1-IMRE; p. 83). Prepared for Agnico Eagle Mines Limited – Meliadine Division.

NIRB 337. (IR-815)

Subject

Marine Environment Baseline – Marine Physical Conditions, Sampling Design, and Seasonal Ice Conditions

Issue / Concern

Reviewer Comments / Reasoning: A clear and consolidated description of the marine baseline program is needed to determine whether the available information adequately represents the environmental conditions that may be affected by port development, marine construction, shipping, and ice breaking. Marine conditions can vary substantially by location, depth, season, and ice regime, and short-duration or spatially limited sampling may not capture this variability. This information would help demonstrate whether the baseline is sufficiently robust to support the effects assessment, modelling, mitigation measures, monitoring design, and residual effects conclusions, and whether important data gaps or uncertainties have been appropriately addressed.

Missing Information / Gap: 1. Marine baseline conditions have not been clearly consolidated or characterized. 2. Sampling locations, duration, methods, and use of historical data have not been adequately described. 3. Baseline water quality, sediment quality, bathymetry, sea ice, and seasonal conditions along the shipping route and port area have not been clearly summarized.

Information Request

Please provide a consolidated explanation of how marine baseline conditions were characterized, including sampling locations, sampling duration, methodology, historical data, water and sediment quality, bathymetry, sea ice conditions, and seasonal conditions along the proposed shipping route and port area.

Proponent Response

Marine baseline conditions for the Grays Bay Road and Port Project were characterized using multiple lines of evidence, including historical studies, Inuit, Indigenous, and Community Knowledge, government and regional datasets, published scientific literature, regional monitoring programs, and targeted Project-specific field programs in 2024 and 2025. Contemporary field programs were undertaken to supplement and update historical information and provide baseline information relevant to the Project Development Area (PDA), Local Assessment Area (LAA), Regional Assessment Area (RAA), and broader Coronation Gulf region. The principal information used to characterize each component of the marine environment is summarized below.

Marine water quality: Marine water-quality baseline conditions were characterized using desktop information, Inuit, Indigenous, and Community Knowledge, and Project-specific field studies. Historical scientific information included previous marine water-quality investigations undertaken in 2004, 2005, 2008, and 2012 for the High Lake and Izok Corridor projects (Wolfden 2006; MMG 2012; Lorax 2013). The 2012 investigations also included water-column profiles collected under ice and during ice-free

conditions, providing information on seasonal temperature, salinity, and stratification. These historical datasets were supplemented by Project-specific water-quality sampling completed in 2024 and 2025 to characterize current conditions and spatial and temporal variability within Grays Bay. Detailed baseline information is provided in Appendix 21A – Marine Water and Sediment Quality Baseline Report.

Marine sediment quality and benthic invertebrates: Marine sediment and benthic invertebrate baseline conditions were characterized using desktop information, Inuit, Indigenous, and Community Knowledge, historical studies, and Project-specific sampling. Historical sediment-quality investigations were completed in 2004, 2005, 2008, and 2012 (Wolfden 2006; MMG 2012; Lorax 2013), while historical benthic information included investigations reported by Wolfden (2006) and Elliott and Cross (2013), including benthic infauna sampled in Grays Bay in 2012. These historical sources were supplemented by Project-specific sediment and benthic invertebrate sampling completed in 2024, with the combined information used to characterize sediment and substrate conditions and benthic communities within the marine assessment areas. Detailed baseline information is provided in Appendix 21A – Marine Water and Sediment Quality Baseline Report.

Oceanography: Oceanographic conditions were characterized using historical scientific information, available Inuit, Indigenous, and Community Knowledge relevant to marine environmental conditions, and updated Project-specific investigations. Historical information included ADCP measurements collected at Grays Bay in 2012 (Mudge et al. 2012). These historical data were supplemented by the 2025 oceanographic program, which included a fixed ADCP deployment and vessel-based ADCP transects to characterize site-specific hydrodynamic conditions near the proposed port. Together, these information sources provided physical marine context for interpreting water and sediment quality, marine habitat, and other components of the marine baseline. Detailed baseline information is provided in Appendix 21A – Marine Water and Sediment Quality Baseline Report.

Bathymetry: Bathymetric conditions were characterized using existing site-specific information available for the Project area and were considered together with the broader physical and biological marine baseline. Existing bathymetric information collected in 2004 and 2005 was identified through the Project baseline review, and bathymetry was used to provide physical context for water depths, oceanographic conditions, seabed characteristics, and marine habitat within the proposed Project area. Site bathymetry is presented in Volume 8, Section 22, Figure 22.3. Additional baseline information relevant to bathymetry and marine habitat characterization is provided in Appendix 22A – Marine Fish and Fish Habitat Baseline Report.

Marine fish and fish habitat: Marine fish and fish habitat baseline conditions were characterized using historical Project and regional investigations, government and scientific information, Inuit, Indigenous, and Community Knowledge, and contemporary Project-specific field studies. Key historical investigations included the High Lake Project (Wolfden 2006) and marine ecology surveys conducted in Grays Bay in 2012 (Elliott and Cross 2013). Inuit Knowledge, including information compiled by Banci and Spicker (2024), was considered together with these scientific information sources to characterize marine fish and invertebrates in the marine environment. These information sources were supplemented by Project-specific marine fish and fish habitat field studies completed in 2025, with the combined information used to characterize marine fish communities, invertebrates, and marine habitats within the assessment area.

Detailed baseline information is provided in Appendix 22A – Marine Fish and Fish Habitat Baseline Report.

Marine mammals: Marine mammal baseline conditions were characterized using historical and regional scientific information, Inuit, Indigenous, and Community Knowledge, and Project-specific field investigations. Historical Project-specific information included the LGL Limited marine mammal aerial surveys conducted in 2012 (Elliott et al. 2013), together with other historical and regional sources, including Wolfden (2006). Inuit Knowledge, including information compiled by Banci and Spicker (2024), provided an additional line of evidence regarding marine mammal occurrence within the assessment areas. These information sources were supplemented by aerial and vessel-based marine mammal surveys and underwater acoustic monitoring completed during the 2025 open-water period. The multiple lines of evidence were considered together to characterize marine mammal occurrence, distribution, habitat use, and seasonal patterns rather than relying solely on detections from the contemporary field program. Detailed baseline information is provided in Appendix 23A – Marine Mammal Baseline Report.

Sea ice and seasonal environmental conditions: Sea ice and seasonal marine conditions were characterized using historical and regional scientific information, Inuit, Indigenous, and Community Knowledge, and environmental observations associated with Project-specific marine field programs. Historical and regional information included the Izok Corridor Project (MMG 2012) and Afsharipour et al. (2023), while Inuit Knowledge regarding changes in annual sea-ice conditions was incorporated from the Project-specific Inuit Knowledge report (Banci and Spicker 2024). The IS identifies landfast ice at Grays Bay as generally occurring from early November to mid-July based on Afsharipour et al. (2023) and MMG (2012), and also documents Kitikmiut observations regarding changes in annual sea-ice conditions from Banci and Spicker (2024). These multiple information sources provided seasonal context for interpreting marine habitat availability, species occurrence and distribution, and use of the marine environment. Additional baseline information on sea ice and seasonal marine conditions is provided in Appendices 21A, 22A, and 23A.

Together, these information sources provided an integrated characterization of marine water and sediment quality, oceanography, bathymetry, benthic communities, marine fish and fish habitat, marine mammals, sea ice, and seasonal environmental conditions within the Project's marine assessment areas. Detailed sampling locations, survey durations, methodologies, analytical methods, historical datasets, and results are provided in the applicable baseline reports, including Appendix 21A – Marine Water and Sediment Quality Baseline Report, Appendix 22A – Marine Fish and Fish Habitat Baseline Report, and Appendix 23A – Marine Mammal Baseline Report, with corresponding baseline summaries presented in Volume 8, Sections 21 through 23.

References

Afsharipour, Y., C. Xu, P.G. Myers, B. Else, and Q. Zhou. 2023. Numerical investigation of diapycnal mixing in the Kitikmeot Sea in the southern Canadian Arctic Archipelago. Atmosphere–Ocean 62(3): 1–16.

Banci, V. and R. Spicker (Compilers, Editors & GIS). 2024. Kitikmiut Knowledge of the Proposed Kogloktoakyok (Grays Bay) Port and Road Project. Naonaiyaotit Inuit Knowledge Project, Kitikmeot Inuit Association, Kugluktuk, NU. November 2024. Report on file.

Elliott, R.E. and W.E. Cross. 2013. Marine ecology surveys in Grays Bay, Coronation Gulf, during July–September 2012. LGL Report No. TA8114-2. Report from LGL Limited, King City, ON, for MMG Resources Inc., Vancouver, BC. 23 p.

Elliott, R.E., H.R. Smith, and W.E. Cross. 2013. Coronation Gulf marine mammal aerial surveys, 8–13 September 2012. LGL Report No. TA8114-1. Report from LGL Limited, King City, ON, for MMG Resources Inc., Vancouver, BC. 11 p.

Lorax (Lorax Environmental Services Ltd.). 2013. Izok Corridor Project Baseline Marine Water and Sediment Quality. Draft Report. Prepared by Lorax Environmental Services Ltd., Vancouver, BC, for MMG Minerals & Metals Group, Vancouver, BC. June 2013. 23 p.

MMG (MMG Resources Inc.). 2012. Izok Corridor Project Proposal. Section 5: Existing Biophysical Environment. iii + 69 p.

Mudge, T.D., K. Borg, and A. Slonimer. 2012. Analysis of Ocean Current and Wave Measurements – Grays Bay, 2012. Report prepared by ASL Environmental Sciences Inc., Victoria, BC, for MMG Minerals and Metals Group, Vancouver, BC. v + 31 p.

Wolfden (Wolfden Resources Inc.). 2006. High Lake Project Proposal. Prepared for the Nunavut Impact Review Board, Cambridge Bay, Nunavut.

NIRB 338. (IR-816)

Subject

Hydrographic and bathymetric adequacy of the port approach corridor

Issue / Concern

Reviewer Comments / Reasoning: Arising from TC-IR 04. This is a substantive information request, not a technical review comment: Transport Canada states the IS does not demonstrate that port approaches have been surveyed to modern standards. The Project Access Corridor boundaries are undefined except as shown in Figure 23.10, yet the IS claims the Project would improve marine safety and navigation.

Missing Information / Gap: No demonstration of adequate hydrographic/bathymetric coverage or under-keel clearance for the ~40 nautical mile approach corridor for Post-Panamax OBO ice class 1A vessels (~100,000 DWT, 15 m loaded draught).

Information Request

Provide: (a) the spatial boundaries of the Project Access Corridor; (b) the existing hydrographic and bathymetric survey coverage of the ~40 nm vessel approach corridor, identifying survey vintage and standard; (c) a demonstration of adequate under-keel clearance for the anticipated vessel classes and drafts, or identification of the survey work required and when it would be undertaken; and (d) the outcome of engagement with the Canadian Hydrographic Service and the Canadian Coast Guard regarding aids to navigation. Where new survey is required, that may be addressed as a licensing-stage deliverable, but the adequacy of existing coverage must be stated now.

Proponent Response

While NIRB's reviewers comments list TC-IR 04 as not a technical comment, NIRB also lists TC-IR 04 in Appendix A "Information Requests Not Requiring Response at this Stage".

WKR provides the following response to NIRB, despite not responding to TC-IR 04 at this stage of Information Requests.

(a) **Spatial boundaries of the Project Access Corridor.** Refer to the response to DFO-IR 13 (IR-236). It describes the corridor as "the planned marine vessel approach to the port which runs approximately 40 nautical miles southward of the existing, well-defined shipping lane within the Northwest Passage" (Volume 2, Section 2.6.1.1; Volume 8, Figure 23.10, Page 23-116). The response to ON-01 (IR-465) states that the access corridor "is preliminary and reflects the current conceptual stage of Project design," and that "Future refinements to the Project access corridor, if required, will consider navigational safety requirements, operational considerations, environmental protection measures, and opportunities to avoid or reduce interactions with marine mammals, marine fish, harvesting activities, and other marine users."

(b) `**Existing hydrographic and bathymetric survey coverage.** Refer to the response to GC-IR 06 (IR-153), part 3. That response states that "Official depth charts for the Coronation Gulf in Nunavut, Canada are published by the Canadian Hydrographic Service (CHS). The area is covered by two primary navigational paper and digital charts at a scale of 1:150,000." It also states that "Additional bathymetry surveys have been completed as of September 2026, over a larger area surrounding the Port to confirm the underwater depths and inform engineering design and vessel approaches for the Port," and that "More detailed bathymetry assessments are ongoing for the approaches to the port."

(c) **Under-keel clearance.** Refer to the response to GC-IR 06 (IR-153), part 2. It addresses under-keel clearance for the design vessel classes based on the conceptual Port design and existing bathymetry. Under-keel clearance along the full approach corridor will be confirmed through the ongoing bathymetry assessments and detailed design.

NIRB 339. (IR-817)

Subject

Marine Environment Baseline – Sensitive Marine Habitat, Anchorage Locations, and Mooring Adequacy

Issue / Concern

Reviewer Comments / Reasoning: Impact Statement identifies sensitive marine habitat, marine fish habitat, marine mammal habitat, bathymetry, and proposed port infrastructure. The concordance table notes that potential safe anchorage locations along the proposed shipping route have not yet been identified and will be included in the Port Management Plan. The adequacy of mooring at wharves and for tugs is also relevant to vessel operations and marine environmental risk.

Missing Information / Gap: 1. Proposed or potential safe anchorage locations along the shipping route have not been clearly identified. 2. It is unclear how marine habitat, bathymetry, sea ice, currents, marine wildlife use, and vessel safety informed anchorage selection. 3. The adequacy of wharves and tug moorings for the expected vessel types has not been demonstrated.

Information Request

Please identify proposed or potential safe anchorage locations along the shipping route and explain how marine habitat, bathymetry, sea ice, currents, marine wildlife use, and vessel safety were considered in selecting these locations. Please also explain the mooring adequacy of wharves and tugs for the types of vessels expected to use the port.

Proponent Response

Safe anchorage locations along the shipping route have not yet been identified. The concordance table states: "While potential safe anchorage locations along the proposed route have not been identified to date, these will be included in the Port Management Plan" (Volume 1, Appendix A). The Port Management Plan (Volume 11, Appendix 37I) is filed in draft. Its sections on vessel access, navigation, the shipping lane and marine traffic monitoring will be developed as the plan progresses.

The IS baseline includes the information that will be used when anchorage locations are selected:

- Bathymetry along the shipping route and port approaches: Volume 8, Section 23.2.2.2 (Marine Habitat) and Figure 23.3 (Page 23-26).
- Sensitive habitat for marine fish and marine mammals: Volume 8, Appendix 22A (Page 22A-20) and Appendix 23A (Page 23A-12).
- Sea ice, including Inuit, Indigenous and Community Knowledge of coastal areas and ice conditions: Volume 8, Section 23.2.2 (Page 23-27).

The navigational infrastructure and aids at the port "will meet Transport Canada and Canadian Coast Guard requirements for marine safety and navigation" (Volume 2, Section 2.6.1.1).

The port's marine infrastructure is described in Volume 2, Section 2.6.1.1 and Table 2.8 (Port Project Components, Page 2-27). It includes:

- **Two deep-water wharves** "suitable for approximately 100,000 deadweight tonne (DWT) ore-bulk-oil carriers and other large vessels, such as Coast Guard vessels, naval vessels, and tankers that currently operate in the Arctic" (Volume 2, Section 1.5).
- **A barge landing area** with up to two barge berths. The design barges are "a larger heavy lift/container barge (Class ABS A1) of approximately 13,200 DWT and 123 m length, as well as a smaller lightering barge (Non-Ice Class) of approximately 1,500 DWT and 60 m length" (Volume 2, Table 2.8).
- **A small craft harbour** "for seasonal moorage for approximately 24 vessels" (Volume 2, Section 1.5).

The structure type of the large vessel wharves and the medium vessel wharf "ha[s] not been finalized." The options under consideration are concrete caissons and steel sheet pile or pipe pile systems (Volume 2, Section 2.6.2).

Tugs

The medium vessel wharf provides "moorage for up to three tug vessels (or vessels of similar size)." "Tugs and other support vessels will be deployed as required to facilitate safe arrival and departure of vessels calling at the Grays Bay Port." "As feasible, this wharf will also be designed to accommodate other medium-size vessels, such as smaller Coast Guard and naval vessels" (Volume 2, Table 2.8). During Operations and Maintenance, WKR will provide "[v]essel berthing assistance through the operation of harbour tugs and lines personnel at mooring locations" (Volume 2, Section 2.6.3.3).

Design progression

The final wharf structures, mooring arrangements and anchorage locations will be confirmed as engineering design progresses and through the development of the Port Management Plan. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 340. (IR-818)

Subject

Marine Environment Impact Assessment – Marine Water Quality, Sediment Transport, and Wastewater Discharge

Issue / Concern

Reviewer Comments / Reasoning: Impact Statement assesses potential effects on marine water quality and sediment quality, including tides, waves, currents, sediment transport, construction activities, wastewater discharge, stormwater, discharges to sea, and shoreline effects. However, the technical linkage between marine physical processes, sediment transport, wastewater discharge, shoreline stability, and effects on marine fish and habitat is spread across several sections.

Missing Information / Gap: 1. The combined effects of tides, waves, currents, sediment transport, wastewater discharge, stormwater runoff, and shoreline stability have not been clearly assessed. 2. Potential effects on marine water and sediment quality have not been adequately described. 3. Effects on marine fish, benthic invertebrates, fish habitat, and sensitive shoreline habitat have not been clearly identified.

Information Request

Please explain how tides, waves, currents, sediment transport, wastewater discharge, stormwater runoff, and shoreline stability were considered together in the marine water and sediment assessment. Please identify how these pathways may affect marine fish, benthic invertebrates, fish habitat, and sensitive shoreline habitat.

Proponent Response

The marine water and sediment assessment (Volume 8, Section 21) considered the potential effects of Project activities on marine water quality and marine sediment quality, including effects associated with wastewater discharge, stormwater runoff, dredging, blasting, marine infrastructure construction, infilling, and vessel activity (Volume 8, Sections 21.3.2.2 and 21.3.3.2). Baseline oceanographic information, including tides, currents, waves, freshwater inputs, and regional circulation patterns, was used to characterize existing marine conditions and to inform the assessment of how Project-related materials, such as suspended sediments, contaminants, nutrients, and effluent, may be dispersed, diluted, transported, deposited, or retained within the marine environment (Volume 8, Sections 21.1.4.1 and 21.2.2 to 21.2.2.4; Volume 8, Appendix 21A, Sections 5.1 and 5.2).

Potential sediment transport and deposition were considered qualitatively using available baseline information on sediment characteristics, freshwater inputs, tides, waves and circulation, together with the Project activities capable of disturbing or introducing sediment (Volume 8, Sections 21.3.3.1, 21.2.2 and 21.2.2.3; Volume 8, Appendix 21A, Sections 5.1 and 5.4.2.1). Dredging, blasting, infilling and marine infrastructure construction may resuspend or redistribute seabed sediments (Volume 8, Sections 21.3.3.2

and 21.3.3.4). At the same time, stormwater runoff provides a pathway for sediment and associated constituents from disturbed terrestrial areas to enter the marine environment. Vessel propeller wash and wake may also contribute to localized sediment resuspension, erosion and scour (Volume 8, Sections 21.3.2.2 and 21.3.3.2). Preliminary modelling was completed for the combined wastewater and desalination discharge to characterize effluent dilution and dispersion; this modelling informs the assessment of effluent effects.

The findings of the Marine Water and Sediment assessment (Volume 8, Section 21) were carried forward to the Marine Fish and Fish Habitat assessment (Volume 8, Section 22, introduction; Sections 22.3.2.2 and 22.3.3.2). Increased turbidity, stormwater runoff, sediment resuspension and deposition, and effluent discharge represent pathways through which changes in marine water or sediment quality may affect fish, benthic invertebrates, and the habitats upon which they depend. Seabed disturbance associated with dredging, infilling and placement of marine infrastructure may also directly alter marine riparian, intertidal and subtidal fish habitat. At the same time, sediment redistribution and changes in water or sediment quality provide indirect effects pathways. Project-specific surveys did not identify biologically sensitive habitat features such as eelgrass, coral gardens or glass sponge reefs within Grays Bay or the RAA; however, marine riparian, intertidal and subtidal areas provide fish habitat functions and were considered in the assessment of effects to marine fish and benthic invertebrates (Volume 8, Sections 22.2.2.2, 22.3.2.1 and 22.3.2.4, Table 22.10).

NIRB 341. (IR-819)

Subject

Marine Environment Impact Assessment – Propeller Wash, Ballast Water, Invasive Species, and Biofouling

Issue / Concern

Reviewer Comments / Reasoning: These pathways may affect multiple marine receptors through both physical and biological mechanisms. Propeller wash can resuspend sediment, increase turbidity, mobilize contaminants, and disturb benthic habitat, while ballast water discharge and vessel biofouling may introduce non-native species or pathogens that could alter marine communities, affect fish health, and reduce habitat quality. A consolidated explanation is needed to determine whether these risks were assessed across the full Project lifecycle and whether the proposed controls, monitoring indicators, response thresholds, and adaptive management measures are sufficient to prevent or address adverse effects.

Missing Information / Gap: 1. Effects from propeller wash, ballast water discharge, vessel biofouling, and the introduction of non-native species or pathogens have not been clearly assessed. 2. Potential effects on marine water quality, benthic invertebrates, marine fish, and fish habitat have not been adequately described. 3. Mitigation, monitoring, and adaptive management measures for these pathways over the Project lifecycle have not been clearly identified.

Information Request

Please explain how propeller wash, ballast water discharge, vessel biofouling, and potential introduction of non-native aquatic species or pathogens were assessed for effects on marine water quality, benthic invertebrates, marine fish, and fish habitat. Please describe proposed mitigation, monitoring, and adaptive management measures for these pathways over the Project lifecycle.

Proponent Response

The Impact Statement (IS) considered how propeller wash, ballast water discharge, and vessel biofouling could result in a change in water quality, and subsequent change in habitat, behaviour, and mortality and/or injury risk for marine fish.

The IS considered how vessel-generated propeller wash and vessel wake could resuspend seabed sediments, resulting in temporary increases in turbidity and total suspended solids (TSS), and how these changes could affect water quality and fish habitat, particularly in nearshore areas. These pathways were evaluated with consideration of anticipated vessel size, speed, water depth, and traffic during both the construction and operation phases. Existing environmental conditions were characterized using multi-year marine water quality monitoring, sediment quality investigations, bathymetric information, oceanographic studies, and site-specific hydrodynamic data, including Acoustic Doppler Current Profiler (ADCP) measurements, to understand baseline circulation, wave conditions, and sediment transport processes.

Mitigation measures incorporated into the assessment include vessel speed restrictions within the Local Assessment Area (LAA), development of management plans, avoidance of biologically sensitive areas identified prior to construction, and installation of scour protection at vessel berths and wharf areas. Environmental monitoring programs will be implemented to evaluate the effectiveness of mitigation measures and to confirm environmental predictions of the IS. Marine water quality monitoring will be used to assess conditions in areas potentially influenced by vessel operations and marine infrastructure, including indicators such as turbidity, suspended sediments, and related water quality parameters and will be detailed in management plans including the Aquatic Effects Management Plan and Environmental Protection Plan. These plans are intended to support evaluation of mitigation effectiveness and identify whether additional management actions are required. Should monitoring identify unanticipated adverse effects, elevated turbidity levels, evidence of habitat disturbance, or other outcomes inconsistent with assessment predictions, adaptive management measures may be implemented. The Project's adaptive management framework is based on monitoring results and includes the review and modification of mitigation measures where outcomes indicate that management objectives are not being achieved or where unforeseen environmental effects occur.

The IS also included consideration of ballast water discharge and vessel hull biofouling as pathways capable of introducing non-native species and pathogens. The Project acknowledges these are recognized vectors for aquatic invasive species transport; however, federal regulations substantially reduce the likelihood of successful introduction and establishment of invasive species or pathogens within the Project area and are considered the primary mitigation measure for the Project. Under the *Canada Shipping Act* (2001), overseen by Transport Canada, all vessels (Canadian or international) operating in Canadian waters must adhere to the Ballast Water Regulations. These regulations aim to prevent the introduction of aquatic invasive species during international voyages, as well as during short-distance regional voyages within Canada. The Ballast Water Regulations require all vessels to: 1) develop and put in place an approved ballast water management plan; 2) follow standards that limit the number of organisms released; 3) be regularly surveyed and inspected by an authorized organization; 4) keep records; and 5) carry a valid certificate that allows inspectors to confirm that the vessel complies with the convention. Additionally, updates to these regulations in 2021 now require that vessels be equipped with modern ballast water management systems that include treatment of ballast water while onboard a vessel, going beyond the previous standard of only requiring mid-ocean exchanges during voyages. The Ballast Water Regulations are designed to protect marine ecosystems by preventing the introduction and spread of aquatic invasive species and reducing pollution from ships. These regulations are aligned with the International Maritime Organization's (IMO 2004) Ballast Water Management Convention.

Biofouling and the potential for the transport and introduction of invasive species are currently managed in Canada through the voluntary adoption of the International Maritime Organization’s 2011 *Guidelines for the Control and Management of Ships’ Biofouling to Minimize the Transfer of Aquatic Invasive Species*. The guidelines recommend that vessel operators choose an appropriate anti-fouling system, control biofouling growth in niche areas, keep biofouling management record books, and perform regular maintenance, cleaning, and inspections. Although no invasive marine species are currently known to be established within the Coronation Gulf, observations of potentially invasive aquatic species in Arctic Canada and elsewhere in the Arctic indicate that increasing vessel traffic may create pathways for the transport of non-native species through ballast water discharge and hull biofouling.

Compliance with these federal regulatory frameworks is required for both Project vessels and third-party vessels calling at the Grays Bay Port. Vessel compliance will be established with vessel operators and will be documented in the Port Management Plan.

Further details on the assessment of propeller wash, ballast water discharge, vessel biofouling, and potential introduction of non-native aquatic species can be found in Volume 8, Sections 21 (Marine Water and Sediment), and 22 (Marine Fish and Fish Habitat).

NIRB 342. (IR-820)

Subject

Marine Wildlife Impact Assessment – Habitat Loss, Behavioural Disturbance, and Underwater Noise

Issue / Concern

Reviewer Comments / Reasoning: Accidents and contaminant releases may affect several interconnected marine components simultaneously and may result in immediate, chronic, or delayed effects that extend beyond the initial release area. A clear explanation of how the Volume 10 scenarios informed the Volume 8 receptor-specific assessments is needed to determine whether all credible exposure pathways and ecological consequences were consistently evaluated. This is particularly important for contaminants that may persist in water or sediment, accumulate in organisms, and transfer through marine food chains to fish, marine mammals, wildlife, and human consumers. Additional information on spill prevention, response readiness, monitoring, adaptive management, and the completion of outstanding response-plan sections would help demonstrate that appropriate measures will be in place before Project activities create a risk of marine accidents or contaminant releases.

Missing Information / Gap: 1. It is unclear how marine accidents, spills, vessel grounding, and contaminant releases were integrated into the marine effects assessments. 2. Potential effects on marine water, sediment, fish, benthic invertebrates, marine mammals, and marine food chains have not been clearly linked. 3. Bioaccumulation pathways have not been adequately assessed. 4. Applicable mitigation, spill response, monitoring, and adaptive management measures have not been clearly identified. 5. The process and timing for finalizing draft or incomplete response plan sections remain unclear.

Information Request

Please explain how marine accidents, malfunctions, spills, vessel grounding/stranding, and contaminant releases discussed in Volume 10 were integrated into the Volume 8 marine effects assessments for marine water quality, sediment quality, marine fish, benthic invertebrates, marine mammals, and marine food chains. Please also clarify how potential bioaccumulation pathways were considered, and identify the applicable mitigation, spill response, monitoring, and adaptive management measures, including how draft or incomplete response plan sections will be finalized.

Proponent Response

The effects of marine accidents, malfunctions, spills, vessel grounding/stranding, and contaminant releases discussed in Volume 10 were not integrated into the Volume 8 marine effects assessments for marine water quality, sediment quality, marine fish, benthic invertebrates, marine mammals, and marine food chains. The potential effects of these accident and malfunction scenarios were discussed separately in Volume 10 under Section 34.7.2. The effects assessment presented in Volume 8 represents the assessment of residual and cumulative effects of the Project under normal anticipated operating conditions. Accidents and malfunctions resulting from the construction, operations and maintenance of

the Project are events that are not part of any planned activity or normal operation of the Project and therefore potential effects were assessed separately in Volume 10, Section 34.7.2.

Mitigation, spill response, monitoring, and adaptive management measures are listed in Volume 10 Sections 34.6.1 and 34.7.2. Emergency response plans are discussed in Volume 10, Section 34.6.2, and draft management plans are provided in Volume 11. Draft management plans will be completed as Project engineering progresses and include any requirements identified within the Project Certificate. All management plans, including emergency response and adaptative management plans will be completed and approved prior to construction commencing.

NIRB 343. (IR-821)

Subject

Marine Wildlife Impact Assessment – Habitat Loss, Behavioural Disturbance, and Underwater Noise

Issue / Concern

Reviewer Comments / Reasoning: Underwater noise and sensory disturbance may affect marine fish and mammals through injury, masking, behavioural disturbance, displacement, reduced habitat effectiveness, and disruption of feeding, migration, spawning, or communication. The magnitude and extent of these effects depend on source characteristics, sound propagation conditions, exposure duration, species-specific sensitivity, and the timing and location of activities. A consolidated explanation is needed to determine whether the assessment used appropriate thresholds and assumptions, whether predicted disturbance distances are adequately supported, and whether mitigation and monitoring measures are sufficiently detailed and enforceable. Clear action thresholds and adaptive management procedures are also necessary to ensure that unexpected noise levels, turbidity, or animal responses result in timely modification or suspension of Project activities.

Missing Information / Gap: 1. Underwater noise and sensory disturbance effects from shipping, pile driving, blasting, dredging, and port operations have not been clearly assessed. 2. Predicted disturbance distances, sound thresholds, key assumptions, and species-specific responses for marine fish and marine mammals have not been clearly identified. 3. Implementation of acoustic and turbidity controls, vibrational pile driving, underwater noise monitoring, and marine mammal monitoring has not been adequately described. 4. It is unclear how monitoring results and sound thresholds will trigger adaptive management actions.

Information Request

Please clarify how underwater noise and sensory disturbance from shipping, pile driving, blasting, dredging, and port operations were assessed for marine fish, fish habitat, and marine mammals, including predicted disturbance distances, thresholds, key assumptions, and species-specific responses. Please also identify how proposed mitigation and monitoring measures, including acoustic/turbidity reduction measures, vibrational pile driving, underwater noise monitoring, marine mammal monitoring, and sound thresholds, will be implemented and used for adaptive management.

Proponent Response

The assessment of underwater noise and sensory disturbance for the Grays Bay Road and Port Project was completed separately for marine fish and fish habitat (Volume 8, Section 22) and marine mammals (Volume 8, Section 23), while recognizing that many Project activities generate common acoustic stressors. The assessment considered underwater noise generated by shipping and vessel operations, pile installation, blasting, dredging, drilling, and other port construction and operational activities. Impulsive sources, such as blasting and impact pile driving, and non-impulsive sources, such as vessel

activity, dredging, drilling, and port operations, were evaluated based on their potential to cause behavioural disturbance, temporary displacement, masking of biologically important cues, auditory threshold shifts, and, in limited circumstances, injury.

For marine fish and benthic invertebrates, the assessment considered published information regarding species hearing capabilities, sensitivity to particle motion and sound pressure, and documented behavioural responses to underwater noise. Marine fish and invertebrates primarily perceive underwater sound as particle motion, although some fish are also capable of detecting sound pressure. As established behavioural-response thresholds are not available for marine fish or benthic invertebrates, the assessment relied on a weight-of-evidence approach using scientific literature, available species-specific information, an understanding of residual-effect mechanisms and hearing sensitivities, and professional judgment. Further details on potential effects are provided in Volume 8, Sections 22.3.3 and 22.3.4.

For marine mammals, the assessment considered the potential for sensory disturbance, temporary threshold shift, permanent threshold shift, displacement, and behavioural changes resulting from both impulsive and non-impulsive underwater noise sources. The assessment incorporated species known to occur within Coronation Gulf and the Project's Regional Assessment Area, including ringed seal, bearded seal, harp seal, beluga whale, bowhead whale, narwhal, and other marine mammal species identified through the baseline characterization.

In the absence of formal Canadian regulatory thresholds or standardized national or provincial guidance for underwater noise effects on marine mammals, the assessment considered acoustic criteria and guidance developed by the U.S. National Marine Fisheries Service of the National Oceanic and Atmospheric Administration (NOAA Fisheries). The NOAA Fisheries criteria use the onset of permanent threshold shift as a proxy for auditory injury and account for differences among marine mammal hearing groups and impulsive and non-impulsive sound sources. The assessment considered the NOAA Fisheries 2024 technical guidance for evaluating potential permanent threshold shift and auditory injury.

For behavioural disturbance, screening-level benchmarks of Sound Pressure Level (SPL) 160 dB re 1 µPa rms for impulsive sound sources and SPL 120 dB re 1 µPa rms for non-impulsive sound sources were considered. These benchmarks were used with available acoustic information and proxy-source data from comparable activities to qualitatively estimate the potential distances over which behavioural responses could occur. They were not interpreted as fixed boundaries within which all marine mammals would respond, nor were they used in isolation to determine the significance of effects.

Underwater noise modelling completed for comparable Arctic projects, including the Mary River Project, available scientific literature, species-specific hearing information, source characteristics, and established guidance were also considered. The estimated spatial extent of potential effects within the Local Assessment Area was informed by this weight-of-evidence approach rather than by applying fixed numerical disturbance distances alone. The assessment recognized that impulsive sources such as impact pile driving and blasting have the greatest potential to generate elevated underwater sound levels, whereas vessel activity, dredging, drilling, and port operations generally generate lower-intensity but longer-duration noise. Further details on potential effects and the applicable hearing thresholds are provided in Volume 8, Sections 23.3.3 and 23.3.4, Table 23.13, and Appendix 23A.

The Impact Statement identifies multiple mitigation measures intended to reduce underwater noise propagation and the potential for sensory disturbance or injury to marine fish, benthic invertebrates, and marine mammals. These measures include the preferential use of vibratory pile driving over impact pile driving where technically feasible, modification of blast designs to reduce acoustic energy, implementation of soft-start or ramp-up procedures for impact pile driving, adherence to established blasting guidance, vessel speed controls, marine mammal exclusion zones, and the use of trained Marine Mammal Observers during higher-risk in-water activities. For impact pile driving, additional mitigation measures may be implemented based on practicality and effectiveness, including bubble curtains and other sound-attenuation technologies. Silt curtains may also be applied around in-water construction areas, where appropriate, to reduce sediment suspension and turbidity associated with construction activities.

Marine mammal monitoring will be completed before and during applicable high-noise activities, including impact pile driving and blasting. Trained Marine Mammal Observers will visually monitor the applicable exclusion and monitoring zones and will have authority to initiate activity delays or shutdowns if marine mammals are observed within established safety zones. Noise-generating activities will not commence until the applicable monitoring zones are confirmed to be clear of marine mammals and will be suspended if marine mammals enter applicable exclusion areas.

The Project also commits to underwater noise monitoring associated with applicable high-noise construction activities. Hydroacoustic monitoring data will be used to determine whether measured sound levels are consistent with assessment assumptions and predicted sound levels. The marine mammal follow-up program is anticipated to include hydroacoustic verification for works with the potential to cause sensory disturbance from underwater noise, such as blasting or pile driving, as well as effectiveness monitoring before, during, and after vessel passage.

Monitoring results will be reviewed during Project implementation and will inform adaptive management where warranted. Adaptive management responses may include refinement of construction methods, mitigation measures, monitoring zones, sound-attenuation measures, blasting procedures, monitoring requirements, or activity scheduling if monitoring indicates that effects differ from assessment predictions or that additional mitigation is required. Applicable marine mammal follow-up and monitoring measures are described in Volume 8, Section 23.7 and will be further developed through the Wildlife Mitigation and Monitoring Plan and associated environmental management programs.

With respect to disturbance distances and sound thresholds, the assessment considered NOAA Fisheries acoustic criteria and guidance together with regional underwater noise modelling, proxy-source information, published scientific literature, available species-specific information, and professional judgment. NOAA Fisheries permanent-threshold-shift criteria informed the assessment of potential auditory injury, while the 160 dB and 120 dB behavioural benchmarks were used as screening-level tools for qualitatively estimating the potential spatial extent of behavioural responses. These criteria formed part of the weight-of-evidence assessment and were not used alone to establish fixed effect boundaries or determine effects significance.

The responses of marine fish, benthic invertebrates, and marine mammals to underwater noise are influenced by multiple biological, environmental, and exposure-related factors. For marine mammals, these include species and hearing group, behavioural state, season, habitat use, source characteristics, received sound level, exposure duration, and environmental conditions. Activity-specific monitoring and verification will therefore be used during applicable activities to verify assessment predictions, evaluate mitigation effectiveness, and support adaptive management where necessary.

Overall, the Project's mitigation and monitoring framework is intended to avoid or reduce behavioural disturbance and injury risks to marine fish, fish habitat, benthic invertebrates, and marine mammals through source reduction, operational controls, monitoring, follow-up, and adaptive management during Construction and Operations and Maintenance.

NIRB 344. (IR-822)

Subject

Marine Wildlife Impact Assessment – Marine Traffic, Open Water Season, Ice Breaking, and Sensitive Periods

Issue / Concern

Reviewer Comments / Reasoning: The timing and location of marine traffic may overlap with important seasonal movements and habitat use by marine fish, mammals, and birds. Risks may be greater during spring break-up and fall freeze-up, when open-water and ice-edge habitats are limited and wildlife may be concentrated along migration routes, feeding areas, staging areas, or other sensitive habitats. Ice-breaking and vessel traffic may also cause disturbance, displacement, collision risk, underwater noise, habitat alteration, or changes in access to important areas. A consolidated explanation is needed to determine whether seasonal and ice-related variability was adequately incorporated into the effects assessment and whether timing restrictions, route management, speed controls, monitoring, and adaptive management measures are sufficiently detailed to address unexpected wildlife interactions or changing sea ice conditions.

Missing Information / Gap: 1. The effects of marine traffic, vessel timing, open-water activities, ice-breaking, spring break up, fall freeze-up, and sea ice conditions have not been clearly assessed. 2. Potential effects on marine fish, marine mammals, and marine birds during sensitive periods have not been adequately described. 3. Timing restrictions, route management, speed controls, monitoring, and adaptive management measures have not been clearly identified.

Information Request

Please explain how marine traffic, vessel timing, open-water season activities, potential ice-breaking, spring break-up, fall freeze-up, and sea ice conditions were considered in relation to marine fish, marine mammals, and marine birds. Please identify any timing restrictions, route management, speed controls, monitoring, and adaptive management measures for sensitive periods.

Proponent Response

Marine traffic, vessel timing, seasonal ice conditions, and sensitive life-history periods were key considerations in the assessment of potential effects on marine fish, marine mammals, and marine birds.

Project-related marine activities, including vessel traffic, dredging, blasting, and port operations, are planned to occur during the open-water season (typically late June through October), and Inuit Knowledge directly informed the commitment that no icebreaking will occur during either the Construction or Operations and Maintenance phases. Sea ice conditions, spring break-up, and fall freeze-up were considered throughout the assessment because they influence marine habitat availability, marine fish distribution and productivity, marine mammal feeding and movement patterns, and the seasonal use of the marine environment by marine birds.

Marine mammal assessments considered overlap between Project activities and important summer feeding periods for species such as ringed seal, bearded seal, beluga whale, narwhal, and bowhead whale. The assessment conservatively assumed that activities could occur during high-sensitivity periods and incorporated mitigation measures accordingly. Potential effects associated with vessel traffic, underwater noise, and sensory disturbance were evaluated in consideration of seasonal habitat use, migration patterns, and the influence of sea ice conditions on marine mammal distribution and movements.

Marine fish assessments similarly considered the influence of vessel timing, seasonal ice conditions, and sensitive life-history periods on fish and fish habitat. Seasonal environmental conditions, including spring break-up, open-water conditions, and fall freeze-up, were considered because these conditions influence fish distribution, migration, habitat availability, productivity, and the timing of biological activities. Potential effects associated with vessel traffic, underwater noise, sediment disturbance, and other marine activities were assessed in the context of these seasonal patterns. The assessment acknowledged that fish species may exhibit increased sensitivity during specific life-history periods, including spawning, migration, and early life-stage development. Project-related effects were assessed with consideration of these seasonal patterns, and potential behavioural responses were predicted to be localized, temporary, and reversible.

Marine bird assessments also considered seasonal timing and the use of marine habitats during the open-water period. Potential interactions between marine traffic and marine birds were evaluated in consideration of migration, staging, foraging, and breeding periods, as well as seasonal habitat use within marine and coastal environments. The assessment recognized that marine birds may be attracted to or avoid vessel activity and that the potential for disturbance may vary seasonally depending on species presence, abundance, and life-history stage. These seasonal patterns were considered in the assessment of effects and the development of mitigation measures.

Proposed vessel-management measures include speed restrictions within the Local Assessment Area to reduce ship wake, propeller wash, underwater noise, and vessel-strike risk, including reduced speeds within the Project access corridor, near berth facilities, and when marine mammals are observed. Additional mitigation includes designated vessel landing zones, routing through established access corridors, compliance with ballast water regulations, soft-start procedures for impact pile driving, use of silt or bubble curtains where practical, hydroacoustic verification and underwater-noise monitoring, visual marine mammal monitoring during in-water works, and effectiveness monitoring before, during, and after vessel passage. Long-term monitoring programs and adaptive management commitments, co-developed with Inuit, will be used to evaluate mitigation effectiveness and modify management approaches if monitoring indicates effects are greater than predicted. Mitigation, management, monitoring, and follow-up measures relevant to marine birds, marine fish and fish habitat, and marine mammals are provided in IS Volume 6, Sections 17.7.3 and 17.9 (Birds), and Volume 8, Section 22.6, Table 22.20, and Section 22.8 (Marine Fish and Fish Habitat), and Table 23.18 and Section 23.6 (Marine Mammals).

The timing of seasonal conditions, including spring break-up, open-water access, fall freeze-up, and the presence or absence of sea ice, can vary substantially among years. Accordingly, seasonal mitigation and monitoring measures will be informed by the best available information regarding environmental

conditions and species presence, including satellite imagery, sea ice forecasts, field observations, marine monitoring results, and Inuit, Indigenous, and Community Knowledge. This information will be used to adaptively manage Project activities and timing, where appropriate, to account for observed environmental conditions, wildlife presence, and sensitive seasonal-use periods. As a result, seasonal mitigation and monitoring measures will not rely solely on fixed calendar dates but will be implemented in a manner that reflects actual environmental conditions and species use of the area.

NIRB 345. (IR-823)

Subject

Sea ice as a receptor: baseline, vessel induced fragmentation across Coronation Gulf, Inuit travel and harvesting, and under ice effects on marine wildlife

Issue / Concern

Reviewer Comments / Reasoning: Arising from KHTO-IR-001, KHTO-IR-005 and KHTO-IR-010. Does not include what is already asked for under NIRB-IRs. NIRB-IR-341 covers how marine traffic, vessel timing, ice-breaking, break up/freeze-up and sea-ice conditions were considered for marine fish, mammals and birds, and asks for timing/route/speed controls. It does NOT treat sea ice as a receptor in its own right, does not ask for baseline sea-ice characterisation, does not extend beyond the port vicinity, does not address Inuit travel and harvesting or the Dolphin and Union sea-ice crossing, and does not address under-ice noise propagation or entrapment. Those residual items are asked here.

Missing Information / Gap: Sea ice is not carried as a receptor: no baseline characterisation; no assessment of vessel-induced fragmentation across Coronation Gulf beyond the port vicinity; no assessment of effects on Inuit travel, harvesting and cultural practice, or on the Dolphin and Union sea-ice crossing; no under-ice noise or entrapment analysis.

Information Request

Provide: (a) baseline sea-ice conditions across the marine RAA (extent, thickness, freeze-up and break-up timing); (b) an assessment of vessel induced sea-ice breakage, fragmentation and accelerated melt attributable to Project-enabled traffic, by season and shipping scenario, extending across Coronation Gulf rather than the port vicinity only, and stating the spatial extent assessed and the rationale for that boundary; (c) the resulting effects on Inuit travel, harvesting and cultural practice, informed by Inuit Qaujimajatuqangit; (d) the resulting effects on the Dolphin and Union herd sea-ice crossing; (e) under-ice noise propagation and the risk of displacement or entrapment of marine wildlife from ice-breaking during spring break-up and fall freeze-up, including the acoustic modelling assumptions used; and (f) cumulative effects of regional marine traffic together with climate-driven sea-ice loss. Where a matter is answered in response to NIRB-IR-341, cross reference rather than repeat.

Proponent Response

Open-water-only Project shipping. Open-water-only shipping is a key part of the Project description and a binding limit on the Project as assessed. Project-operated shipping:

- runs only from late June through October
- involves no ice-breaking
- uses a marine approach route about 40 nautical miles south of the Northwest Passage shipping lane

All third-party user groups, including reasonably foreseeable induced (RFI) projects and activities, have committed to using the port only during the open-water season (Volume 8, Section 23.4.1). The port's marine infrastructure will be closed from December to May (Volume 2, Section 2.6.3.3).

Shoulder season. In early June and into November, the port will be available to the Canadian Coast Guard and other approved vessels. The Coast Guard provides ice-breaking services for search and rescue, environmental response, community resupply, and ship escorts. As stated in the IS, "ice breaking during this period is not anticipated to affect human or wildlife transiting trails to and from the mainland" (Volume 2, Section 2.6.3.3). Coast Guard icebreaking is carried out under its federal mandate and is outside the scope of this assessment.

(a) **Baseline sea-ice conditions.** Sea-ice conditions, including freeze-up and break-up timing for the shipping route and the regional assessment area (RAA), are described in Volume 8: Appendix 21A, Appendix 22A, and Appendix 23A. Inuit Knowledge of coastal and ice conditions is presented in Volume 8, Section 23.2.2.

(b) **Vessel-induced sea-ice breakage and fragmentation.** Neither Project nor RFI vessels will operate during ice-covered periods, so they do not cause sea-ice breakage, fragmentation, or accelerated melt anywhere in Coronation Gulf. The spatial boundaries for the marine VCs, and the rationale for them, are set out in each Volume 8 assessment (see Volume 4, Section 9.2.4).

(c) **Effects on Inuit travel, harvesting and cultural practice.** These are assessed in Volume 9:

- effects on access to harvesting areas and travel routes: Section 24.3.5 and Section 24.4.4
- effects on marine navigation by community users: Section 29.3.5
- the Inuit Knowledge that informed these assessments: Table 24.4

(d) **Dolphin and Union herd sea-ice crossing.**

- Kitikmiut knowledge of the herd's ocean-crossing locations near Grays Bay is presented in Volume 6, Figure 16.10.
- Effects on the herd's movement are assessed in Volume 6, Section 16.4.3.
- Project shipping does not overlap with the herd's spring and fall sea-ice migrations. If climate change lengthens the ice-free period, any redefined open-water season would not disrupt the herd's sea-ice migration.

(e) **Under-ice noise and entrapment.** Project and RFI vessels will not break ice, so no under-ice noise or entrapment of marine wildlife is predicted from Project activities. Underwater noise effects on marine mammals during the open-water season are assessed in Volume 8, Section 23.3.3.

(f) **Cumulative effects with regional traffic and climate-driven sea-ice loss.** These are covered in four places:

- cumulative effects of marine traffic on marine mammals: Volume 8, Section 23.4
- cumulative effects on marine navigation: Volume 9, Section 29.4.4
- effects of climate change on marine water and sediment: Volume 8, Section 21.3.6
- effects of the environment on the Project: Volume 10, Section 35

Future third-party shipping proposals outside the open-water season would need their own regulatory review, effects assessment, and engagement.

The Guidelines do not require sea ice to be assessed as a standalone VC. It is considered through baseline conditions and through its relationship to marine wildlife, caribou, and Inuit travel and harvesting.

NIRB 346. (IR-824)

Subject

Marine Wildlife Impact Assessment – Cumulative Effects from Marine Traffic and Project Expansion

Issue / Concern

Reviewer Comments / Reasoning: Future increases in shipping, port use, and associated development may interact with Project effects and place additional pressure on marine habitats and species. These effects may occur over broader areas and longer periods than the effects of the Project alone and may involve multiple overlapping pathways. A clear explanation of the cumulative effects approach is needed to determine whether reasonably foreseeable activities and credible future development scenarios were adequately considered. Further information on long-term and regional monitoring, coordination with other operators and regulators, response thresholds, and adaptive management would also help demonstrate that cumulative changes can be identified and addressed before significant adverse effects occur.

Missing Information / Gap: 1. Cumulative marine effects from increased traffic, induced development, future port use, extended operations, and future shipping have not been clearly assessed. 2. Potential cumulative effects on marine water quality, marine fish, benthic invertebrates, marine mammals, and marine birds have not been adequately described. 3. Monitoring and management measures for cumulative marine effects have not been clearly identified.

Information Request

Please explain how cumulative marine effects were assessed for increased marine traffic, reasonably foreseeable induced development, future port use, potential extended road and port operations, and future shipping activity. Please describe how cumulative effects on marine water quality, marine fish, benthic invertebrates, marine mammals, and marine birds will be monitored and managed.

Proponent Response

Cumulative marine effects were assessed where residual Project effects could interact with residual effects from past, present, and reasonably foreseeable future projects and physical activities within the applicable marine assessment areas. The activities considered and cumulative-effect pathways varied by valued component (VC), reflecting the nature of the residual Project effects and the potential for spatial and temporal overlap with other marine activities. The assessments distinguish between marine activities, such as fishing, tourism, and harvesting; vessel traffic associated with Project and reasonably foreseeable induced port use; and the cumulative-effect pathways through which these activities may interact with Project residual effects.

For marine water and sediment quality, the cumulative effects assessment considered Project and reasonably foreseeable induced vessel traffic associated with use of the Grays Bay Port, as well as other port users. Reasonably foreseeable induced vessel traffic includes concentrate ships, barges and tugs, fuel tankers, cargo ships, and security vessels. The assessment recognizes that vessels would call at

Grays Bay seasonally during the open-water period and that the cumulative vessel estimates represent reasonably foreseeable induced vessel traffic.

The cumulative-effect pathways for marine water and sediment quality include shoreline and seabed disturbance from propeller wash and vessel wakes and changes in water or sediment quality associated with ballast water discharge and antifouling. These are cumulative-effect pathways associated with vessel activity. With mitigation measures in place, the residual cumulative effects are not anticipated to exceed the significance threshold for marine water and sediment quality. Additional information is provided in Volume 8, Section 21.4, with the significance determination provided in Section 21.5.2.

For marine fish and fish habitat, including benthic invertebrates, the cumulative effects assessment considered existing marine activities, including commercial and domestic harvesting, fishing vessels, passenger ships and pleasure craft, and tourism, as well as Project and reasonably foreseeable induced vessel traffic associated with use of the Grays Bay Port. These marine activities were screened for their potential to contribute to cumulative effects in Volume 8, Section 22.4, Table 22.17. Project and reasonably foreseeable induced vessel traffic was quantified separately in Table 22.18. The maximum annual shipping scenario includes five Project vessels and 40 reasonably foreseeable induced vessels during the open-water season. Other port users, including members of the public, commercial entities, the Coast Guard, and the Canadian military, were also considered, although the frequency of this use is presently unknown.

The marine fish cumulative-effect pathways include changes in marine habitat associated with vessel wake and propeller wash, potential effects associated with ballast water and biofouling, and sensory disturbance from underwater noise generated by vessel activity. For behavioural effects, the assessment identifies potential localized avoidance, induced anti-predator behaviour, and acoustic masking near transiting vessels. Vessel noise is characterized as infrequent, transitory, and reversible, with the underwater soundscape returning toward baseline between vessel transits and during the ice-covered period. Additional information is provided in Volume 8, Section 22.4, including Sections 22.4.2 to 22.4.5.

For marine mammals, the cumulative effects assessment similarly considered existing marine activities, including fishing vessels, passenger ships and pleasure craft, tourism, and commercial and domestic harvesting, as well as Project and reasonably foreseeable induced vessel traffic associated with use of the Grays Bay Port. These marine activities were screened for their potential to contribute to cumulative effects in Volume 8, Section 23.4, Table 23.15. Project and reasonably foreseeable induced vessel traffic was quantified separately in Table 23.16.

The associated cumulative-effect pathways include changes in marine habitat from vessel wake and propeller wash, sensory disturbance associated with underwater noise from marine vessels, and increased mortality or injury risk associated with vessel strikes. The underwater noise generated by vessel activity depends in part on vessel size and speed. This broader term is used here because the pathway applies to all vessels operating in the marine environment, including Project and reasonably foreseeable induced vessels, fishing vessels, passenger and pleasure craft, community vessels, and other marine users.

Mitigation considered in the cumulative assessment includes vessel speed reductions approaching Grays Bay and scour protection within vessel berths. For vessel-strike risk, the assessment also considers vessel speed restrictions along the Project access corridor and during berthing. The Project will require vessels to reduce speeds once they enter the Project access corridor and larger vessels will further reduce speed during berthing.

With mitigation, relatively low marine mammal densities within the RAA, and shipping occurring during the open-water season, residual cumulative effects on mortality or injury risk from vessel strikes are characterized as adverse, moderate in magnitude, extending into the RAA, occurring during moderate- to high-sensitivity periods, medium-term in duration, and multiple regular to multiple irregular in frequency. Effects are anticipated to range from reversible at the population level to irreversible at the individual level. Additional information is provided in Volume 8, Sections 23.4 and 23.5.

For marine birds, the cumulative effects assessment considered marine-related interactions and pathways associated with use of the marine environment and vessel activity. The bird assessment identifies the marine shoreline at Grays Bay Port and marine vessel use of the Northwest Passage during the open-water shipping season as marine interactions. Noise from port construction and ship engines may affect the foraging behaviour of seabirds and sea ducks. Fishing vessels, passenger ships and pleasure craft, tourism, and commercial and domestic harvesting are also identified as marine activities considered in the cumulative effects assessment.

For waterbirds in the marine environment, the relevant pathways include interactions with marine vessels and barges that may result in mortality and attraction or disorientation associated with vessel and barge lighting during periods when lighting is required. Increased marine vessel traffic associated with reasonably foreseeable induced development was specifically considered as a potential collision pathway for sea ducks and waterfowl. The bird assessment characterizes the residual mortality risk associated with marine vessel and barge interactions and marine vessel lighting as low. Additional information on the cumulative effects assessment for birds is provided in Volume 6, Section 17.5.

Overall, the cumulative marine effects assessments considered existing marine activities and reasonably foreseeable future marine activities associated with use of the Grays Bay Port. Activities such as fishing, commercial and domestic harvesting, tourism, passenger and pleasure craft use, Project shipping, and reasonably foreseeable induced or other port use were considered where relevant to the applicable VC.

Where vessel traffic could be reasonably estimated, the cumulative effects assessment incorporated the quantified Project and reasonably foreseeable induced vessel traffic scenario. Other marine activities, vessel activity, and port users were considered based on the available information. The assessments then evaluated the pathways through which these activities could interact with Project residual effects, including propeller wash and vessel wake, changes in water and sediment quality, underwater noise, ballast water and biofouling, sensory disturbance, vessel strikes and collision risk, and vessel lighting.

Following implementation of applicable mitigation measures, the IS concludes that the Project's contribution is not predicted to result in significant adverse cumulative effects on the assessed marine VCs.

Monitoring and adaptive management will be implemented through the applicable VC-specific follow-up and monitoring programs and Project management plans to verify assessment predictions and evaluate mitigation effectiveness. For marine water and sediment quality and marine fish and fish habitat, applicable mitigation, monitoring, and adaptive management measures will be implemented through the Aquatic Effects Management Plan and associated follow-up and monitoring programs. The Aquatic Effects Management Plan will set out the monitoring and management program for determining short- and long-term effects on the freshwater and marine aquatic environment, including study design, monitoring schedules, methods, and reporting procedures.

For marine mammals and marine birds, applicable mitigation and monitoring measures will be implemented through the Wildlife Mitigation and Monitoring Plan (WMMP) and associated follow-up and monitoring programs. The WMMP will provide detailed mitigation and monitoring guidance for wildlife, including marine mammal management and monitoring, and will be reviewed and updated to verify and enhance the effectiveness of the measures implemented.

Follow-up and monitoring relevant to the individual VCs are described in Volume 8, Section 21.7 for marine water and sediment quality, Section 22.8 for marine fish and fish habitat, Section 23.7 for marine mammals, and Volume 6, Section 17.9 for birds.

Monitoring results, Project observations, Inuit, Indigenous, and Community Knowledge, and scientific information, will support ongoing evaluation of effects predictions and mitigation effectiveness throughout Construction and Operations and Maintenance. Where follow-up or monitoring identifies unexpected environmental change or indicates that mitigation or management objectives are not being achieved, the applicable management plans, mitigation measures, operational procedures, and monitoring programs may be reviewed and updated through the Project's adaptive management process. The marine fish and marine mammal chapters specifically identify follow-up and monitoring findings as a basis for adaptive management and the regular review and updating of applicable management plans.

Information regarding assessment of potential cumulative effects is provided throughout the Impact Statement (IS). Volume 10 Section 32 Cumulative Effects Assessment Overview describes content, location and summary of this information. This is supplemented in Appendix A Cumulative Effects Assessment Addendum.

NIRB 347. (IR-825)

Subject

Marine Wildlife Impact Assessment – Cumulative Effects from Marine Traffic and Project Expansion

Issue / Concern

Reviewer Comments / Reasoning: Section 23 treats increased vessel traffic as a primary cumulative stressor but does not quantify the maximum reasonably foreseeable annual shipping scenario, so the upper bound of cumulative effect is untestable. It also assesses only biophysical VCs, omitting cumulative effects on Inuit harvesting and travel safety despite the shipping season overlapping Inuit sea-ice use. KAA-60 supplies both missing limbs — the quantified maximum scenario and the human-use dimension — so the two are merged. Basis: Guideline ss. 8.1.14.2 and 7.4.3.

Missing Information / Gap: The IS does not state the maximum reasonably foreseeable annual vessel-traffic scenario underpinning the cumulative marine assessment, so the upper bound of cumulative effect is unquantified, and the assessment cannot be tested against a worst-case case. It also assesses cumulative marine effects only for biophysical VCs (water quality, fish, benthic invertebrates, marine mammals, birds) and does not address cumulative effects of future vessel traffic on Inuit harvesting activities or on-ice and on-water travel safety.

Information Request

Please explain how cumulative marine effects were assessed for increased marine traffic, reasonably foreseeable induced development, future port use, potential extended road and port operations, and future shipping activity, and describe how cumulative effects on marine water quality, marine fish, benthic invertebrates, marine mammals, and marine birds will be monitored and managed. In addition: (1) provide the maximum reasonably foreseeable annual shipping scenario used as the basis for the cumulative effects assessment, including the vessel numbers, classes and transit assumptions underpinning it; and (2) extend the cumulative effects analysis to Inuit harvesting activities and on-ice and on-water travel safety, not only the biophysical Valued Components. Where already answered under KAA-60, cross-reference rather than repeat.

Proponent Response

The assessment of cumulative marine effects, including increased marine traffic, reasonably foreseeable induced development, future port use, potential extended road and port operations, and future shipping activity, is described in the response to KAA-60. As discussed therein, cumulative effects assessments were completed for marine water and sediment quality, marine fish and fish habitat (including benthic invertebrates), marine mammals, and marine birds by evaluating the potential for Project-related residual effects to interact with the residual effects of other past, present, and reasonably foreseeable future projects and activities within the applicable assessment areas. Monitoring and adaptive management commitments for these valued components are also described in the response to KAA-60 and the referenced sections of the Impact Statement.

With respect to the maximum reasonably foreseeable shipping scenario used in the cumulative effects assessment, both the Marine Fish and Fish Habitat and Marine Mammal cumulative effects assessments considered the same future vessel traffic scenario associated with induced development and future users of the Port. This scenario included five Project-related vessels annually (three tugs stationed at the Port, one cargo vessel, and one fuel tanker) and up to 40 reasonably foreseeable induced vessel movements annually, including concentrate ships, cargo vessels, fuel tankers, barges, tugs, and security vessels associated with induced development, future port use, and third-party shipping activity. The cumulative effects assessments evaluated the potential effects of this vessel traffic on marine habitats, marine water quality, marine fish and fish habitat, benthic invertebrates, marine mammals, and other marine receptors within the applicable assessment areas. The vessel traffic assumptions are presented in Table 22.18 (Volume 8, Section 22.4) and Table 23.16 (Volume 8, Section 23.4) and were consistently applied in the cumulative effects assessments for both marine fish and fish habitat and marine mammals.

The cumulative effects assessments did not consider Project vessels in isolation. Rather, Project-related effects were evaluated within the broader context of existing and reasonably foreseeable future marine activity, including induced development, future port use, and future shipping activity associated with use of the Port. For marine fish and fish habitat, cumulative effects associated with increased vessel traffic were assessed in Volume 8, Section 22.4, including the vessel traffic assumptions summarized in Table 22.18. For marine mammals, cumulative effects associated with underwater noise, sensory disturbance, vessel interactions, and increased vessel traffic were assessed in Volume 8, Section 23.4, including the vessel traffic assumptions presented in Table 23.16.

With respect to Inuit harvesting activities and on-ice and on-water travel safety, these considerations were assessed through the relevant socio-economic and human-use valued components rather than solely through the marine biophysical valued components. Potential interactions between Project activities, marine access, harvesting activities, travel routes, and traditional land, marine, and resource use were assessed in the Traditional Land, Marine, and Resource Use assessment (Volume 9, Section 24), Food Security and Sovereignty assessment (Volume 9, Section 25), Community Health and Well-being assessment (Volume 9, Section 26), and associated cumulative effects assessments. Accordingly, cumulative effects on Inuit harvesting activities, access, travel safety, and the use of marine areas were considered through those assessments and are not limited to the cumulative effects assessments completed for marine biophysical valued components.

Consistent with the response to KAA-60, cumulative marine effects will continue to be monitored through implementation of Project monitoring and follow-up programs applicable to marine water and sediment quality, marine fish and fish habitat, marine mammals, marine birds, and human-use valued components. Monitoring commitments include marine water and sediment quality monitoring, turbidity monitoring during in-water works, implementation of the Aquatic Effects Management Plan, marine fish and fish habitat monitoring, hydroacoustic verification programs, marine mammal observation and underwater acoustic monitoring programs, marine bird monitoring programs, and implementation of the Wildlife Mitigation and Monitoring Plan, as described in the applicable follow-up and monitoring sections of the Impact Statement. Monitoring results, environmental monitoring information, scientific information, Project observations, and Inuit, Indigenous, and Community Knowledge will be used to evaluate cumulative effects predictions and mitigation effectiveness. Where monitoring indicates that effects differ from those

predicted, mitigation measures, management plans, monitoring programs, operational procedures, vessel management measures, seasonal timing considerations, and other environmental protection measures may be refined through adaptive management. This adaptive management framework is intended to ensure that cumulative effects continue to be monitored, understood, and managed throughout the life of the Project.

Information regarding assessment of potential cumulative effects is provided throughout the Impact Statement (IS). Volume 10 Section 32 Cumulative Effects Assessment Overview describes content, location and summary of this information. This is supplemented in Appendix A Cumulative Effects Assessment Addendum.

NIRB 348. (IR-826)

Subject

Sediment Quality - Baseline Information - Sediment modelling should be considered based on the baseline studies and results of the water quality models

Issue / Concern

Reviewer Comments / Reasoning: The Proponent writes in their comments "With the application of erosion and sediment control measures and location of project activities, sediment modelling was not required based on the type of Project. Sediment loading is typically completed for mining projects, but not for infrastructure projects, unless monitoring resulting warrant it."

Missing Information / Gap: 1. The requested sediment modelling information has not been provided.

Information Request

Please provide the requested information of sediment modelling

Proponent Response

The IS did not include numerical sediment transport or deposition modelling. The IS assessed potential effects on sediment by comparing baseline conditions with the conditions expected during Construction and Operations and Maintenance. It then relied on erosion and sediment control measures and on monitoring to confirm that those measures are working.

The following information regarding change in sediment is provided in the Freshwater Volume 7 and Marine Volume 8, as follows:

Freshwater sediment. The IS states that "Potential effects on surface water and sediment quality were assessed by comparing existing baseline conditions in the LAA and RAA (summarized in Section 19.2.2 and detailed in Appendix 19C: Freshwater and Sediment Quality Data Summary Report) to conditions anticipated during Project Construction and Operations and Maintenance" (Volume 7, Section 19.3.3). Mitigation to prevent or reduce erosion and sediment loading is set out in the same section and carried out through the Erosion and Sediment Control Plan (Volume 11, Appendix 37H, Attachment H2 (Draft)). The IS also states that "Surface water and sediment quality monitoring will be conducted as required to confirm effectiveness of the mitigation measures and to facilitate adaptive management (Section 19.7)" (Volume 7, Section 19.3.3).

Marine sediment. The IS states: "Based on ADCP data collected at the port, local current patterns are expected to disperse suspended sediments away from the construction area, reducing the potential for localized accumulation" (Volume 8, Section 21.3.2). It also states that "Sediment monitoring will be routinely conducted to maintain compliance with regulatory thresholds at the outfall." For dredging, refer to the response to GC-IR 06 (IR-153).

NIRB 349. (IR-827)

Subject

Sediment Quality - Impact Assessment - The Proponent is required to present a comprehensive impact analysis for all proposed project components and activities, including shipping activities where applicable, on sediment quality; Potential impacts on sediment quality in surrounding lakes and rivers from surface runoff and traffic on proposed project roads and dust from road traffic and other project sources and/or activities;

Issue / Concern

Reviewer Comments / Reasoning: The Proponent discusses impacts to sediment quality in surrounding lakes and rivers from surface runoff and traffic on proposed project roads and dust from road traffic and other project sources and/or activities but does not present a comprehensive impact analysis on shipping activities at all.

Missing Information / Gap: 1. The effects of shipping activities on sediment quality have not been comprehensively assessed. 2. Potential effects from propeller wash, anchoring, vessel grounding, dredging, spills, ballast water discharge, and shoreline disturbance have not been clearly characterized. 3. Sediment resuspension, transport, deposition, contaminant release, and changes in sediment chemistry have not been adequately evaluated. 4. Potential effects on benthic invertebrates, marine fish, fish habitat, marine food chains, and bioaccumulation pathways have not been clearly assessed. 5. Site-specific sediment conditions, shipping frequency, vessel characteristics, seasonal conditions, currents, and sea ice have not been adequately considered. 6. Mitigation, sediment-quality monitoring, thresholds, and adaptive management measures for shipping-related effects have not been clearly identified. 7. Cumulative sediment effects from increased shipping, future port use, and reasonably foreseeable induced activities have not been adequately assessed.

Information Request

Please provide a comprehensive analysis on shipping activities impacts on sediment quality

Proponent Response

WKR respectfully submits that the information requested in this IR regarding effects of shipping on sediment quality are assessed in the marine assessment, Volume 8, Section 21 (Assessment of Potential Effects on Marine Water and Sediment). That assessment is supported by Appendix 21A (Marine Water and Sediment Quality Baseline Report). The project effects pathways for changes in marine sediment quality are set out in Volume 8, Table 21.13 (Page 21-54), and the project interactions in Table 21.14 (Page 21-65).

Volume 8, Section 21 assesses the effects on marine sediment quality of vessel activity, including barges, cargo ships and tugs. It concludes:

> "*Despite mitigation measures and adherence to applicable regulations, potential residual effects on marine sediment quality may remain due to vessel activity. The residual effects during both phases are anticipated to be directionally adverse and low in magnitude. The geographic extent of propeller wash and wake energy residual effects is constrained to the PDA, while ballast water discharge and antifouling is constrained to the RAA. … Residual effects on marine sediment quality caused by vessel activity during both phases are anticipated to be reversible and will return to baseline conditions after each vessel transit is completed.*" (Volume 8, Section 21.3)

Specific pathways are addressed as follows:

- **Propeller wash, wake and shoreline disturbance:** Refer to the response to DFO-IR 18 (IR-241). That response states that, within the LAA and RAA, "impacts to shoreline stability associated with vessel wake are expected to be limited."
- **Ballast water discharge:** Refer to the response to DFO-IR 20 (IR-243).
- **Dredging, and sediment resuspension and transport:** Refer to the response to NRCan-IR 05 (IR-213). That response explains that the fine-grained seabed sediments near the port "are particularly susceptible to resuspension," and that "the extent of spread is expected to remain confined to the immediate vicinity of the dredging activity (within a 732 m radius)" (Volume 8, Section 21).
- **Vessel grounding and spills:** These are assessed as accidents and malfunctions in Volume 10, Section 34.
- **Anchoring:** Refer to the response to NIRB 339 (IR-817).

4. **Benthic invertebrates, marine fish, fish habitat and food chains**

   Effects on benthic invertebrates, marine fish and fish habitat are assessed in Volume 8, Section 22 (Marine Fish and Fish Habitat) and Appendix 22A. Vessel-related pathways, including ballast water, propeller wash and vessel wake, were considered in the marine fish and marine mammal assessments. Refer to the response to DFO-IR 17 (IR-240). The country-food and bioaccumulation pathways are addressed in the Human Health and Ecological Risk Assessment (Volume 9, Appendix 26A).

5. **Site-specific conditions**

   The site-specific conditions considered are documented as follows:

   - **Sediment conditions:** Volume 8, Figure 21.4 (Marine Sediment Quality Sampling Locations, August 2024) and Figure 21.5 (Substrate Composition of Sediment Samples Collected at Grays Bay, August 2024).

- **Currents:** acoustic Doppler current profiler data (Volume 8, Figures 21.6 to 21.8). Based on those data, "local current patterns are expected to promote dispersion of suspended sediment away from the source of impact" (Volume 8, Section 21).
- **Vessel traffic:** Volume 8, Table 21.16 (Summary of Annual Project-related and Reasonably Foreseeable Induced Vessel Traffic During the Operations and Maintenance Phase (2035-2055), Page 21-74).
- **Seasonal and sea-ice conditions:** "Vessel transits will not occur between early November and late June each year, therefore no icebreaking activities are expected within the RAA" (Volume 8, Section 21.4.2.1, Page 21-73).

6. **Mitigation and monitoring**

Mitigation measures are summarized in Volume 8, Table 21.18 (Summary of Mitigation Measures, Page 21-77). Vessel speed restrictions are among the measures that reduce wake and propeller wash; refer to the response to DFO-IR 12 (IR-235). "Turbidity and erosion monitoring will also be conducted during the Project to maintain compliance with environmental thresholds" (Volume 8, Section 21). Marine monitoring is addressed through the Aquatic Effects Management Plan (Volume 11, Appendix 37D). Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

7. **Cumulative effects**

Volume 8, Section 21.4.2 assesses cumulative effects on marine water and sediment quality together. The IS states that "[c]umulative effect pathways with the potential to change marine water quality and sediment include propellor wash and vessel wake generated by transiting vessels, particularly near the port, and ballast water discharge and antifouling leaching from vessels within the RAA." It identifies the following reasonably foreseeable induced projects:

- increased port traffic at Grays Bay;
- the Hackett River Project;
- the High Lake Mine (Izok Corridor Project);
- the Izok Lake Mine (Izok Corridor Project).

(Volume 8, Section 21.4.2.1, Page 21-73) The residual cumulative effects are presented in Table 21.17 (Page 21-75).

NIRB 350. (IR-828)

Subject

Sediment Quality - Impact Assessment - Potential sedimentation and infill rates of drainage areas that might be impacted by the proposed project;

Issue / Concern

Reviewer Comments / Reasoning: No information here on sedimentation & infill rates of drainage areas in sections provided.

Missing Information / Gap: 1. Sedimentation and infill rates within drainage areas have not been provided. 2. The potential effects of sediment accumulation on drainage capacity, water flow, and maintenance requirements have not been assessed.

Information Request

Please provide this information.

Proponent Response

The potential for the Project to increase suspended sediment, and thereby contribute to sedimentation in the receiving environment, is assessed in Volume 7, Section 19.3.3 (Change to Surface Water and Sediment Quality). That assessment was conducted qualitatively, with suspended sediment and turbidity evaluated through anticipated land disturbance, construction activities, and the potential for runoff or discharge to introduce sediment that could increase baseline concentrations. Residual effects from increased sediment loading associated with Project construction are reversible with reclamation of the disturbed areas (Volume 7, Section 19.3.3; Table 19.18, p. 19-79).

The effect of sediment accumulation on drainage capacity and water flow across the road will be managed by the culvert and watercourse-crossing design as well as the road maintenance program. Drainage culverts will be placed along the road to facilitate water movement, fish passage, and maintain existing drainage patterns. Culvert maintenance will be conducted as required to maintain drainage capacity (Volume 1, Appendix B Mitigations and Commitments, Measure 271; Volume 11, Appendix 37H Environmental Protection Plan (Draft), Section 3.3).

The maintenance requirements for sediment accumulation are set out in the Road Management Plan, which will include a specific component for watercourse crossings whereby sediment or other debris inhibiting the free flow of water will be identified and removed by hand. The Road Management Plan (Volume 11, Appendix 37A) will include processes for identifying bed erosion or scour in the crossing as well as up- and downstream channels. If a barrier to fish passage or erosion and sedimentation issues are observed, corrective actions will be implemented (Volume 1, Appendix B, Measure 273).

Sediment generation that could contribute to accumulation in either the engineered drainage or the natural receiving environment is reduced at source through the Project-specific Erosion and Sediment Control Plan, which commits to reducing sedimentation into nearby watercourses and waterbodies and provides detailed mitigation measures that will be in place during construction and operations and maintenance (Volume 1, Appendix B, Commitments 152 and 153). Surface water and sediment quality monitoring will be conducted to confirm mitigation effectiveness and support adaptive management (Volume 7, Section 19.3.3, referring to Section 19.7).

Why quantified sedimentation and infill rates are not available at this stage

Quantified sedimentation and infill rates for individual drainage areas depend on the final number, size, type, and location of drainage culverts and watercourse-crossing structures; these criteria have not yet been determined, as the Project is at a 10% (i.e., conceptual) design stage. Crossing structures such as culverts will be designed based on hydrotechnical, fisheries, environmental, navigational, and geotechnical considerations at each location (Volume 11, Appendix 37H (Draft), Section 3.12). Consistent with the current design stage, the surface water and sediment quality assessment was conducted qualitatively (Volume 7, Section 19.3.3.1).

Drainage and crossing design, and the associated inspection and sediment-removal maintenance activities that maintain drainage capacity, will be advanced through detailed engineering design and refined in the Road Management Plan and the Erosion and Sediment Control Plan. Watercourse-crossing works will follow the applicable DFO Codes of Practice and the applicable regulatory authorization processes (Volume 11, Appendix 37H (Draft), Section 3.12).

NIRB 351. (IR-829)

Subject

Sediment Quality - Impact Assessment - Potential impacts on sediment from runoff at fuel storage facilities, with consideration for possible fuel spills and malfunctions;

Issue / Concern

Reviewer Comments / Reasoning: Only a quick mention of impacts to sediment from machinery/equipment and vehicle refueling / fuel storage handling. No in detail information on impacts to sediment from runoff at fuel storage facilities, with consideration for possible fuel spills and malfunctions

Missing Information / Gap: 1. Potential effects of runoff from fuel storage facilities on sediment quality have not been adequately assessed. 2. Contaminant pathways from routine runoff, leaks, spills, equipment failure, and other malfunctions have not been clearly described. 3. The potential transport, deposition, persistence, and accumulation of petroleum hydrocarbons and related contaminants in downstream sediments have not been evaluated. 4. Effects on drainage areas, surface waters, benthic organisms, fish habitat, and aquatic food chains have not been clearly assessed. 5. Spill prevention, containment, runoff controls, sediment monitoring, cleanup criteria, and adaptive management measures have not been adequately described.

Information Request

Please provide more in detail information on impacts to sediment from runoff at fuel storage facilities, with consideration for possible fuel spills and malfunctions

Proponent Response

WKR respectfully submits that the information requested in this IR regarding fuel-related effects on sediment in two ways. Routine runoff from fuel storage and handling areas is managed through containment, setbacks and runoff controls as described in the Volume 7 water and sediment quality assessment. Accidental releases (spills and malfunctions) are assessed as accident and malfunction scenarios in Volume 10, Section 34.

Routine runoff from fuel storage areas. Volume 7, Section 19.3.3.3 sets out mitigation for potential effects on surface water and sediment quality, including hydrocarbon and chemical spill prevention measures. Volume 7, Section 19.4.3.1 addresses runoff from bermed fuel-storage areas. The IS states that the effectiveness of these measures "*is considered high for preventing or reducing change in surface water and sediment quality based on use of standard best management practices included in plans referenced below and compliance with regulatory and permit requirements*" (Volume 7, Section 19.3.3.3). The marine assessment specifies containment for fuel storage: "*Fuel will be stored in containers with secondary containment capable of containing 100% of the largest container, and 10% of any aggregate containers," and "Washing, refueling and/or servicing machinery and storage of fuel and other materials*

for machinery will be conducted a minimum of 31 m from the highest high water mark and in a manner to prevent any deleterious substances from entering the water" (Volume 8, Section 21.3).

Spills and malfunctions. Volume 10, Section 34.4.1 describes the terrestrial or aquatic hazardous materials spill scenario, including accidental discharge "during its storage, handling, or dispensing" from "*improper storage, human error, or mechanical failure of equipment during filling of tanks or transfer from tanks to vehicles." The IS states that "It is assumed that spills hazardous materials would be relatively limited for each event (i.e., less than 100 litres [L]),*" and that "*The potential for a larger spill of fuel, 1,000 L or more, exists should an incident involving a fuel truck result in the loss of containment of the fuel tanks.*" It characterizes the risk as follows: "*A small spill during storage, handling, or dispensing of materials is considered very likely to occur during construction and somewhat likely to occur during operations and maintenance. With the implementation of mitigation and clean up, the consequences of a small spill would be insignificant/minor and as such the risk is considered moderate to high. A large spill to the terrestrial or aquatic environment is considered unlikely to occur, however, the consequences of a large spill could be major and therefore the risk is considered high*" (Volume 10, Section 34.4.1).

The IS also notes seasonal differences: "spills during the summer months have a higher potential to result in negative effects through direct interaction with flora and fauna. Spills in winter during frozen conditions are less likely to interact with flora and fauna due to snow and ice coverage, and spills to snow and ice are generally easier to contain and clean up" (Volume 10, Section 34.4.1).

Spill prevention, response and cleanup. Spill prevention and response will be carried out through the Spill Contingency Plan (Volume 11, Appendix 37H, Attachment H5 (Draft)) and the Risk Management and Emergency Response Plan (Volume 11, Appendix 37H, Attachment H4 (Draft)), as described in Volume 10, Section 34.6.

Sediment monitoring and adaptive management. "*Surface water and sediment quality monitoring will be conducted as required to confirm effectiveness of the mitigation measures and to facilitate adaptive management (Section 19.7)*" (Volume 7, Section 19.3.3.3).

NIRB 352. (IR-830)

Subject

Socio-Economic Environment and Impact Assessment - The Impact Statement shall clearly identify and justify the indicators selected and the indicators chosen must be adequate to address all types of foreseeable impacts, including cumulative and residual impacts

Issue / Concern

Reviewer Comments / Reasoning: Basic information is there, but no specific information on cumulative and residual impacts

Missing Information / Gap: 1. Cumulative and residual impacts on the selected indicators have not been clearly described. 2. It is unclear how these impacts were assessed, including their magnitude, extent, duration, significance, and interaction with other activities. 3. The effectiveness of mitigation and monitoring in addressing cumulative and residual impacts has not been demonstrated.

Information Request

Please provide information on cumulative and residual impacts to indicators selected

Proponent Response

Volume 9, Section 27.1.3 (Potential Effects, Pathways, and Measurable Parameters) identifies the measurable parameters (indicators) for each potential effect on Employment and Economy. These are carried through the residual and cumulative effects assessments in Section 27 as follows:

1. **Residual and cumulative impacts on the indicators.**

    - **Residual effects** are assessed for each effect in Section 27.3 and summarized in Section 27.3.8 (Summary of Project Residual Effects):
        - Section 27.3.3 (Change in Economic Development and Opportunities)
        - Section 27.3.4 (Change in Employment)
        - Section 27.3.5 (Change in Education and Training)
        - Section 27.3.6 (Change in Contracting and Business Opportunities)
        - Section 27.3.7 (Change in Community Resupply Resilience)
    - **Cumulative effects** on the same indicators are assessed in Section 27.4 and summarized in Section 27.4.7 (Summary of Cumulative Effects).

2. **Magnitude, extent, duration, significance and interactions.**

    - **Characterization criteria:** residual effects are characterized by direction, magnitude, geographic extent, timing, duration, frequency and reversibility, as defined in Table 27.2 (Section 27.1.5). The significance definition is presented in Section 27.1.6.
    - **Interactions with other activities:** the Project residual effects likely to interact cumulatively with other past, present, reasonably foreseeable and reasonably foreseeable induced activities are identified in Section 27.4.1.
    - **Significance conclusions:** presented in Section 27.5, with Project residual effects in Section 27.5.1 and cumulative effects in Section 27.5.2.

3. **Effectiveness of mitigation and monitoring.**

    - **Mitigation:** measures for each effect are described in the corresponding subsections of Sections 27.3 and 27.4, and summarized in Section 27.5.3 (Summary of Mitigation, Management, and Enhancement Measures).
    - **Confidence in mitigation:** confidence in the predictions, including in the success of mitigation, is addressed in Section 27.6 (Prediction Confidence and Uncertainty). The method used is described in Volume 4, Section 9.4.4.
    - **Monitoring:** Section 27.7 (Follow-up and Monitoring) describes how monitoring will verify predictions and the effectiveness of mitigation, including through the Socio-economic Monitoring Plan (Volume 11, Appendix 37K).

NIRB 353. (IR-831)

Subject

Non-Traditional Land Use and Resource Use - Impact Assessment - Description of impacts to known nontraditional land and resource use including protected areas, visual and aesthetic resources

Issue / Concern

Reviewer Comments / Reasoning: Talks about impacts to known non-traditional protected areas, but does not specifically talk about visual and aesthetic resources.

Missing Information / Gap: 1. Impacts on known non-traditional visual and aesthetic resources have not been clearly assessed. 2. The affected viewpoints, landscapes, travel routes, and recreational or visitor-use areas have not been clearly identified. 3. Changes in landscape character, visibility, lighting, infrastructure prominence, and visual quality have not been adequately described. 4. Mitigation, monitoring, and residual effects conclusions for visual and aesthetic impacts have not been clearly provided.

Information Request

Please provide more details about impacts to known non-traditional visual and aesthetic resources.

Proponent Response

Volume 9, Section 29 (Non-Traditional Land, Marine, and Resource Use) assesses potential Project effects on access to and use of lands and resources for commercial harvesting, tourism and recreation (Section 29.3.4), including changes that may affect the landscape through visual changes from the presence of the Project and sensory disturbance (e.g., aesthetics, light, noise, emissions).

This approach is consistent with the requirements of the *Guidelines for the Preparation of an Impact Statement for the WKR Grays Bay Road and Port Project,* Section 8.2.7.2(i), which calls for a *"description of impacts to known non-traditional land and resource use including protected areas, visual and aesthetic resources,"* and Section 8.2.7.2(iii), which addresses potential impacts that *"may impair the wilderness experience of tourism."* Consistent with the effects assessment methodology prepared for the IS (Volume 4, Section 9), visual quality and aesthetics were assessed qualitatively — using comparable case studies, published information, engagement feedback, and professional judgment — as these effects are not readily quantifiable (Section 29.1.3, Table 29.2).

1. **Assessment.**

   Effects on non-traditional visual and aesthetic resources were evaluated through three qualitative parameters including *visual quality*, *sensory disturbance*, and *experiential quality*. Effect pathways include clearing and construction altering topography and vegetation, sensory disturbance (aesthetics, light, noise, emissions), and resulting changes to the wilderness experience. Refer to Volume 9, Section 29.1.3, Table 29.2 for further discussion on potential effects, effects pathways and measurable parameters for non-traditional land, marine, and resource use.

2. **Affected viewpoints, routes, and visitor-use areas.**

   The baseline (Section 29.2.2) identifies potentially affected scenic and recreational resources and includes the Hood River corridor (valued for remote wilderness and scenic value, e.g., Wilberforce Falls) and Burnside River, along with wilderness outfitters and expedition operators (Black Feather, Nahanni River Adventures, Tree River Lodge). Affected users are primarily wilderness recreational users, sport anglers/hunters, and guided-tour operators in the PDA and LAA. The baseline also identifies parks and protected areas in the LAA, including designated lands/rivers and protected areas and other sanctuaries, conservation areas, and critical wildlife habitat. Section 29.2.2.5 describes baseline conditions for non-traditional marine navigation, including commercial and community-based travel routes in the marine environment.

3. **Landscape character, visibility, and lighting.**

   Section 29.3.4 assesses potential changes during Construction, visual changes and nuisance effects (light, dust, vibration, noise, emissions) that could diminish the wilderness experience and perceptions of remoteness for some land users. During Operations, the port and road may be readily visible in some areas due to topographical relief and lack of vegetation screening, resulting in ongoing disturbance to users' experience of the natural environment (Section 29.3.4.4). Light is addressed as a sensory disturbance; noise thresholds are cross-referenced to Volume 5, Section 13. Section 29.3.5 describes positive residual effects on marine navigation through the introduction of new marine infrastructure (e.g., Small Craft Harbour and lighting) that will be important contributors to safety.

4. **Mitigation, monitoring, and residual effects**.

   Relevant measures (Section 29.3.4.3) include using previously disturbed areas, progressive reclamation, a Borrow Pits and Quarry Management Plan, a Road Management Plan, an Air Quality Monitoring and Management Plan and Noise and Vibration Abatement Plan (with complaint tracking), and engagement with wilderness users to guide timing of disturbance-generating activities. Restoration of natural aesthetics at closure is addressed in the Closure and Reclamation Plan, consistent with IS Guidelines Sections 6.1 and 11.4. As outlined in Table 29.8, the project will result in some low magnitude adverse effects which are not anticipated to be significant (Section 29.5); however, the Project is also anticipated to result in positive residual effects on marine navigation through the introduction of new marine infrastructure, including lighting, at the Small Craft Harbour, which would improve wayfinding and increase safety for community boaters operating in coastal marine waters (Section 29.3.5).

NIRB 354. (IR-832)

Subject

Hydrology Baseline

Issue / Concern

Reviewer Comments / Reasoning: Does not discuss the specifics of the LAA and RAA. No discussion on subsurface flow, and not much talk about ice formation and melt patterns.

Missing Information / Gap: 1. Separate subsections for the LAA and RAA have not been provided. 2. Subsurface water conditions and associated ice formation have not been clearly characterized for each study area. 3. Freeze and melt processes, including their timing, extent, and potential effects on terrain, drainage, and infrastructure, have not been adequately discussed.

Information Request

Include subsections for each LAA and RAA, discuss Subsurface water and ice formation freeze and melt characteristics

Proponent Response

WKR believes that we have comprehensively addressed this IR within the Impact Statement (IS). Baseline information on subsurface water, ice formation, and freeze and melt characteristics is in Volume 7, Section 19.2. Permafrost, active layer and ground ice conditions are in Volume 6, Appendix 14A. Most baseline sources are regional, so much of the characterization applies to both assessment areas. Information specific to the LAA is identified separately below. The Water Resources LAA and RAA are defined in Volume 7, Section 19.1.4.1 and shown in Figures 19.1 and 19.2 (Volume 7, Section 19.1.4.1, Pages 19-9 to 19-13).

Plans to better identify where icing may occur are described in the response to NRCan-IR 03 (IR-211).

Effects of ice blockage, ponding and changed infiltration on ground ice, permafrost stability and drainage pathways are addressed in the response to CIRNAC-IR 04 (IR-159).

Thaw depth and ground subsidence are addressed in the response to NRCan-IR 01 (IR-209). Effects on terrain stability and infrastructure are assessed in Volume 6, Section 14.3.4 and Volume 10, Section 35.3.1.

NIRB 355. (IR-833)

Subject

Hydrology Baseline

Issue / Concern

Reviewer Comments / Reasoning: Does not discuss year to year variability as well as ground and surface water interaction

Missing Information / Gap: 1. Year-to-year variability in groundwater and surface water conditions has not been clearly characterized. 2. The interaction between groundwater and surface water, including seasonal and interannual changes in recharge, discharge, flow, and water levels, has not been adequately assessed. 3. It is unclear how this variability and interaction were incorporated into the baseline assessment and effects predictions.

Information Request

Include year to year variability of ground and surface water, as well as their interaction

Proponent Response

Year-to-year variability in surface water flows and the interaction between groundwater and surface water are addressed in the response to CIRNAC-IR 04 (IR-159), part 1. That response notes that Project-specific hydrometric stations haven't been installed yet. It explains that regional hydrometric data were used to characterize surface water hydrology near the PDA, including seasonal flow distribution, peak flows and 7-day low flows. It also states that limited groundwater–surface water interactions are anticipated to be affected by the Project. The baseline content behind that response provided in NIRB 354 (IR-832).

NIRB 356. (IR-834)

Subject

Hydrology Baseline

Issue / Concern

Reviewer Comments / Reasoning: Limited discussion on hydrogeological properties of near surface ground water. Discussion on deep ground water is not focus on hydrology

Missing Information / Gap: 1. Near-surface groundwater conditions, including depth, seasonal variation, flow pathways, and interactions with surface water, have not been adequately characterized. 2. The hydrogeological properties of deeper groundwater systems, including hydraulic conductivity, gradients, aquifer connectivity, recharge, discharge, and groundwater quality, have not been clearly described. 3. Potential connections between shallow and deep groundwater and their implications for Project effects have not been adequately assessed.

Information Request

Include more discussion on near surface ground water, and focus on hydrogeological properties of deep water

Proponent Response

See responses to NIRB 354 (IR-832) and NIRB 355 (IR-833).

NIRB 357. (IR-835)

Subject

Hydrology Baseline

Issue / Concern

Reviewer Comments / Reasoning: No discussion on Talik distribution on shorelines, beneath water bodies, or at water crossings

Missing Information / Gap: 1. Talik occurrence, extent, depth, continuity, and seasonal behaviour have not been adequately characterized. 2. The role of taliks in groundwater flow, surface water interaction, and subsurface contaminant transport has not been clearly assessed. 3. Potential effects of Project activities and climate change on talik development and stability have not been adequately considered.

Information Request

Include more discussion on Taliks

Proponent Response

Please see responses to information requests KIA-IR13 (IR-83), KIA-IR14 (IR-84), KIA-IR20 (IR-90) and NRCan-IR04 (IR-212) for further information regarding permafrost, talik occurrence, subsurface flow, and winter icing conditions at major stream crossings.

NIRB 358. (IR-836)

Subject

Hydrology Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Missing information or not present where referenced

Missing Information / Gap: 1. Extreme flow conditions, including freshet and 1:100-year or greater storm events, have not been adequately characterized. 2. It has not been demonstrated that proposed water crossings are appropriately designed and sized to provide sufficient flow capacity during extreme events. 3. Potential risks of overtopping, blockage, erosion, scour, flooding, and infrastructure failure have not been clearly assessed. 4. Mitigation, inspection, maintenance, monitoring, and adaptive management measures for extreme flows and crossing performance have not been adequately described.

Information Request

Discuss more on extreme flows, as well as more on how the design and size of proposed water crossings ensure adequate flow capacity during freshet or 1:100 year or greater storms. As well as mitigation

Proponent Response

Under the IS, watercourse crossings will be designed based on site-specific hydrotechnical, fisheries, environmental, navigational, and geotechnical considerations at each location, with crossing and culvert sizing taking into account flood events up to a 100-year flood, ice conditions, and climate change. Each crossing's design flow will be set during detailed design.

To provide clarity on the basis of design for the Port (marine and landside), Aerodrome, and the Road, see the Grays Bay Road and Port Reference Design Concept Memos attached as Appendix C of the Addendum. Each memo includes the details on the required design scope, the site conditions that must be considered in the design, codes, standards and design guidelines, reference documents, functional requirements, constraints, risks, and interdependencies, the reference design considerations, and future expansion considerations. The memos also include environmental commitments, risks and constraints (including climate resiliency) that must be incorporated into the advancement of the design.

The IS states that "Routine inspections of watercourse crossings will be conducted during the operations and maintenance phase to confirm they are functioning as per design and not resulting in erosion and sedimentation. If erosion and sedimentation issues exist, measures will be taken to correct the problem(s). This could include de-icing culverts to maintain flow, removal of obstructions (e.g., debris), and repair or replacement of erosion control measures" (Volume 7, Section 20). It also states that "In the event of ice blockages, steam trucks may be used to maintain the flow" (Volume 7, Section 19). The Road Management Plan's annual inspection program will "Identify bed erosion or scour around the crossing and in the upstream and downstream channel, and implementing mitigation measures as appropriate." It also

provides that "The effects of heavy precipitation events are tracked and adaptive mitigation measures implemented, including the potential addition/re-location of culverts" (Volume 11, Appendix 37A, Section 5). Refer also to the response to DFO-IR 34 (IR-257), which describes post-construction (as-built) and Operations and Maintenance inspections and corrective actions.

NIRB 359. (IR-837)

Subject

Hydrology Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: No discussion on impact of port, Jericho Station, and winter ice road development and other Project components (e.g., quarries,) on water withdrawal or discharge

Missing Information / Gap: 1. The existing information is broad and does not clearly assess Project effects on individual watersheds. 2. Potential changes to watershed boundaries, drainage patterns, runoff, flow distribution, water balance, and hydrologic connectivity have not been adequately described. 3. Impacts on downstream waterbodies, aquatic habitat, and watershed function have not been clearly assessed.

Information Request

Information that is present is broad, include discussion on impact to existing watersheds

Proponent Response

WKR respectfully submits that the information requested in this IR regarding changes to surface water quantity from altered drainage, runoff and water withdrawal is provided in the Impact Statement in Volume 7, Section 19.3.2 (Change in Surface Water Quantity). It places those changes in the context of the watersheds the Project intersects. The IS predicts that residual effects on surface water quantity will be low in magnitude, because the area affected is small compared with the watersheds.

NIRB 360. (IR-838)

Subject

Hydrology Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Limited discussion on stormwater runoff, no detailed LAA/RAA-wide surface water connectivity evaluation

Missing Information / Gap: 1. Stormwater runoff conditions within the LAA and RAA have not been clearly characterized. 2. Potential changes to runoff volume, flow paths, drainage patterns, and peak flows have not been adequately assessed. 3. Surface water connectivity between Project areas, watercourses, wetlands, lakes, and downstream watersheds has not been clearly described. 4. It is unclear how Project-related changes to stormwater runoff and surface water connectivity were incorporated into the effects assessment and mitigation measures.

Information Request

Include LAA and RAA storm water run-off and surface water connectivity discussion

Proponent Response

See response to NIRB 359 (IR-837).

NIRB 361. (IR-839)

Subject

Hydrology Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Missing information from some project components

Missing Information / Gap: 1. Impacts from each major Project infrastructure component have not been clearly assessed within the LAA and RAA. 2. Effects from roads, water crossings, port facilities, the aerodrome, Jericho Station, quarries, borrow areas, camps, and related infrastructure have not been separately described. 3. Construction, operation, maintenance, closure, and post-closure effects on stormwater runoff, drainage patterns, peak flows, erosion, and surface water connectivity have not been clearly evaluated. 4. Infrastructure-specific mitigation and monitoring measures for each Project stage have not been clearly identified.

Information Request

Include impact from each project infrastructure component from various stages of development

Proponent Response

WKR respectfully submits that the information requested in this IR regarding effects by Project activity and phase has been included in Volume 7, Section 19. Each VC assessment uses a project interaction table that lists Construction and Operations and Maintenance activities and marks where each activity interacts with an effect. Effects on surface water quantity, drainage and erosion are assessed in Volume 7, Section 19.3. Volume 7, Sections 19.3.2.3 and 19.3.3.3 set out the mitigation that applies to the Project's components.

NIRB 362. (IR-840)

Subject

Hydrology Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Missing information regarding impact to terrestrial wildlife habitat from the modification or redirection of natural flows.

Missing Information / Gap: 1. Effects of modified or redirected natural flows on terrestrial wildlife habitat have not been clearly assessed. 2. Potential changes to wetlands, riparian areas, vegetation, water availability, and seasonal habitat use have not been adequately described. 3. It is unclear how altered drainage and hydrologic connectivity may affect wildlife movement, habitat quality, and access to feeding, breeding, and refuge areas. 4. Mitigation and monitoring measures to address flow-related habitat effects have not been clearly identified.

Information Request

Include discussion on the impact to terrestrial wildlife habitat from the modification or redirection of natural flows.

Proponent Response

Alterations to the flow of surface water and drainage from Project construction (e.g., watercourse crossings) can affect terrain conditions and vegetation growth, including forage species and wetland function. Additional context is provided in the vegetation assessment:

> "*Changes to water quantity where road development changes drainage patterns may affect vegetation community diversity through changes to drainage and sedimentation. Construction of project roads may block both surface and shallow subsurface flows compared to baseline conditions (Pomeroy 1985; Spellerberg and Morrison 1998; Trombulak and Frissell 2000). Changes to surface and shallow subsurface flows may causing impounding on upgradient areas and drying out in downgradient areas. Ponding may result in wetter landcover types, permafrost degradation, and development of thermokarst (i.e., areas of thawed permafrost where marshy hollows occur). In downgradient areas where drying may occur, shifts in landcover type may occur from moister types to drier types. Wetland areas are particularly sensitive to changes in hydrology, as the vegetation species are typically adapted to moist or wet conditions for extended periods of time. Wetland vegetation communities may shift from wetland assemblages to upland assemblages if wetland hydrology is affected. The overall shift of hydraulic regime and surface water drainage patterns can affect vegetation species, structure and distribution up to hundreds of metres from the road (GBEEC 2018)*." (Volume 6, Section 15.3.1, page 15-40)

However, “The magnitude of effects is low during construction and operations and maintenance for community diversity and wetland function as measurable changes to vegetation will occur but will not result in the loss of landcover types, or loss of wetland function within the LAA or RAA” (Volume 6, Section 15.3.5, page 15-68). Vegetation effects attributable to hydrological changes are primarily restricted to the Project Development Area (PDA) (see Volume 6, Section 15.3.5, Table 15.14, document page 15-68). Consequently, any resulting wildlife habitat effects are already considered in the Impact Statement (IS) through calculations of direct habitat loss within the PDA and indirect habitat loss within the Project Zone of Influence (ZOI), which generally accounts for reduced habitat quality.

NIRB 363. (IR-841)

Subject

Hydrology Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Discussion on icing of culverts but not other infrastructure/resources

Missing Information / Gap: 1. Icing risks affecting other Project infrastructure and resources have not been clearly assessed. 2. Potential effects on roads, water crossings, drainage systems, water supplies, facilities, and operations have not been adequately described. 3. Mitigation, monitoring, maintenance, and adaptive management measures for icing-related impacts have not been clearly identified.

Information Request

Include assessment of icing of other project resources

Proponent Response

Please see the response to information request NRCan-IR 03 (IR-211) for a discussion on icing occurrences.

NIRB 364. (IR-842)

Subject

Hydrology Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: No reference to Canadian Navigable Water Act for each water crossing or in stream work

Missing Information / Gap: 1. A site-specific self-assessment under the Canadian Navigable Waters Act has not been provided for each proposed water crossing or in-stream work location. 2. Navigability of each affected waterbody has not been confirmed. 3. The applicability of the Canadian Navigable Waters Act has not been clearly explained. 4. Required approvals or notifications have not been identified. 5. Location-specific mitigation measures have not been clearly described. 6. Relevant Impact Statement sections, tables, figures, and appendices have not been cross-referenced.

Information Request

Include self assessment of the CNWA, For each proposed water crossing or in-stream work location, provide: confirmation of whether the waterbody is navigable; an explanation of how the Canadian Navigable Waters Act applies; identification of any required approval or notification; the proposed mitigation measures; and references to the relevant sections, tables, figures, or appendices of the Impact Statement.

Proponent Response

Please see responses to information requests TC-IR 06 (IR-222) and TC-IR 07 (IR-223).

NIRB 365. (IR-843)

Subject

Hydrology Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: No discussion on Talik changes on shorelines or water crossing, as well as none on frost bulb or icing formation

Missing Information / Gap: 1. Potential Project-related changes to talik occurrence, extent, continuity, and groundwater flow have not been clearly assessed. 2. The potential formation or expansion of frost bulbs around roads, culverts, foundations, and other infrastructure has not been adequately considered. 3. Risks of icing formation, including blocked drainage, altered flow paths, flooding, erosion, and infrastructure instability, have not been clearly described. 4. Mitigation, monitoring, maintenance, and adaptive management measures for talik changes, frost bulbs, and icing have not been clearly identified.

Information Request

Include discussion on how the potential change of taliks, as well as the potential for frost bulbs or icing formation

Proponent Response

Please see responses to information requests KIA-IR13 (IR-83), KIA-IR14 (IR-84), KIA-IR20 (IR-90) and NRCan-IR04 (IR-212) for further information regarding permafrost, talik occurrence, subsurface flow, and winter icing conditions at major stream crossings.

NIRB 366. (IR-844)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: No discussion on recreational use of water in the area of influence, limited discussion on the lakes and other sources of water as drinking water in the area.

Missing Information / Gap: 1. Recreational uses of waterbodies within the LAA and RAA have not been clearly identified. 2. Activities such as boating, fishing, travel, camping, swimming, and other seasonal water-based uses have not been adequately characterized. 3. An inventory of existing and potential drinking-water sources, including lakes, streams, groundwater, springs, and community or camp water supplies, has not been provided. 4. Potential Project effects on the availability, accessibility, and quality of recreational waters and drinking-water sources have not been clearly assessed.

Information Request

Discuss the recreational uses of the water in the area as well as an inventory of the other sources of drinking water.

Proponent Response

Recreational water use and drinking-water sources are addressed across several Valued Components (VCs) in the Impact Statement. Recreational and traditional water-based uses are included in Volume 9, Sections 29 (Non-Traditional Land, Marine, and Resource Use) and 24 (Traditional Land, Marine, and Resource Use); water sources are documented in Volume 7, Section 19 (Water Resources) and its appendices; and community and Project water supplies are documented in Volume 9, Section 28 (Infrastructure and Services) and Volume 2 (Project Description). The following response addresses each element of the information request.

1. **Recreational uses of waterbodies within the LAA and RAA.** Non-traditional recreational water uses are included in the baseline for Volume 9, Section 29.2.2, including sport fishing, expedition canoeing and rafting (e.g., Hood River and Burnside River), cruise-based tourism, and recreational boating along the Coronation Gulf coastline between Kugluktuk and Cambridge Bay. Traditional uses of water — including fishing areas, water-based travel routes, camping/cabin areas, and water harvesting — are documented on a site-by-site basis in Volume 9, Section 24.2.2 (e.g., Contwoyto Lake, Hood River, James River, Kennarctic River) and in the Inuit, Indigenous Knowledge and Engagement Feedback Related to Water Resources summarized in Volume 7, Table 19.9.

2. **Inclusion of boating, fishing, travel, camping, swimming, and seasonal water-based uses.** These activities are included primarily in Section 29.2.2 (recreation and tourism baseline) and Section 24.2.2 (traditional use), with recreational and commercial fishing effects assessed in Volume 7, Section 20 (Freshwater Fish and Fish Habitat). Recreational boating and marine navigation — including seasonal coastal travel — are included in Section 29.2.2.5. Seasonality is captured throughout (e.g., ice-free-season expedition trips, summer coastal travel to family cabins, and seasonal fishing).

3. **Inventory of existing and potential drinking-water sources**. Drinking-water sources are documented in three complementary locations:

    - Natural sources (lakes, streams, groundwater, springs): Included in Volume 7, Section 19.2.2 and Appendices 19A (Hydrology Baseline) and 19C (Freshwater and Sediment Quality). Section 19 specifically recognizes that Kitikmiut use groundwater springs and surficial waterbodies connected to the groundwater system as sources of potable water (Table 19.8). Bathymetry, depth, surface area, and volume for the candidate Project intake lake are provided in the PWI-1 (Potential Water Intake) Memorandum (Appendix 19C).
    - Community water supplies: Included in Volume 9, Section 28.2.2 (Water and Sewage) — every Kitikmeot community has a water treatment plant that uses surface water for treatment and delivery of potable water to residents.
    - Project/camp water supply: Described in Volume 2, Section 2.6 and Section 28.2.2.7 (Utilities) — the Project will draw from freshwater lakes near the PDA (within ~10 km of the Port) with on-site treatment, or alternatively a seawater intake with reverse-osmosis desalination. As the Project is located 180 km from the nearest community, it will not draw on community water infrastructure.

4. **Project effects on availability, accessibility, and quality.** Effects on water quantity and quality — including potable groundwater springs — are assessed in Volume 7, Section 19.3: Change to Surface Water Quantity (Section 19.3.2), Change to Surface Water and Sediment Quality (Section19.3.3), and Change in Groundwater Quality (Section 19.3.4). Effects on access to and use of water used for recreation (fishing, boating, wilderness experience, marine navigation) are assessed in Volume 9, Sections 29.3.4 and 29.3.5. Change in quality, quantity, or distribution of TLMRU resources including water resources that have the potential to affect the traditional activities including fishing and cultural use of water are assessed in Volume 9, Section 24.3.3.3.

NIRB 367. (IR-845)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: Could not find discussion on isotopes

Missing Information / Gap: 1. The isotopic composition of groundwater has not been adequately characterized. 2. Isotopic data have not been used to distinguish groundwater sources, recharge conditions, residence times, or connections between shallow groundwater, deep groundwater, surface water, and taliks. 3. Spatial, seasonal, and depth-related variability in groundwater isotopic composition has not been clearly assessed. 4. It is unclear how isotopic information was used to evaluate groundwater flow pathways, mixing, permafrost influence, and potential contaminant transport.

Information Request

discuss isotopic composition in groundwaters

Proponent Response

Isotopic Composition of Groundwater has not been Characterized as Part of this Impact Statement

Groundwater isotopic composition was not used to characterize the groundwater resource as part of the IS and the future collection of isotopic data is not planned or warranted for this project. Existing isotopic data within and near the Project area is limited and does not have the resolution needed to assess groundwater mixing patterns or processes across the Regional Assessment Area. Rather than conduct a groundwater sampling campaign at this stage, desktop assessment was used to characterize groundwater mixing pathways, permafrost influence, and identify potential contaminant transport pathways. This assessment method mapped areas where permafrost may be absent and open taliks may exist. These locations are where surface water, shallow groundwater, and deep groundwater may interact and where potential impacts to groundwater are most likely reach groundwater receptors.

Mitigation measures to prevent impacts to groundwater quality focus on mitigating impacts to surface water resources and maintaining permafrost stability, which in turn protects groundwater quality. This includes key measures such as implementing industry standard best practices for erosion and sediment control, spill prevention, and permafrost projection during the project design and construction. More details can be found in the Water Management Plan, Road Construction Management Plan, Borrow Pits and Quarry Management Plan, and Spill Contingency Plan (see Volume 11).

Future Isotopic Assessment Work

Future analysis of groundwater isotopic composition is unlikely to be required as the proposed project activities will have limited disturbance below the active zone (~8 m depth) and this shallow depth of disturbance does not warrant the need to use groundwater isotopes to differentiate shallow and deep groundwater sources by isotopic composition. Instead, future groundwater analysis will focus on constraining the chemical composition of the surface water and shallow groundwater that the project is most likely to interact with. Given the shallow depth of disturbance for most of the project activities, surface water quality monitoring will be used to determine if there is potential that groundwater impacts have occurred and if additional groundwater sampling is required. The Project is not anticipated to cause adverse long-term residual effects on deep groundwater quality; however, if surface water impacts occur in areas near taliks where pathways are expected to exist between shallow and deep groundwater, then isotopic assessment methods may also be considered.

Use of Isotopic Data to Characterize Groundwater in Permafrost Regions

Isotopic sampling can be used to distinguish groundwater sources, estimate groundwater residence times, and help identify interactions between surface water and groundwater. Groundwater isotopes ($^{16}O/^{18}O$ and $^{1}H/^{2}H$) are often used to distinguish different water sources and identify mixing between water sources. This is possible as groundwater often inherits the isotopic composition of the meteoric water that originally recharged the groundwater system and the isotopic composition of meteoric water varies with factors such as latitude, temperature, and season. Additionally, processes such as freezing, evaporation, or water-rock isotopic exchange can alter the isotopic composition of water after it is precipitated. These processes create systematic differences in isotopic composition that can be used to distinguish different groundwater sources or reservoirs.

Tritium (^{3}H) may also be used to date groundwater. Water precipitated before 1954 can be is easily identified as high amounts of tritium in the atmosphere were not present until nuclear bomb testing began in 1954. As tritium has a relatively short half life, it may also be used to radioactively date water younger than 100 years old.

Dissolved ^{4}He and ^{222}Rn may also be used to distinguish deep groundwater from shallow groundwater or surficial water sources as deep groundwater will tend to be more enriched in ^{4}He and ^{222}Rn compared to surficial waters. This can be important for project like mines that interact with groundwater above and below the permafrost layer.

Available Groundwater Isotopic Data

Project specific groundwater isotopic data has not been collected, but regional isotopic information is available from other studies. These studies are summarized below:

High Lake (adjacent to the Project): Groundwater was sampled from a depth of 420 m below the surface in an angled borehole at the High Lake mine. These groundwater samples come from within the permafrost layer as the permafrost in this locating extends to a depth of 460 m below the surface. Successive samples collected from the borehole contained less drilling fluid but a pure groundwater sample was not able to be collected before the system froze. The purest sample had a $\delta^{18}O$ value of -

22.5‰ and a $\delta^{2}H$ value of -177‰. It is estimated that the purest sample contained <40% drilling fluids. The deep groundwater has a $\delta^{18}O$ value that is 5‰ lower than local surface water. Fluid isotopic composition is thought to be affected by the permafrost formation process (Stotler et al. 2011).

Lupin Mine Water Isotopes (25 km away from the Project): Groundwater chemical and isotopic trends were assessed by researchers at the University of Waterloo to better understand the characteristics of groundwater in the Canadian Shield. This dataset included groundwater isotopic data from the Lupin mine. The Lupin area has a local meteoric water line (LMWL) with a slope of 7.32, while groundwater samples plot along a line with a slope of 6.58 ($\delta^{2}H/\delta^{18}O$) (Stotler et al. 2009, Stotler et al. 2012). The authors interpret the shallower slope of this line compared the LWML to reflect freezing processes and mixing with surface water/drill fluids (Stotler et al., 2009; Boumaiza et al. 2024).

Groundwater Monitoring Reports for the Meadowbank Mine (700 km away from the Project): Water isotopes were sampled as part of the monitoring program for this mine to assess groundwater movement and sources. During the 2022 program, $\delta^{18}O$ and $\delta^{2}H$ isotope values from groundwater, surface water, and reclaim water were assessed. Isotopic samples from the Meadowbank mine were found generally fall along or below the GMWL. Surface water samples fall along a local evaporation line while groundwater samples tended to show variations in composition related to seasonal effects. The results of isotopic monitoring in 2022 showed that isotopic analysis was not a reliable method of identifying TSF seepage impacts in groundwater as the TSF signature was obscured by seasonal effects (WSP 2023).

Rankin Inlet (950 km away from the Project): A column profiling groundwater sampling campaign was conducted across five lakes near the Rankin Inlet to evaluate if isotopic, ionic, and gaseous tracers could identify groundwater and meteoric lake water components. A two-endmember mixing model using ^{3}H and ^{222}Rn were used to identify the meteoric (atmospheric ^{3}H and ^{222}Rn values) and groundwater endmembers (depleted ^{3}H and elevated ^{222}Rn). Sampling was conducted during late winter and found that groundwater influence was limited at this time (Faucher et al. 2026).

Quebec to Ellesmere Island (1,100+ km away from the Project): Water samples were collected from lakes along a transect spanning from Quebec to Ellesmere Island between 1994-1997 and 2017-2021 to evaluate seasonal isotopic variations in lake composition. It was found that more southern lakes have an isotopic composition that reflects the average annual precipitation whereas more northern lakes had compositions that reflect summer-biased isotopic compositions. The authors propose that more northern lakes are more fully flushed by summer precipitation due to the higher runoff to precipitation ratios found further north (Gorbey et al. 2022).

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NIRB 368. (IR-846)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: Limited discussion on physical and chemical characterizations of groundwater

Missing Information / Gap: 1. Groundwater within the Local Study Area has not been adequately characterized. 2. Physical conditions, including groundwater levels, temperature, flow direction, hydraulic gradients, conductivity, recharge, discharge, and seasonal variability, have not been clearly described. 3. Chemical conditions, including pH, salinity, major ions, nutrients, metals, hydrocarbons, and other potential contaminants, have not been adequately assessed. 4. Spatial and depth-related differences between near-surface, deep, and talik-associated groundwater have not been clearly identified. 5. Groundwater quality results have not been compared with applicable guidelines or used to establish reliable baseline conditions.

Information Request

Include groundwater physical and chemical characterizations of the ground water in the Local Study Area

Proponent Response

See response to information request NIRB 354 (IR-832).

NIRB 369. (IR-847)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: Broad discussion on importance of country food to nearby communities, not focused on the actual water body importance

Missing Information / Gap: 1. The importance of waterbodies within the Regional Study Area for harvesting activities has not been clearly described. 2. The use of these waterbodies by nearby communities for fishing, hunting, trapping, travel, camping, drinking water, and access to harvesting areas has not been adequately characterized. 3. Seasonal use, culturally important locations, and community dependence on specific waterbodies have not been clearly identified. 4. Potential Project effects on access, water quality, fish and wildlife resources, harvesting success, and continued traditional use have not been adequately assessed.

Information Request

Discuss the importance of the waterbodies for harvesting activities in the regional study area to nearby communities

Proponent Response

See response to information request GC-IR 07 (IR-154).

NIRB 370. (IR-848)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: No discussion on lake bathymetry, only ranges of depths for lakes measured

Missing Information / Gap: 1. Lake bathymetry within the study areas has not been adequately described. 2. The names and locations of assessed lakes have not been clearly identified. 3. Key bathymetric characteristics, including lake depth, basin shape, shallow areas, volume, and outlet conditions, have not been clearly summarized. 4. It is unclear how lake bathymetry informed water withdrawal, habitat, water quality, hydrology, and effects assessments.

Information Request

Provide discussion on lake bathymetry, including lake names

Proponent Response

Bathymetry was surveyed at the potential water intake lake near the Port. Further characterization of the lakes proposed as water sources will be done through detailed design and water licensing, as necessary. Water withdrawal will be completed

The lakes sampled for the baseline are identified in Volume 7, Appendix 19C, Section 2.1.2, and shown on Figure 1.2. At the other sites, "*Lake water depths were determined with the probe and measuring rope; bathymetric maps were not available at the time of this study*" (Volume 7, Appendix 19C, Section 2.2). The IS reports that the depths of selected lakes ranged from approximately 1 m to > 30 m.

For water withdrawal, the IS states that "*The potable water and temporary water withdrawal volumes are expected to be small relative source capacity" (Volume 7, Section 19.3.2). Refer also to the response to NIRB 154 (IR-632) on the port intake lakes, and to the response to DFO-IR 37 (IR-260). That response notes that surveys may be needed at "locations that have the potential to provide overwintering habitat to fish including incubating eggs (i.e., locations with water depths which may not freeze to bottom).*"

NIRB 371. (IR-849)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: How were these parameters decided to be discuss? What about other metals and parameters

Missing Information / Gap: 1. Other relevant water conditions within the watershed and proposed Project area have not been clearly summarized. 2. Seasonal water levels, flow conditions, drainage patterns, water quality, sediment conditions, groundwater interactions, icing, and surface water connectivity have not been adequately characterized. 3. Spatial and year-to-year variability in these conditions has not been clearly described. 4. It is unclear how these water conditions informed the baseline assessment, Project design, mitigation, and effects conclusions.

Information Request

Provide a summary of other water conditions from the watershed and proposed project area

Proponent Response

WKR respectfully submits that the information requested in this IR regarding water conditions are included in Appendix 19C states that "Water quality across rivers, streams, and lakes was generally good, with clear, well-oxygenated waters and low nutrient levels." Its summary section sets out conditions for each waterbody type, including the metals found above guidelines (Volume 7, Appendix 19C, Section 4). The watersheds crossed by the Project are described in Appendix 19C, Section 1.3.1. Baseline hydrology is presented in Volume 7, Section 19.2 and Appendix 19A.

Refer to the response to ECCC-IR 06 (IR-166), part 1, which states: "The sample number is reflective of a screening level characterization, and the dataset relies on historical samples collected primarily at a single point in time. The baseline surface water quality dataset will be supplemented through the pre-Construction and ongoing monitoring programs developed under the Aquatic Effects Management Plan (Volume 11, Appendix 37D) and confirmed through the NWB Type A Water Licence process. This monitoring will include the collection of additional site-specific and seasonal surface water quality data at Project-relevant monitoring locations to strengthen the baseline characterization prior to and during Construction."

NIRB 372. (IR-850)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: Missing maps and cross sections of permafrost and hydro stratigraphic units

Missing Information / Gap: 1. Maps and cross-sections showing permafrost distribution and hydro stratigraphic units have not been provided. 2. The spatial relationships among permafrost, taliks, geological units, aquifers, and confining layers have not been clearly illustrated. 3. Groundwater levels and potentiometric contours within the study area have not been adequately mapped. 4. Groundwater flow directions, recharge and discharge areas, and connections with surface water have not been clearly identified.

Information Request

Present figures of permafrost and hydro stratigraphic units maps and cross sections. As well include Groundwater levels, potentiometric contours and groundwater flow directions

Proponent Response

The IS describes the Project area's hydrostratigraphy and maps the distribution of permafrost, active layer and taliks. It has no groundwater levels, potentiometric contours or mapped flow directions, because no Project groundwater monitoring wells have been installed. The IS characterizes groundwater from regional and nearby-project datasets, in the context of continuous permafrost.

Hydrostratigraphic units. The IS states that "The groundwater hydrostratigraphy of the Project can be separated into two groundwater zones":

- "Shallow Groundwater – water hosted in the overburden and weathered bedrock within the near surface in the active zone above the permafrost, which undergoes seasonal freeze and thaw cycles"
- "Deep Groundwater – water hosted in the fractured bedrock beneath the permafrost"

The Project area "*has a typical stratigraphy consisting of a thin layer of unconsolidated overburden that ranges up to 25 m in thickness overtop of low porosity crystalline bedrock," in which "Fractures within the bedrock are the main structures that store and transport groundwater*" (Volume 7, Section 19.2.2.4).

Permafrost and taliks. The IS states that "permafrost is expected to exist across over 90% of the RAA" and that "t*his permafrost can range from 250 m to over 500 m in thickness as shown in Figure 19.5*" (Volume 7, Section 19.2.2.4). The following figures show the distribution:

- Volume 7, Figures 19.5 to 19.7: permafrost and the active layer
- Volume 7, Figure 19.8: potential talik distribution across the region (Section 19.3.4.1)
- Volume 7, Figure 19.9: potential open taliks near major watercourse crossings (Section 19.3.4.1)

The terrain baseline maps surficial materials and permafrost features (Volume 6, Appendix 14A).

Groundwater flow and connections with surface water. The IS states that "Taliks (unfrozen portions of ground within the permafrost) provide pathways for groundwater flow between the shallow and deep groundwater zones" (Volume 7, Section 19.2.2.4).

Groundwater levels, potentiometric contours and flow directions. Refer to the response to NIRB 184 (IR-662), items 4 to 7. It explains that no Project groundwater monitoring wells have been installed and describes how groundwater was characterized for the assessment.

NIRB 373. (IR-851)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: Conformity Table outlines that no groundwater monitoring wells installed for the Project

Missing Information / Gap: 1. No groundwater monitoring wells have been installed for the Project. 2. The rationale for not installing groundwater monitoring wells has not been clearly explained. 3. It is unclear how groundwater levels, flow directions, seasonal variability, water quality, and Project-related changes will be assessed without site-specific monitoring wells. 4. The adequacy of existing information to support the groundwater baseline and effects assessment has not been demonstrated.

Information Request

Include discussion on why these were not considered for the Project

Proponent Response

No groundwater monitoring wells have been installed for the Project, as it is based on approximately 10% (conceptual) engineering design. The IS uses existing regional data and a groundwater approach suited to permafrost conditions. Groundwater is expected to interact with the Project mainly through shallow groundwater above the permafrost and through taliks. The Project does not plan to extract groundwater and Project infrastructure will be designed to minimize impacts to permafrost and thus groundwater. For further understanding on Project design, see Appendix C of the addendum.

NIRB 374. (IR-852)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: Conformity Table outlines that no groundwater budget as no ground water will be encountered
Missing Information / Gap: 1. A groundwater budget has not been prepared because the Project assumes groundwater will not be encountered. 2. The technical basis for this assumption has not been clearly demonstrated using site-specific hydrogeological investigations. 3. Potential groundwater occurrence within the active layer, taliks, fractured bedrock, deep groundwater systems, and areas of discontinuous permafrost has not been adequately considered. 4. It is unclear how groundwater inflows, recharge, discharge, surface water interactions, and Project-related changes will be assessed if groundwater is encountered. 5. The adequacy of excluding a groundwater budget from the baseline and effects assessment has not been justified.

Information Request

Include discussion on why this was not considered for the Project

Proponent Response

See responses to information request NIRB 354 (IR-832) and NIRB 355 (IR-833).

NIRB 375. (IR-853)

Subject

Ground and Surface Water Baseline

Issue / Concern

Reviewer Comments / Reasoning: Discussion only on how ground and surface water interact via taliks underneath lakes.

Missing Information / Gap: 1. Groundwater–surface water interactions have only been discussed for taliks beneath lakes. 2. Potential interactions involving rivers, streams, wetlands, ponds, springs, and drainage channels have not been adequately characterized. 3. The role of taliks, the active layer, and unfrozen subsurface pathways in controlling recharge, discharge, baseflow, water levels, water quality, and contaminant transport to other waterbodies has not been clearly assessed.

Information Request

Include discussion regarding other waterbodies

Proponent Response

Please see responses to information requests KIA-IR13 (IR-83), KIA-IR14 (IR-84), KIA-IR20 (IR-90) and NRCan-IR04 (IR-212) for further information regarding permafrost, talik occurrence, subsurface flow, and winter icing conditions at major stream crossings.

NIRB 376. (IR-854)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Broad discussion on some contaminants and contaminant pathways

Missing Information / Gap: 1. The discussion of contaminants and contaminant pathways is broad and incomplete. 2. A comprehensive list of contaminants of potential concern has not been provided for each Project component. 3. The rationale for including or excluding individual contaminants has not been clearly explained. 4. Source-to-receptor distances and figures showing contaminant sources, transport pathways, and affected receptors have not been provided. 5. Release pathways through air, dust, soil, surface water, groundwater, sediment, vegetation, wildlife, fish, and country foods have not been clearly mapped. 6. Potential synergistic and antagonistic interactions among contaminants have not been adequately assessed. 7. Contaminant sources and pathways have not been separately identified for roads, port facilities, aerodrome, Jericho Station, quarries, borrow areas, camps, fuel storage, water crossings, shipping, and related infrastructure. 8. Construction, operation, maintenance, closure, accident, spill, and malfunction scenarios have not been clearly considered.

Information Request

Provide a full contaminant-of-potential-concern list with rationale, source distance figures, release pathway mapping, and synergistic/antagonistic interaction predictions. Indicate for all proposed project components

Proponent Response

See responses to NIRB 244 (IR-722) and NIRB 245 (IR-723) for discussion on how COPC are discussed within the IS. See response to information request CIRNAC-IR 03 (IR-158) for discussion on wastewater treatments, monitoring and management.

NIRB 377. (IR-855)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Lacking predictions of contaminant increases in different waterbody's as a result of project activities, or a complete inventory of drinking/recreational/harvesting/ fish-bearing waterbodies with contaminant comparisons

Missing Information / Gap: 1. Predicted contaminant concentrations have not been provided for individual waterbodies potentially affected by the Project. 2. A complete inventory of drinking-water, recreational, harvesting, and fish-bearing waterbodies within the study areas has not been provided. 3. Baseline and predicted contaminant concentrations have not been compared by waterbody, use, Project phase, or contaminant pathway. 4. Contaminant levels have not been clearly compared with applicable drinking-water, recreational-water, aquatic-life, and fish-consumption guidelines. 5. Waterbodies with greater exposure potential or sensitivity to contaminant releases have not been clearly identified.

Information Request

Include predictions of contaminants in different waterbodies, as well as identify a complete inventory of drinking/recreational/harvesting/fishbearing waterbodies with contaminant comparisons

Proponent Response

WKR respectfully submits that the information requested in this IR regarding Project effects on surface water quality qualitatively, by effect pathway, including contaminants. It compares the baseline chemistry of the sampled waterbodies with applicable guidelines. It does not give numerical contaminant predictions for individual receiving waterbodies, as there are limited pathways for contamination of waterbodies from the Project. Follow-up monitoring of indicator parameters will be used to confirm that mitigation is working.

Volume 7, Sections 19.3.3.1 to 19.3.3.4 assess Project effects on surface water and sediment quality by pathway and characterize their magnitude and geographic extent. The IS states that "runoff and dust associated with traffic on the road is expected to result in low magnitude changes to surface water and sediment quality" (Volume 7, Section 19.3.3). It also states that, "Given the Project's small footprint relative to watershed size, residual effects on surface water quantity, water and sediment quality are predicted to be low in magnitude" (Volume 7, Section 19.5). For the scope and limits of the baseline dataset, refer to the response to ECCC-IR 06 (IR-166), part 2, which states that "The collected baseline data is not intended to be a proxy indicator for the assessment of Project-related effects for other unsampled waterbodies." For further discussion on drinking water and recreational water uses, refer to the response to NIRB 184 (IR-662).

Monitoring will focus on indicator parameters that are relevant to potential Project stressors through a defined Project pathway (Volume 7, Section 19). The baseline will be supplemented through pre-construction and ongoing monitoring under the Aquatic Effects Management Plan (Volume 11, Appendix 37D (Draft)). This is confirmed through the Nunavut Water Board Type A Water Licence process (refer to the response to ECCC-IR 06 (IR-166), part 1).

NIRB 378. (IR-856)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Lacking impact to water quality from water withdrawal under ice.

Missing Information / Gap: 1. Impacts of under-ice water withdrawal on water quality have not been adequately assessed. 2. Potential changes in dissolved oxygen, temperature, mixing, contaminant concentrations, and sediment disturbance have not been clearly evaluated. 3. Effects on winter water levels, under-ice habitat, fish, and aquatic organisms have not been adequately described. 4. Withdrawal limits, monitoring requirements, thresholds, and mitigation measures for under-ice conditions have not been clearly identified.

Information Request

Include a dedicated assessment of impacts to water quality for withdrawal under ice

Proponent Response

The IS manages the effects of under-ice withdrawal by limiting how much water can be taken from ice-covered waterbodies. Under-ice withdrawals will follow the DFO Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut. The Nunavut Water Board will set withdrawal sources, volumes and monitoring requirements through water licence conditions. The IS also states that licence conditions "*will consider authorized withdrawal and discharge points, maximum daily withdrawal volumes and maximum daily withdrawal rates based on system capacity,*" and that "*Monitoring requirements are commonly included as a condition of the licenses to confirm compliance with limits*" (Volume 7, Section 19.3.2.3).

NIRB 379. (IR-857)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: No discussion on impact of wastewater discharge to the surrounding ground and surface water.

Missing Information / Gap: 1. A dedicated assessment of wastewater treatment plant discharge effects on surface water and groundwater has not been provided. 2. Effluent characteristics, discharge volumes, discharge locations, and receiving-water conditions have not been clearly identified. 3. Water-quality modelling has not been provided to predict contaminant concentrations at the discharge source and downstream receptors. 4. Effluent dispersion, dilution, mixing, and environmental assimilation have not been adequately assessed. 5. Potential effects on surface water, groundwater, sediment, aquatic habitat, fish, and water users have not been clearly evaluated. 6. Seasonal and worst-case conditions, including low flow, under-ice discharge, and treatment-system malfunctions, have not been adequately considered. 7. Monitoring locations, water-quality thresholds, mitigation measures, and adaptive management actions for wastewater discharge have not been clearly identified.

Information Request

Include a dedicated assessment of impact to ground and surface water from the discharge from a wastewater treatment plant, as well as models to predict water quality from the source and where discharged, and dispersion, dilution and assimilation of effluent discharged to the environment

Proponent Response

See response to information request CIRNAC-IR 03 (IR-158) for discussion on wastewater treatments, monitoring and management.

NIRB 380. (IR-858)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Dust identified as a contaminant, but lacking information regarding the impact of dust to ground and surface water

Missing Information / Gap: 1. Dust-related effects on surface water and groundwater have not been clearly assessed for each Project activity. 2. Dust sources from roads, traffic, quarries, borrow areas, blasting, crushing, material handling, port construction, aerodrome operations, camps, and other infrastructure have not been separately identified. 3. Dust deposition, runoff, infiltration, and transport pathways to lakes, streams, wetlands, groundwater, and water crossings have not been adequately characterized. 4. Potential changes to turbidity, suspended solids, sedimentation, pH, metals, nutrients, and other water-quality parameters have not been clearly predicted. 5. Seasonal and cumulative effects, including dry periods, snow accumulation and melt, freshet, and overlapping dust sources, have not been adequately considered. 6. Activity-specific mitigation, monitoring locations, thresholds, and adaptive management measures for dust effects on water have not been clearly identified.

Information Request

Include the impacts of dust in ground and surface water generated from each project activity

Proponent Response

WKR respectfully submits that the information requested in this IR regarding dust in ground and surface water is included in the IS. The IS models dust deposition from Project activities in the air quality assessment (Volume 5, Section 11) and uses those results in the water resources assessment (Volume 7, Section 19). In Volume 7, dust is assessed as a pathway to surface water and sediment quality, alongside runoff (Volume 7, Section 19). The IS predicts that dust will cause low-magnitude changes and manages it through dust-specific mitigation and monitoring (Volume 7, Section 19; Volume 11; Volume 5, Section 11.3.2.3).

NIRB 381. (IR-859)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Nutrient input from blasting identified as a contaminant, but lacking information regarding the impact on surface water quality of nearby lakes and streams

Missing Information / Gap: 1. Potential effects of blasting-related nutrient inputs on nearby lakes and streams have not been adequately assessed. 2. Transport pathways through runoff, seepage, groundwater, and snowmelt have not been clearly characterized. 3. Potential changes to nitrogen concentrations, algal growth, dissolved oxygen, water quality, and aquatic habitat have not been evaluated. 4. Mitigation, monitoring, thresholds, and adaptive management measures for blasting-related nutrient releases have not been clearly identified.

Information Request

Include discussion on how nutrient input from blasting may affect the surrounding water bodies

Proponent Response

See responses to NIRB 244 (IR-722) and NIRB 245 (IR-723) for discussion on how COPC are discussed within the IS and NIRB 192 (IR-670) for the link between Project-generated contaminant loadings.

NIRB 382. (IR-860)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Runoff at fuel storage sites identified as a contaminant pathway, but lacking information regarding the impact of runoff to ground and surface water

Missing Information / Gap: 1. Potential effects of runoff from fuel storage sites on surface water and groundwater have not been adequately assessed. 2. Pathways from routine runoff, leaks, spills, and malfunctions through drainage, infiltration, snowmelt, and groundwater flow have not been clearly characterized. 3. Potential changes to water quality from petroleum hydrocarbons, fuels, additives, and related contaminants have not been clearly predicted. 4. Effects on nearby lakes, streams, wetlands, drinking-water sources, fish habitat, and aquatic organisms have not been adequately evaluated. 5. Spill containment, runoff controls, monitoring, cleanup thresholds, and adaptive management measures have not been clearly identified.

Information Request

Include the impacts of fuel runoff in ground and surface water

Proponent Response

The IS identifies runoff from fuel storage and handling areas as a potential pathway to surface water and groundwater. It manages this pathway through secondary containment, setbacks, runoff controls and spill prevention, and it confirms effectiveness through monitoring. The IS doesn't give quantitative predictions of hydrocarbon concentrations in receiving waters. Please see the response to the information request NIRB 359 (IR-837) for further details.

NIRB 383. (IR-861)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: Accidental spills of fuel or chemicals identified as a contaminant pathway, but lacking information regarding the impact of them to ground and surface water

Missing Information / Gap: 1. Potential effects of accidental fuel or chemical spills on surface water and groundwater have not been adequately assessed. 2. Spill pathways through runoff, infiltration, snowmelt, drainage systems, groundwater flow, and surface water connectivity have not been clearly characterized. 3. Potential changes to water quality, sediment quality, drinking-water sources, fish habitat, and aquatic organisms have not been clearly evaluated. 4. Spill scenarios, contaminant types, release volumes, affected locations, and downstream transport distances have not been identified. 5. Spill prevention, containment, response, remediation, monitoring, thresholds, and adaptive management measures have not been clearly described.

Information Request

Include the impacts of fuel or chemical spills in ground and surface water

Proponent Response

The potential effects of accidental fuel or chemical spills on water resources is provided in Volume 10, Sections 34.4.1, 34.6.3, 34.7.1 and 34.7.1.4. Spill pathways, contaminant types, release volumes and worst case scenarios are provided in Section 34.4.1. Seasonal risk considerations are provided in Section 34.6.3. Section 34.7.1 identifies the "*worst probable case for a hazardous material spill would likely be a large spill (> 1,000 L) of fuel into a major watercourse (e.g., Burnside River, Hood River, James River, and Kennarctic River) under unfrozen conditions*". The analysis provided is considered inclusive of all water resources i.e., both surface water and ground water. As described in Volume 7 (Freshwater Environment), Section 19.3.4.1, The shallow groundwater system within the RAA is generally hosted in the active zone which exists within 8 m of the surface above a layer of continuous permafrost. This permafrost, which can exceed 500m thickness, acts as an impermeable barrier between the shallow groundwater system and the deep groundwater system. The shallow groundwater system is intimately connected to the surficial water bodies and therefore analysis of surficial water bodies can also be applied to shallow groundwater.

Pathways for contaminants to reach the deep groundwater system will only exist where open taliks occur. Only 6.0 km of the roadway (2.6%) is within 100 m of lakes that are highly likely to host open taliks, with another 0.9 km of road within 100 m of lakes that may possibly host open taliks. Together, there are roughly 7 km of roadway (3%) that has a proximal pathway to impact deep groundwater quality. Even in areas where open taliks are likely to exist, the low permeability of the bedrock in these areas will limit the transport of contamination into deep groundwater reservoirs, Volume 7, Section 19.3.4.1.

Mitigation, spill response, monitoring, and adaptive management measures are listed in Volume 10 Sections 34.6.1 and 34.7.2. Emergency response plans are discussed in Volume 10, Section 34.6.2, and draft management plans are provided in Volume 11. Draft management plans will be completed as Project engineering progresses and include any requirements identified within the Project Certificate. All management plans, including emergency response and adaptative management plans will be completed and approved prior to construction commencing.

NIRB 384. (IR-862)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: No discussion on impact of landfill disposal, landfarming, contaminated soil/runoff, historical contaminated material management, and sewage effluent discharge to the surrounding ground and surface water

Missing Information / Gap: 1. A dedicated assessment of effects from landfill disposal, landfarming, contaminated soil and runoff, historical contaminated materials, and sewage effluent on surface water and groundwater has not been provided. 2. Contaminant sources, release pathways, affected locations, and potential downstream or subsurface transport have not been clearly characterized. 3. Potential effects on water quality, sediment, drinking-water sources, fish habitat, and aquatic organisms have not been adequately evaluated. 4. Mitigation, containment, treatment, monitoring, remediation criteria, and adaptive management measures have not been clearly identified.

Information Request

Include a dedicated assessment of impact to ground and surface water from landfill disposal, landfarming, contaminated soil/runoff, historical contaminated material management, and sewage effluent discharge

Proponent Response

The IS screens waste management and wastewater facilities as having no interaction with freshwater resources during construction as wastewater associated with camps will be disposed of offsite or to a landfarm location where no freshwater interaction occurs and during operations and maintenance as the permanent wastewater will be discharged to the marine environment or to a landfarm location where no freshwater interaction occurs. Wastewater will not be released to the environment until it meets guidelines for release, as directed in the NWB Water Licence. Measures for waste disposal, contaminated material and oily water will be developed in the Waste Management Plan as facility design is confirmed.

The Waste Management Plan (Volume 11, Appendix 37H, Attachment H7 (Draft)) sets out the framework for managing waste; landfill facility operations (Section 2.7), on-site treatment of hydrocarbon-contaminated material (Section 2.9), oily water (Section 2.10), and landfill and landfarm monitoring (Sections 4.1.3 and 4.1.5) will be completed once the Project's facilities are confirmed. For hazardous waste, the plan states: "Hazardous waste will be properly stored, transported, treated and disposed" (Volume 11, Appendix 37H, Attachment H7 (Draft), Section 2.8).

A separate dedicated assessment is not provided.

NIRB 385. (IR-863)

Subject

Ground and Surface Water Impact Assessment

Issue / Concern

Reviewer Comments / Reasoning: No discussion on impact of the construction and operation of camps to the surrounding surface water

Missing Information / Gap: 1. A dedicated assessment of effects from camp construction and operation on surrounding surface water has not been provided. 2. Potential impacts from land clearing, grading, erosion, stormwater runoff, wastewater discharge, water withdrawal, fuel storage, waste management, spills, and dust have not been clearly assessed. 3. Potential changes to water quality, flow, drainage, sedimentation, fish habitat, and downstream water users have not been adequately evaluated. 4. Camp-specific mitigation, monitoring locations, thresholds, spill response, and adaptive management measures have not been clearly identified.

Information Request

Include a dedicated assessment of impact to the Construction and operation of camps on surrounding surface water

Proponent Response

The potential effects of construction and operation camps on surface water are assessed through the Water Resources, Freshwater Fish and Fish Habitat, and Environmental Protection components of the IS.

Camp-related activities are included within the Construction phase and associated Project interactions assessed in the Water Resources VC (Volume 7, Section 19) and Freshwater Fish and Fish Habitat VC (Volume 7, Section 20). These assessments consider Project activities that may affect surface water quality, quantity, drainage patterns, sediment transport, and aquatic habitat, including land clearing, grading, operation of temporary workspaces and camps, wastewater management, fuel storage and handling, waste management, vehicle and equipment operation, and accidental events and malfunctions.

The assessment concludes that potential effects to surface water are mitigated through application of Project design measures, best management practices, and management plans, including the Environmental Protection Plan (Appendix 37H), erosion and sediment control measures, spill prevention and response measures, wastewater management requirements, waste management procedures, and watercourse protection measures. Monitoring and adaptive-management requirements are described in the applicable VC follow-up sections and management plans.

Camp operation does not result in direct discharge of untreated wastewater to the receiving environment. Wastewater, solid wastes, fuels, hazardous materials and other camp-associated materials are managed in accordance with the Project's management plans and applicable regulatory requirements. Potential effects associated with wastewater, runoff, waste management, fuel handling, spills, and sediment mobilization are therefore addressed through the pathway-based assessments presented in the Water Resources and Freshwater Fish and Fish Habitat VCs rather than through a separate camp-specific effects assessment.

Surface-water monitoring associated with Project activities, including activities occurring at camps, will be implemented through the applicable monitoring and management plans. The Aquatic Effects Management Plan (Appendix 37D) provides the framework for monitoring Project-related effects on freshwater fish and fish habitat and water resources and for implementing adaptive management should monitoring indicate that additional mitigation is warranted.

NIRB 386. (IR-864)

Subject

Vegetation Baseline - Traditional Knowledge and Community Input Regarding Vegetation VECs

Issue / Concern

Reviewer Comments / Reasoning: The report generally discusses Inuit, Indigenous, and Community Knowledge related to culturally important plant species, harvesting activities, and vegetation resources; however, it is not clear how community-identified vegetation resources and harvesting areas were incorporated into Project planning and the assessment of potential Project effects. Additional clarity is required to understand how community input influenced the identification of valued vegetation components and associated mitigation measures.

Missing Information / Gap: 1. Community-identified vegetation resources, culturally important plant species, and harvesting areas have not been clearly documented. 2. It is unclear how this information influenced Project planning and the effects assessment. 3. Specific mitigation measures developed to protect important vegetation and harvesting areas have not been clearly identified.

Information Request

Describe how community-identified vegetation resources, culturally important plant species, and harvesting areas were considered in Project planning, the effects assessment, and the development of mitigation measures.

Proponent Response

Community-identified vegetation resources, culturally important plant species, and harvesting areas were incorporated into the vegetation assessment using documented Inuit, Indigenous, and Community Knowledge. The knowledge sources drawn upon are identified in Volume 6, Section 15.1.1. They comprise the Project-specific Inuit Knowledge report compiled from the Naonaiyaotit Traditional Knowledge Project (NTKP) database (Banci and Spicker 2024), made available under a licensing agreement with the Kitikmeot Inuit Association; Inuit Advisory Group (IAG) workshops; community-based primary research; publicly available Inuit and Indigenous Knowledge literature; and Project-specific engagement feedback (Volume 6, Section 15.1.1). Culturally important plant species were also identified from a literature review drawing on sources including Boulanger-Lapointe et al. (2019), Smith (1973), and Clark (2012), with the IS noting that where the robustness of one source (Davis and Banack 2012) was questioned by Kitikmiut, the information is used where it does not conflict with the other reviewed information sources (Volume 6, Section 15.2.1).

The resulting community-identified vegetation information is documented in the vegetation baseline. As stated in the IS, Inuit, Indigenous, and Community Knowledge "has been considered and summarized in Section 15.2.2.1, Table 15.4, and Section 15.2.2.5, Table 15.6 and Table 15.7," which includes "information on key species, harvesting locations, and habitats of cultural importance". The IS further

directs the reader to Section 15.2.2.5 for a discussion about plant harvesting locations and Table 15.6 and Table 15.7 for species of cultural importance (Volume 6, Section 15.2.2.5). Specifically, "A total of 48 plant species or groups of plants of cultural importance to Kitikmiut have been identified, with 35 of those identified during project baseline studies" (Volume 6, Section 15.2.2.5), across uses "including plants used for medicinal, food, ritual, spiritual, building materials, and home fuel purposes" (Volume 1, Executive Summary). The distribution of culturally important plant species by landcover is documented in Table 15.7 and abundance by landcover in Figure 15.2 (Volume 6, Section 15.2.2.5).

Identified Inuit gathering places (including hunting, and fishing camps, cabins, and ancient camps), travelways, harvesting areas, and resource habitats in the vicinity of the Project, including near Kathawachaga Lake (Aimaokatalok), south of the mouth of Wentzel River, and near the mouth of Grays Bay (Kogloktoakyok) were avoided for use by the Project where practical. The broader harvesting context — including the identification of traditional harvesting areas, habitation areas, travel routes, and cultural sites in Table 24.13, and specific berry- and wood-harvesting locations such as the Kennarctic River — is addressed in the Traditional Land, Marine, and Resource Use assessment (Volume 9, Section 24) and the Food Security and Food Sovereignty assessment (Volume 9, Section 25), which integrate the same NTKP and engagement inputs.

Vegetation mitigation measures are described in Volume 6, Sections 15.3.2.3, 15.3.3.3, and 15.3.4.3, and take into consideration the values identified by Kitikmiut, other Indigenous groups, and other potentially affected communities (Volume 6, Section 15.1.1.6). The measures directed at protecting culturally important vegetation and harvesting areas include avoidance, where practical, of known collection areas of plants of interest to Kitikmiut, other Indigenous groups, and other potentially affected communities; reducing the size of the Project Development Area; and using previously disturbed areas to reduce vegetation loss; implementing a dust control program to reduce indirect dust-deposition effects; and development of a closure and reclamation plan, including reclamation monitoring, for areas of temporary disturbance with reclamation focused on the re-establishment of native plant species and vegetation communities; invasive and non-native plant species management; culvert inspection; and monitoring for water ponding.

NIRB 387. (IR-865)

Subject

Vegetation Baseline - Vegetation Health and Contaminant Levels

Issue / Concern

Reviewer Comments / Reasoning: Generally, discusses contaminant pathways through the Human Health and Ecological Risk assessment and concludes that contaminant accumulation in traditional country foods is not expected; however, it is not clear how potential contaminant effects on vegetation VECs were specifically assessed or how the conclusion regarding vegetation health was determined.

Missing Information / Gap: 1. Potential contaminant exposure and uptake by vegetation VECs have not been clearly assessed. 2. Contaminant pathways through air emissions, dust deposition, soil, surface water, and groundwater have not been adequately described. 3. The evidence supporting the conclusion that Project activities will not adversely affect vegetation health has not been clearly provided. 4. Relevant toxicity thresholds, monitoring indicators, and mitigation measures have not been identified.

Information Request

clarify how potential contaminant exposure and uptake by vegetation VECs were assessed and identify the information supporting the conclusion that Project activities are not expected to adversely affect vegetation health.

Proponent Response

Potential contaminant exposure and uptake by vegetation was assessed by evaluating potential effects from dust exposure and equipment refueling. Project generated dust is expected to alter vegetation abundance, composition, and health (Volume 6, Section 15.3.2.2, 15.3.3.4). Effects will be greatest to areas of Heath Tundra, (824.9 ha [1.7% of existing LAA]), tussock sedge (326.6 ha [0.7% of existing LAA]), and Heath bedrock/boulder (311.0 ha [0.6% of existing LAA]). Lichens, bryophytes, and evergreen shrubs present in these landcover classes may decrease in abundance and herbaceous and deciduous species may increase because of dust. Six Species of Conservation Concern occurrences were documented within 40 m of the PDA (Table 15.12): three herbaceous species, one deciduous shrub, and two bryophytes. The herbaceous and deciduous shrub species are considered to have low sensitivity to dust deposition, while the two are bryophytes are considered highly sensitive.

Mobile equipment will be refueled more than 31 m away from the high water mark of a watercourse or waterbody, at a designated refuelling point with drainage capture/collection systems. In the event that refuelling, fuel handling, and/or maintenance (including storage of oils/lubricants) occur elsewhere (e.g., refuelling and maintenance on ice may be required during winter operations), drip trays or equivalent secondary containment will be used under all vehicles and equipment (Volume 6, Section 15.3.2.3).

NIRB 388. (IR-866)

Subject

Public Engagement

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 describes the engagement approach, categories of engaged parties, engagement methods, historical and current activities, and provides supporting appendices. It also states that engagement inputs were documented through meeting notes, comment logs, recording of key questions, and structured feedback tracking. However, the IS does not present a single auditable engagement-methods matrix showing, for each activity, who participated, why participants were selected, what data were collected, and how the interpretation of input was verified.

Missing Information / Gap: The engagement record is dispersed across Section 6 and appendices, and does not clearly link each engagement event to participant selection rationale, data collection method, validation method, and resulting use in the IS. This limits technical reviewers' ability to evaluate whether engagement information was complete, representative, and correctly interpreted.

Information Request

Provide a consolidated engagement-methods register that includes: 1. date, location and format of each activity; 2. organizations and participant groups invited and attending; 3. rationale for participant selection; 4. methods used to collect information; 5. information collected; 6. how interpretation and use of the information were verified with participants or organizations; 7. limitations or gaps in participation; and 8. cross-references to where the information influenced the IS.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 389. (IR-867)

Subject

Public Engagement

Issue / Concern

Reviewer Comments / Reasoning: The IS states that methods were selected to support participation by Elders, harvesters, youth, local organizations, Inuit rights-holders, and the broader public, and that 61 interviews with 70 participants included Elders, HTOs, youth, service providers, staff, business organizations, and community members. This partially addresses participant categories, but the IS does not provide a clear GBA+ participation summary by gender, age, harvester status, youth, Elders, vulnerable groups, or other community-relevant factors.

Missing Information / Gap: Without a disaggregated participant summary and explanation of gaps in participation, reviewers cannot determine whether engagement adequately captured perspectives of women, youth, Elders, harvesters, people with disabilities, service providers, or other groups who may experience project effects differently.

Information Request

Provide a GBA+ engagement participation summary that includes: 1. participant categories by community and engagement method; 2. gender, age/youth/Elder, harvester/trapper/hunter, service-provider, business, and vulnerable-group categories where available and appropriate; 3. privacy protections for small communities; 4. identification of under-represented groups; 5. additional engagement proposed to address gaps; and 6. explanation of how disaggregated input informed effects assessment, mitigation, monitoring, and benefit enhancement.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 390. (IR-868)

Subject

Public Engagement

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 states that engagement is designed to reflect Inuit values, community preferences and cultural protocols, with support through Inuinnaqtun and Inuktitut interpretation, radio, posters, social media, printed notices and plain-language summaries. Table 6.3 also commits to interpretive support and materials in English, Inuinnaqtun and Inuktitut. The IS does not provide a detailed event-by-event language record confirming what interpretation or translated material was provided at each meeting.

Missing Information / Gap: The IS does not clearly demonstrate whether live interpretation, dialect-specific support, translated materials, plain-language materials, and return-of-results materials were consistently provided across each community, each public meeting, and each technical session.

Information Request

Provide a communication-accessibility table for each engagement activity identifying: 1. language(s) and dialect(s) used; 2. whether live interpretation was provided; 3. translated materials provided; 4. plain-language materials provided; 5. radio or oral communication methods used; 6. accessibility measures such as childcare-friendly venues or timing around harvesting; 7. community feedback on whether communication methods were effective; and 8. changes made to future engagement methods.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 391. (IR-869)

Subject

Public Engagement

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 identifies broad categories of engaged parties, including Kitikmeot communities, HTOs, KIA, Indigenous groups outside Nunavut, transboundary organizations, municipalities, schools, agencies and service providers. It also identifies distribution mechanisms such as website, social media, emails, posters, radio, public meetings and open houses. However, the IS does not provide a complete distribution log showing what information was sent to which organization or individual and when.

Missing Information / Gap: The absence of a distribution log makes it difficult to verify whether all potentially affected groups received timely, understandable, and current project information, particularly where design changes, mitigation commitments, or technical study results were shared.

Information Request

Provide a project-information distribution log that includes: 1. date of distribution; 2. material or update distributed; 3. recipients or recipient category; 4. language and format; 5. method of distribution; 6. whether follow-up or confirmation of receipt occurred; 7. whether the distributed information related to project changes or technical results; and 8. any gaps or planned corrective outreach.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 392. (IR-870)

Subject

Public Engagement

Issue / Concern

Reviewer Comments / Reasoning: Table 6.2 summarizes key issues raised and identifies groups raising issues, WKR responses, and where addressed. Issues include caribou, aquatic resources, TLMRU, access, employment, cost of living, infrastructure, and cumulative effects. The summary is useful, but it is selective and does not clearly identify whether it captures all issues from all engagement activities, nor does it provide issue frequency, unresolved concerns, or a group-by-impact-category crosswalk.

Missing Information / Gap: The IS lacks a complete issue-tracking table organized by group and impact category. Without this, reviewers cannot easily determine whether concerns from different communities or rights-holders were carried through to baseline characterization, effects assessment, mitigation, significance, and follow-up.

Information Request

Provide a complete engagement issue-response register that includes: 1. all issues raised by engagement activity and group; 2. impact category; 3. affected VC or project component; 4. whether the issue is resolved, partially resolved, unresolved, or ongoing; 5. WKR response; 6. where the issue is addressed in the IS; 7. whether the issue changed project design, mitigation, monitoring, or significance; and 8. planned follow-up with the originating group.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 393. (IR-871)

Subject

Public Engagement

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 commits to maintaining an engagement database, using feedback to influence decisions where appropriate, reporting back on whether input was incorporated, and ongoing engagement throughout project phases. However, the IS does not provide a systematic table of conclusions that differ from community views or explain the rationale for not adopting specific community recommendations.

Missing Information / Gap: The Guideline specifically requires rationale for conclusions differing from community views. The IS uses general commitments but does not identify each instance where WKR disagreed with, modified, deferred, or did not adopt community input, nor does it specify how those differences will be addressed over the life of the Project.

Information Request

Provide a community-view reconciliation table that includes: 1. each concern or recommendation; 2. the community/group raising it; 3. WKR's conclusion or decision; 4. whether WKR adopted, partially adopted, deferred, or rejected the input; 5. rationale for any differing conclusion; 6. any additional analysis or engagement completed; 7. measures committed to address the concern; and 8. life-of-project follow-up actions and reporting commitments.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 394. (IR-872)

Subject

Public Engagement

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 includes commitments to regular community visits/open houses, targeted group meetings, IAG meetings, digital outreach, public meetings, training engagement, annual community visits and communication of monitoring results. This addresses ongoing engagement during design, construction and operations. The post-closure component is not clearly developed, consistent with the broader closure gap for permanent infrastructure.

Missing Information / Gap: The engagement plan does not clearly describe phase-specific engagement through temporary closure, reduced operations, permanent closure, post-closure, infrastructure transfer, abandonment, or long-term stewardship. This is important because monitoring, access, maintenance, and residual effects may continue beyond active operations.

Information Request

Provide a life-of-project engagement plan that includes: 1. engagement activities by phase, including construction, operations, reduced operations, care and maintenance, closure, and post-closure; 2. frequency and responsible party; 3. communities and organizations to be engaged; 4. reporting of monitoring results; 5. procedures for revisiting unresolved concerns; 6. engagement linked to management-plan updates; and 7. how community input will influence post-closure or long-term stewardship decisions.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 395. (IR-873)

Subject

Public Engagement

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 states that feedback informed baseline understanding, potential effects and pathways, mitigation and enhancement measures, cumulative effects, significance, monitoring, management plans, and project design. Section 5 provides examples, including caribou migration as a priority, fish timing, caribou culvert recommendations, calving concerns, and changes to timing of planned road construction activities. The IS does not provide a complete traceable decision record.

Missing Information / Gap: The IS gives examples of engagement influence but does not comprehensively trace engagement input to specific design changes, scoping decisions, baseline datasets, mitigation commitments, monitoring indicators, or follow-up programs across all VCs.

Information Request

Provide an engagement-to-decision traceability matrix identifying: 1. engagement input; 2. source group/community; 3. related project component or VC; 4. decision area affected; 5. specific IS section, design change, mitigation, monitoring measure, or significance criterion influenced; 6. whether input remains unresolved; and 7. planned follow-up.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 396. (IR-874)

Subject

Government Engagement Activities

Issue / Concern

Reviewer Comments / Reasoning: As part of the IS Guidelines, the NIRB specifically requested that the proponent demonstrate how engagement was conducted with both the public and governments. While WKR appears to have undertaken recent engagement with Kitikmeot communities and Indigenous organizations, the draft IS relies largely on historical engagement with government organizations dating back to 2016–2017, with limited evidence of recent engagement activities with federal, territorial, and regional government departments during the preparation of the draft IS (2024–2025).

Given the time elapsed since many of the government engagement activities referenced in the draft IS, it is unclear whether federal, territorial, and regional government organizations were provided with opportunities to review updated Project information, identify current concerns, and provide input into the environmental and socio-economic assessment. Consequently, it is difficult to determine whether the draft IS reflects current information, regulatory requirements, and government perspectives.

Missing Information / Gap: 1. Recent engagement with federal, territorial, and regional government organizations during 2024–2025 has not been clearly documented. 2. The rationale for relying on historical engagement from 2016– 2017 has not been adequately explained. 3. Government comments, concerns, and recommendations have not been clearly linked to Project design, mitigation, monitoring, and the effects assessment. 4. The approach for continued and meaningful government engagement throughout regulatory review and future Project phases has not been clearly described.

Information Request

The Proponent should provide the following for review: a) A description of all engagement activities undertaken with federal, territorial, and regional government organizations during preparation of the draft IS (2024–2025), including the organizations contacted, dates of engagement, methods of engagement, and topics discussed. b) An explanation of why historical engagement activities conducted between 2016 and 2017 are considered sufficient to demonstrate current government engagement, if no recent engagement was undertaken. c) A summary of comments, concerns, recommendations, or information provided by government organizations and how these inputs have been incorporated into the Project design, mitigation measures, monitoring programs, and effects assessment. d) An explanation of how the proponent will ensure continued and meaningful engagement with government organizations throughout the regulatory review process and subsequent phases of the Project.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 397. (IR-875)

Subject

Methods for Gathering Inuit Qaujimaningit, Indigenous Knowledge, and Community Knowledge

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 describes the principal knowledge sources, including the NTKP, the Project-specific Kitikmiut Knowledge report, the Inuit Advisory Group, public engagement, and community-based primary research. It also states that information was reviewed and consolidated in an internal knowledge tracking database and categorized into VC-specific topics. This demonstrates the existence of a methodology at a high level, but it does not provide enough detail for a technical reviewer to reproduce or audit how knowledge was coded, interpreted, validated, weighed, or carried into each VC assessment.

Missing Information / Gap: No stand-alone methods appendix or detailed workflow is provided for coding, analysis, verification/validation, interpretation, quality control, or transfer of knowledge inputs into the VC assessments. This limits transparency on how the Proponent moved from knowledge gathering to assessment conclusions.

Information Request

Provide a Section 10.1 knowledge-methods addendum that includes: 1. all data sources used; 2. collection and engagement methods by source; 3. coding/categorization methods; 4. analytical steps used to interpret knowledge; 5. verification/validation steps; 6. roles and qualifications of those conducting documentation, analysis, and validation; 7. how knowledge was linked to VC pathways, boundaries, mitigation, monitoring, and conclusions; and 8. limitations and uncertainty for each knowledge source.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 398. (IR-876)

Subject

Methods for Gathering Inuit Qaujimaningit, Indigenous Knowledge, and Community Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The IS states that the NTKP information was used under a licensing agreement with KIA and that consent and confidentiality were considered. However, the documentation is not presented as a consolidated compliance table for all Inuit, Indigenous, and Community Knowledge sources. It is therefore difficult to confirm whether each knowledge source had specific protocols, consent limits, verification requirements, ownership limits, or disclosure restrictions.

Missing Information / Gap: The IS does not provide a complete protocol-and-consent compliance record for each knowledge source, including Indigenous groups outside Nunavut and communities contributing through engagement or community-based research.

Information Request

Provide a protocol-and-consent compliance table for Section 10.1 that identifies: 1. each knowledge source or study; 2. owner or responsible organization; 3. applicable protocol, agreement, consent form, or disclosure limit; 4. whether free, prior, and informed consent was obtained; 5. conditions on analysis, validation, storage, disclosure, and use; 6. whether the IS complies with those conditions; and 7. any information that could not be used or disclosed because of protocol limits.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 399. (IR-877)

Subject

Methods for Gathering Inuit Qaujimaningit, Indigenous Knowledge, and Community Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies the Project specific Kitikmiut Knowledge report compiled from the NTKP as the primary source of verified Inuit Knowledge and acknowledges engagement beginning in 2016, with WKR's 2024–2025 engagement program. The IS does not clearly show a source-by-source limitations review for older or previously collected information, including whether affected groups confirmed that the information remains current and applicable to the present Project design and assessment boundaries.

Missing Information / Gap: The age, geographic fit, current relevance, and limitations of previously documented knowledge are not summarized in a way that allows reviewers to evaluate whether those sources are sufficient for current conditions and Project-specific effects.

Information Request

Provide a previously-documented-knowledge relevance assessment that includes: 1. source date and original purpose; 2. geographic coverage; 3. communities or groups represented; 4. current relevance to the Project footprint, LAA and RAA; 5. known changes since collection; 6. limitations identified by affected groups or KIA; 7. confirmation/validation completed for current use; and 8. how limitations were addressed in baseline, effects, mitigation, monitoring, and significance determinations.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 400. (IR-878)

Subject

Methods for Gathering Inuit Qaujimaningit, Indigenous Knowledge, and Community Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The IS describes engagement streams, IAG workshops, interviews, and participating communities/organizations. It does not fully describe the design of each knowledge-sharing study, sampling rationale, participant selection, facilitation methods, analytical responsibilities, or validation responsibilities in one place. This makes it difficult to determine whether the right knowledge holders were engaged for each topic and whether participation was sufficient for the conclusions drawn.

Missing Information / Gap: Study design, participant selection rationale, facilitation protocols, analytical responsibilities, and validation responsibilities are dispersed or incomplete.

Information Request

Provide a knowledge-study design table that includes: 1. study or engagement activity; 2. topic and purpose; 3. participant categories and selection rationale; 4. communities and organizations involved; 5. facilitation and language methods; 6. recording/documentation method; 7. analysis responsibilities; 8. validation responsibilities; 9. confidentiality controls; and 10. how the study informed specific IS sections.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 401. (IR-879)

Subject

Methods for Gathering Inuit Qaujimaningit, Indigenous Knowledge, and Community Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The IS states that NTKP information is verified through KIA protocols and that some engagement information was reviewed and incorporated. However, it does not provide a clear validation record showing which summaries, interpretations, maps, conclusions, or VC-specific uses of knowledge were returned to Knowledge holders or representative groups for review before inclusion in the IS.

Missing Information / Gap: There is no consolidated validation log showing what was verified, by whom, when, and whether Knowledge holders agreed with the Proponent's interpretation and use of the information.

Information Request

Provide a validation log for Section 10.1 that includes: 1. material verified; 2. Knowledge holder/community/group reviewer; 3. date and method of validation; 4. comments received; 5. revisions made; 6. unresolved concerns; 7. material not validated and rationale; and 8. confirmation that validation occurred before public/NIRB filing wherever feasible.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 402. (IR-880)

Subject

Methods for Gathering Inuit Qaujimaningit, Indigenous Knowledge, and Community Knowledge

Issue / Concern

Reviewer Comments / Reasoning: The IS discusses confidentiality and ownership at a general level, including the proprietary nature of knowledge. It does not provide a detailed repatriation, long-term storage, access, retention, update, or data-governance protocol acceptable to impacted Inuit communities and other knowledge owners.
Missing Information / Gap: Long-term knowledge stewardship is not described in sufficient detail to confirm how knowledge will be stored, protected, returned, updated, accessed, or used during operations, monitoring, care and maintenance, closure, and post-closure.

Information Request

Provide a data-governance and knowledge-stewardship protocol that includes: 1. ownership by source; 2. storage location and custodian; 3. access permissions; 4. retention period; 5. repatriation process; 6. update/correction procedures; 7. restrictions on secondary use; 8. long-term use in monitoring and management; and 9. confirmation of acceptance by KIA and, where applicable, other knowledge-owning organizations.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 403. (IR-881)

Subject

Details and Outcomes

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 identifies communities, organizations, workshops, interviews, historical engagement, current engagement, and key issues raised. However, the information is not consolidated as a knowledge-study register that distinguishes Inuit Knowledge, Indigenous Knowledge, and Community Knowledge sources, participant categories, validation status, and where each input is used in the IS.
Missing Information / Gap: Reviewers cannot easily verify whether all required details are available for each knowledge study or engagement source, or how each study connects to the IS conclusions.

Information Request

Provide a consolidated Section 10.2 knowledge-study register with: 1. study/activity name; 2. community or organization; 3. participant categories; 4. date, location, and format; 5. topic and key dialogue; 6. information/knowledge shared; 7. issues/comments raised; 8. validation status; 9. confidentiality status; and 10. IS sections, VCs, mitigation, or monitoring measures informed.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 404. (IR-882)

Subject

Details and Outcomes

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies IAG members, community-based interviews, HTOs/HTAs, Hamlets, and community engagement. It does not clearly summarize participation by Elders, women, youth, marginalized groups, harvesters, or other land/marine users for each knowledge-gathering activity, nor whether any groups were underrepresented or required additional engagement.

Missing Information / Gap: The completeness and representativeness of knowledge gathering cannot be fully assessed because participant categories and targeted outreach outcomes are not summarized consistently.

Information Request

Provide a participation and representativeness summary that includes: 1. participant categories by activity; 2. specific efforts to engage Elders, women, youth, marginalized groups, and harvesters; 3. whether participants were familiar with the PDA, LAA, and RAA; 4. gaps or underrepresented groups; 5. follow-up actions to fill gaps; and 6. how participation limitations affect confidence in baseline and effects conclusions.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 405. (IR-883)

Subject

Details and Outcomes

Issue / Concern

Reviewer Comments / Reasoning: The IS summarizes major concerns and describes general responses, including continued engagement and future involvement in monitoring and management plans. The response record does not always identify the originating knowledge source, the specific decision or mitigation change made, unresolved issues, or the follow-up schedule for each concern.

Missing Information / Gap: Concerns are not converted into a detailed action and follow-up register with responsibility, schedule, response status, and links to design, mitigation, monitoring, or unresolved disagreements.

Information Request

Provide a Section 10.2 concern-response-follow-up register that includes: 1. issue or knowledge-based concern; 2. source community/group; 3. date raised; 4. Proponent response; 5. design/assessment/mitigation/monitoring change made; 6. unresolved concern or disagreement; 7. follow-up commitment; 8. responsible party; and 9. schedule for reporting back to Knowledge holders.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 406. (IR-884)

Subject

Details and Outcomes

Issue / Concern

Reviewer Comments / Reasoning: The IS states that knowledge informed project planning, baseline understanding, effects pathways, mitigation, cumulative effects, significance, monitoring, management plans, and design. However, the connection is typically described at a narrative level and uses examples rather than a complete traceable matrix showing how knowledge altered specific design choices, baseline assumptions, effect pathways, mitigation, monitoring, or final conclusions.
Missing Information / Gap: The IS does not provide an auditable knowledge-to-decision traceability matrix across all VCs and project phases.

Information Request

Provide a knowledge-to-decision matrix that identifies for each VC and project phase: 1. knowledge input or concern; 2. source and validation status; 3. affected project component or assessment topic; 4. design decision, baseline assumption, effects pathway, mitigation, monitoring measure, or significance conclusion affected; 5. whether the input changed the assessment; 6. rationale if it did not change the assessment; and 7. remaining uncertainty or disagreement.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 407. (IR-885)

Subject

Details and Outcomes

Issue / Concern

Reviewer Comments / Reasoning: Volume 3 acknowledges that Inuit, Indigenous, and Community Knowledge may differ from western scientific frameworks and that WKR sought to reconcile perspectives. However, it does not provide a comprehensive register of specific differences between knowledge sources or between knowledge and scientific conclusions, nor the rationale for how each difference was resolved or carried into precautionary mitigation and monitoring.
Missing Information / Gap: This is a material Section 10.2 gap because the Guidelines require identification and rationale for differences, further engagement, committed reconciliation measures, and monitoring where differences remain.

Information Request

Provide a differences-and-reconciliation register that includes: 1. VC or topic; 2. knowledge-based conclusion; 3. scientific or Proponent conclusion; 4. nature of the difference; 5. parties involved; 6. engagement undertaken to reconcile the difference; 7. rationale for final assessment treatment; 8. precautionary measures adopted; 9. monitoring commitments where disagreement remains; and 10. how the difference affects significance and confidence.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 408. (IR-886)

Subject

Details and Outcomes

Issue / Concern

Reviewer Comments / Reasoning: The IS includes summarized themes and examples, but it often presents knowledge in synthesized Proponent language rather than clearly distinguishing the conclusions expressed by Knowledge holders from the Proponent's interpretation and final assessment conclusion. Verification before inclusion is also not documented consistently for each knowledge-related conclusion. Missing Information / Gap: The record does not consistently show Knowledge-holder conclusions in their own terms, the Proponent's interpretation, validation status, and how final wording was confirmed.

Information Request

Provide a knowledge-conclusions verification table that includes: 1. conclusion as expressed by Knowledge holders, respecting confidentiality; 2. Proponent interpretation; 3. IS section where used; 4. verification method and date; 5. reviewer/community/group involved; 6. changes made after verification; 7. remaining concerns; and 8. how verified conclusions inform mitigation, monitoring, and significance.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 409. (IR-887)

Subject

Managing Confidential Information

Issue / Concern

Reviewer Comments / Reasoning: The IS recognizes that knowledge is proprietary and may be confidential, and states that sensitive knowledge can be generalized. However, the IS does not provide a clear protocol showing how confidential information was protected while still providing enough evidence for NIRB and technical reviewers to understand how it influenced design, effects assessment, mitigation, monitoring, and conclusions.
Missing Information / Gap: There is insufficient reviewer-facing documentation on how confidential information was generalized, protected, cited, and used in assessment decisions without disclosing sensitive details.

Information Request

Provide a confidential-information management protocol that includes: 1. categories of confidential knowledge; 2. treatment of sensitive sites, harvesting areas, and cultural information; 3. generalization methods; 4. reviewer-facing evidence summaries; 5. access restrictions; 6. roles and responsibilities; 7. quality control to prevent inappropriate disclosure; and 8. examples showing how confidential knowledge changed the IS without disclosing sensitive details.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 410. (IR-888)

Subject

Managing Confidential Information

Issue / Concern

Reviewer Comments / Reasoning: The IS discusses consent and confidentiality generally but does not provide a complete storage/sharing protocol, nor does it identify whether any confidential information has been or will be filed confidentially with NIRB to support decision-making while protecting sensitive information.
Missing Information / Gap: Data storage, sharing controls, confidential filing decisions, and permissions are not documented with enough detail for review.

Information Request

Provide a confidential storage and sharing plan that includes: 1. knowledge datasets held by WKR or others; 2. storage location and custodian; 3. permission basis for use; 4. who can access the information; 5. how information will be shared with NIRB, KIA, communities, and regulators; 6. whether confidential NIRB filings are required; 7. process for Knowledge holder approval before disclosure; and 8. long-term retention or return/repatriation arrangements.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 411. (IR-889)

Subject

Managing Confidential Information

Issue / Concern

Reviewer Comments / Reasoning: The IS identifies broad sources such as NTKP, Banci and Spicker 2024, IAG workshops, engagement feedback, publicly available literature, and community-based research. However, it does not provide a source-attribution matrix that clearly distinguishes information ownership, confidentiality restrictions, validation status, and where each source is used in the IS.

Missing Information / Gap: Ownership and confidentiality-aware source attribution is not sufficiently transparent across all knowledge sources and VC uses.

Information Request

Provide a source-attribution and ownership matrix that includes: 1. knowledge source; 2. owner or custodian; 3. confidentiality status; 4. consent status; 5. validation status; 6. citation or reference method used in public IS text; 7. IS sections using the source; and 8. restrictions on further disclosure or use.

Proponent Response

Please refer to NIRB 3 (IR-481) for a consolidated response to this and related NIRB Information Requests on engagement and the integration of Inuit, Indigenous and Community Knowledge.

NIRB 412. (IR-890)

Subject

Environmental Management Plan

Issue / Concern

Reviewer Comments / Reasoning: Volume 11 presents an EMS framework, lists management and monitoring plans, and states that plans support Construction and Operations and Maintenance. It also states operations and maintenance will continue in perpetuity, while Section 37.1.8 indicates no conceptual closure and reclamation plan is proposed for permanent infrastructure.

Missing Information / Gap: The EMS does not clearly address the full project life as required by the Guidelines because permanent infrastructure, temporary closure, final closure, post-closure, and long-term stewardship are not treated as fully developed phases. The environmental policy and operational control framework are described generally rather than as a complete, auditable management system.

Information Request

Provide an Environmental Management Plan addendum that includes: 1. WKR's environmental policy; 2. a full life-of-project phase applicability matrix covering pre-construction, construction, operations, maintenance, reduced operations, modifications, temporary closure, final closure/decommissioning, reclamation, post-closure, and long-term stewardship; 3. plan ownership and accountability for each phase; 4. operational procedures that implement each commitment; and 5. a rationale for any phase or component excluded from EMS coverage.

Proponent Response

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The Environmental Management System (EMS) "includes WKR's environmental policies and commitments developed through the environmental review process; a framework for adaptive management; and the collection of individual management and mitigation and monitoring plans." Not all plans apply to all phases, and "each plan will identify the phase(s) to which it applies" (Volume 11, Section 37.1.1). Roles and responsibilities for WKR, the General Manager and site personnel are set out in Volume 11, Section 37.1.9. The Environmental Protection Plan outlines activity-specific environmental protection measures "to be implemented throughout all phases of the Project (Construction, Operations and Maintenance)." Operations and Maintenance is anticipated to begin in 2035 and continue indefinitely (EPP Sections 1.2 and 1.3).

NIRB 413. (IR-891)

Subject

Environmental Management Plan

Issue / Concern

Reviewer Comments / Reasoning: Volume 11 states that plans will be updated before the technical meeting/pre-hearing conference, after the pre-hearing conference report and before the final hearing, and after the final hearing if necessary. It also states plans will be refined as project design advances and additional information becomes available.

Missing Information / Gap: The update schedule is not tied to specific missing information, responsible parties, or regulatory decision points. Many NTD placeholders are not accompanied by a firm date or commitment to file information before technical review closes.

Information Request

Provide a management-plan completion schedule that lists: 1. each draft plan and attachment; 2. every NTD/TBD/missing section; 3. information needed to complete it; 4. dependency on design, permits, baseline studies, engagement, or agency review; 5. responsible party; 6. submission date; 7. whether it will be filed before the technical meeting, before the final hearing, before construction, or during licensing; and 8. which IS residual-effects conclusions rely on the missing information.

Proponent Response

Each Volume 11 management plan includes the following (Volume 11, Section 37.1.3):

- objectives and scope
- applicable regulatory requirements
- roles and responsibilities
- mitigation measures
- monitoring and reporting
- proposed criteria or thresholds to trigger mitigation measures if monitoring results warrant

Plans "vary in level of detail depending on the Project's development and refinement throughout the Impact Statement (IS) review and subsequent regulatory processes" (Section 37.1.3).

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 414. (IR-892)

Subject

Monitoring and Mitigation Plans

Issue / Concern

Reviewer Comments / Reasoning: Several plans include objectives, legal context, roles, and monitoring concepts. However, the level of detail varies substantially across plans, and some monitoring programs explicitly state that locations, frequency, study design, and thresholds will be developed later.

Missing Information / Gap: The submission does not provide a consistent minimum standard across all monitoring plans. For example, AEMP and noise/vibration details are largely deferred, and socio-economic monitoring indicators and thresholds are not fully specified.

Information Request

For each monitoring and mitigation plan, provide a standardized plan-content checklist showing where the IS provides: 1. objectives; 2. laws/regulations; 3. VCs/receptors; 4. indicators/parameters; 5. controls/reference sites; 6. selection criteria; 7. frequency; 8. duration; 9. geographic extent; 10. personnel/qualifications; 11. data analysis method; and 12. interpretation/reporting responsibility. Fill all missing items or provide a justified schedule for filing them before technical review closes.

Proponent Response

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

Refer to the response to NIRB 413 (IR-891) for what each management plan will include.

NIRB 415. (IR-893)

Subject

Follow-Up and Adaptive Management Plans

Issue / Concern

Reviewer Comments / Reasoning: Volume 11 provides a general adaptive management approach and states that follow-up programs will be described where necessary to verify effects predictions or mitigation effectiveness.

Missing Information / Gap: The IS does not provide a consolidated field-testable follow-up program that converts predictions and assumptions into testable objectives. It also does not provide the statistical evaluation required to determine whether baseline data are adequate or whether additional pre-construction/pre-operational monitoring is needed.

Information Request

Provide a Follow-Up and Adaptive Management Plan that includes: 1. each key effects prediction; 2. underlying assumptions; 3. mitigation measure to be tested; 4. field-testable monitoring objective; 5. sampling design; 6. baseline adequacy/statistical power assessment; 7. additional baseline monitoring required before construction or operation; 8. decision criteria; 9. adaptive response; and 10. reporting timeline.

Proponent Response

Volume 11, Section 37.1.5 states that "In each plan, a follow-up program will be described where necessary, to verify effects predictions and/or to verify the effectiveness of mitigation measures." It also states that management and monitoring plans "will be reviewed internally on an annual basis to confirm the effectiveness of the management measures and update as appropriate".

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 416. (IR-894)

Subject

Closure and Reclamation Plan

Issue / Concern

Reviewer Comments / Reasoning: Volume 11 states the Project is largely composed of permanent infrastructure and WKR has not proposed a conceptual closure and reclamation plan for those components. A Progressive Reclamation Plan is provided for temporary facilities that will be reclaimed after initial construction or when not required during operations.

Missing Information / Gap: This does not meet the Guideline requirement for a preliminary Closure and Reclamation Plan for all components. Permanent road, port, aerodrome, tank farm, marine infrastructure, quarries retained for operations, and utilities require closure/decommissioning or long-term stewardship scenarios even if intended as permanent infrastructure.

Information Request

Provide a preliminary Closure and Reclamation Plan or long-term stewardship plan for all Project components, including permanent infrastructure. The plan must include: 1. closure scenarios for continued use, transfer, abandonment, partial decommissioning, and full decommissioning; 2. component-specific closure objectives; 3. design-for-closure considerations; 4. decommissioning methods; 5. reclamation methods; 6. long-term inspection and maintenance; 7. residual liabilities; and 8. funding/security approach.

Proponent Response

"*The Project components are considered permanent infrastructure. Therefore, there are no plans for closure and reclamation of these components. Areas required for construction only will be reclaimed according to permit conditions*" (Volume 11, Appendix 37H, Section 1.3). Volume 11, Section 37.1.8 states that "WKR has not proposed a conceptual closure and reclamation plan for these components".

The plans included in Volume 11 of the IS have been developed to a level of detail consistent with the current stage of the regulatory process, and will be further developed as the review progresses, including further development of criteria or thresholds to trigger mitigation measures where monitoring results warrant. Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

Refer also to the response to NIRB 422 (IR-900).

NIRB 417. (IR-895)

Subject

Closure and Reclamation Plan

Issue / Concern

Reviewer Comments / Reasoning: The Progressive Reclamation Plan provides a framework for temporary areas and states that reclamation methods, ARD/ML considerations, monitoring methodology, criteria, and costs will be developed or updated. The Borrow Pit and Quarry Management Plan also contain NTD sections for geotechnical investigations, ARD/ML testing, metal leaching testing, and closure details.

Missing Information / Gap: The reclamation plan does not provide sufficient component-specific goals, methods, timeframes, criteria, monitoring, costs, or ARD/ML management for technical review. It also does not address how the land would return to similar pre-project use for all affected areas or how community-defined end land use and aesthetics were incorporated.

Information Request

Provide a complete preliminary reclamation content table for each component and disturbance type that includes: 1. closure/reclamation objective; 2. end land-use objective; 3. community input received; 4. Design for-closure measure; 5. reclamation method; 6. schedule and progressive reclamation trigger; 7. ARD/ML and geochemical criteria; 8. monitoring parameter; 9. success criterion; 10. contingency action; 11. cost estimate/security basis; and 12. public health, safety, and aesthetics considerations.

Proponent Response

Refer to the responses to NIRB 416 (IR-894) and NIRB 422 (IR-900).

NIRB 418. (IR-896)

Subject

Care and Maintenance Plan

Issue / Concern

Reviewer Comments / Reasoning: Volume 11 states that care and maintenance measures will be developed and that these measures are included in the Road Management Plan and Port Management Plan as appropriate. The road and port summaries state that care and maintenance measures are included for temporary or unplanned closures or reduced operations.

Missing Information / Gap: The IS does not provide a standalone or integrated preliminary Care and Maintenance Plan. Required details are missing for staffing, inspections, environmental protection, fuel/waste/water management, public access, wildlife protection, emergency response, security, reporting, and transition criteria during reduced or suspended operations.

Information Request

Provide a preliminary Care and Maintenance Plan that includes: 1. triggers for temporary closure, unplanned closure, reduced operations, partial closure, pandemic, labour disruption, and ownership/operating changes; 2. minimum staffing and site security; 3. inspection and maintenance schedules; 4. fuel, hazardous materials, waste, water, wastewater, and explosives controls; 5. road/port/aerodrome access controls; 6. wildlife and caribou protections; 7. emergency response capacity; 8. community/regulator notification; 9. environmental monitoring; and 10. criteria to return to normal operation or initiate closure/reclamation.

Proponent Response

Volume 11, Section 37.1.8 states that "Care and maintenance measures will be developed to address temporary or unplanned closures or reduced operations such as during a pandemic, or a labour strike". The draft Progressive Reclamation Plan (Volume 11, Appendix 37F, Section 4) provides the framework for these measures. It covers temporary or unplanned closure scenarios, including reduced operations, labour disruptions, supply chain interruptions and public health emergencies, and identifies the components to be addressed:

- port facilities
- Jericho Station facilities
- the road
- borrow pits and quarries
- water management systems
- waste management facilities

- construction equipment
- monitoring and reporting during temporary closure

The draft Water Management Plan (Attachment H6) also includes a care and maintenance section. It states that if the Project is placed into care and maintenance, compliant water will continue to be discharged and monitoring will continue as required under the Water Licence (WMP Section 4).

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 419. (IR-897)

Subject

Significance of Residual Impacts

Issue / Concern

Reviewer Comments / Reasoning: The IS includes residual effects and significance determinations in VC volumes and summaries in the Main Document. The assessment generally concludes residual effects are not significant after mitigation, with several conclusions relying on management plans and monitoring. Missing Information / Gap: There is no single Section 11-style consolidated table showing pre-mitigation effects, mitigation applied, post-mitigation residual impacts, unmitigated/uncompensated impacts, significance criteria, and plan dependencies across all VCs. Positive residual socio-economic effects are also not consistently characterized using the same criteria.

Information Request

Provide a consolidated residual-impact and mitigation dependency table that includes: 1. VC/receptor; 2. project activity; 3. pre-mitigation effect; 4. mitigation/enhancement measure; 5. management plan implementing the measure; 6. residual effect after mitigation; 7. whether the effect can be fully mitigated, partially mitigated, compensated, or not mitigated; 8. significance criteria under s. 7.4.6; 9. uncertainty/confidence; 10. monitoring/follow-up; and 11. characterization of both positive and adverse residual effects.

Proponent Response

WKR respectfully submits that the information requested in this IR regarding residual-impact and mitigation is included in the IS by Valued Component (VC). Please also see the preamble discussion to NIRB at the beginning of the IR responses for further context of a dependency table that summarizes residual impact for the full IS.

NIRB 420. (IR-898)

Subject

Inclusion of sufficient information to support assessment of impacts and mitigation - Air Quality Management Plan

Issue / Concern

Reviewer Comments / Reasoning: The draft Air Quality Management Plan appears to lack information on methodology, sampling locations, schedule, and in some cases equipment that would be used. Monitoring plans can't be developed based on a case-by-case basis should any complaints arise from Kitikmiut, other Indigenous groups, and other potentially affected communities because of project activities.

The absence of mitigation and monitoring information limits reviewers' ability to assess the effectiveness of proposed measures and evaluate the significance of residual effects over the life of the Project. While additional detail may be developed during licensing, the Draft Impact Statement should contain sufficient information to support NIRB's assessment of project effects throughout all phases of the Project.

Missing Information / Gap: 1. The Draft AQMP does not provide complete mitigation, monitoring, and adaptive management measures for each Project phase. 2. Reference and potentially affected monitoring locations within the PDA, LAA, and RAA have not been identified. 3. Monitoring methods, equipment, site-selection criteria, and schedules have not been clearly described. 4. Thresholds, triggers, mitigation responses, and adaptive management actions have not been adequately defined. 5. Deferring key AQMP details to future plans or licensing stages limits the ability to assess potential effects, mitigation effectiveness, and residual effects.

Information Request

Provide an updated Draft AQMP that includes mitigation, monitoring, and adaptive management measures applicable to each phase of the Project. At a minimum, the updated Plan should: a) Include information on where stations would be installed along the PDA, LAA and RAA to monitor reference stations as well as potential areas that may be impacted by the proposed project. b) Include methodology, equipment to be used, locations of sites, schedule, and adaptive management and mitigation measures. The Draft AQMP should provide sufficient information to support the assessment of potential effects and mitigation effectiveness during construction and operations. Deferral of mitigation and monitoring details to future plans or licensing stages limits the ability of NIRB and reviewers to evaluate residual effects and determine whether proposed mitigation is adequate

Proponent Response

The AQMMP (Volume 11, Appendix 37C) was filed in draft and includes the following:

- mitigation measures for Construction and Operations and Maintenance (Tables 2.1 and 2.2)
- proposed monitoring stations, with the rationale for each location (Table 3.2)
- monitoring methods and equipment based on the BC Field Sampling Manual (Table 3.3)
- the monitoring schedule (Section 3.4)
- QA/QC procedures (Section 3.5)
- the reporting framework (Section 4)
- an adaptive management framework with a Trigger Action Response Plan (Section 5)

Precise monitoring locations will be determined in collaboration with regulators, Inuit, other Indigenous groups and potentially affected communities, and in consideration of land access, power availability, potential human receptors and siting requirements (AQMMP Section 3.2).

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates. Refer also to the responses to NIRB 161 (IR-639) and NIRB 299 (IR-777).

NIRB 421. (IR-899)

Subject

Inclusion of sufficient information to support assessment of impacts and mitigation - Aquatic Effects Management Plan

Issue / Concern

Reviewer Comments / Reasoning: The Aquatic Effects Management Plan (AEM) provides examples of monitoring programs for both freshwater and marine waters to be completed during the construction and during the operations and maintenance phase of the Project with no detailed monitoring programs provided. It is requested that the Proponent develop draft monitoring programs for each VC identified so that the reader can evaluate the effectiveness of mitigation measures and any associated follow-up mechanisms proposed that support adaptive management of the Project effects and cumulative effects. In addition, reporting of these programs should be included for both the freshwater and marine environments

As noted, the absence of mitigation and monitoring information limits reviewers' ability to assess the effectiveness of proposed measures and evaluate the significance of residual effects over the life of the Project. While additional detail may be developed during licensing, the Draft Impact Statement should contain sufficient information to support NIRB's assessment of project effects throughout all phases of the Project.

Missing Information / Gap: 1. The Draft AEMP does not provide complete mitigation, monitoring, and adaptive management measures for each Project phase. 2. Monitoring methods, locations, parameters, schedules, thresholds, and triggers have not been clearly defined. 3. Adaptive management actions and mitigation responses have not been adequately described. 4. Deferring key AEMP details to future plans or licensing stages limits the ability to assess potential effects, mitigation effectiveness, and residual effects during construction and operations.

Information Request

Provide an updated AEMP that includes mitigation, monitoring, and adaptive management measures applicable to each phase of the Project. The Draft AEMP should provide sufficient information to support the assessment of potential effects and mitigation effectiveness during construction and operations. Deferral of mitigation and monitoring details to future plans or licensing stages limits the ability of NIRB and reviewers to evaluate residual effects and determine whether proposed mitigation is adequate.

Proponent Response

The Aquatic Effects Management Plan (Volume 11, Appendix 37D) was filed as a preliminary draft "t*hat will be refined and developed as the Project engineering design and regulatory review progresses*". It contains the following:

- monitoring programs for the Construction and Operations and Maintenance phases (Sections 2.1.1 and 2.1.2)
- freshwater and marine study areas that include exposure and reference sites (Sections 2.2.1 and 2.3.1)
- study designs based on accepted standards, e.g., before-after/control-impact (Sections 2.2.2 and 2.3.2)
- annual reporting (Sections 2.2.3 and 2.3.3)
- thresholds and multiple action levels to be developed, so that a management action can be taken before a significant adverse effect could occur (Section 3.2)

Monitoring of sediment-related mitigation measures will be completed under the Erosion and Sediment Control Plan and the Aquatic Effects Management Plan. Refer to the response to NIRB 188 (IR-666). Refer also to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 422. (IR-900)

Subject

Inclusion of sufficient information to support assessment of impacts and mitigation - Progressive Reclamation Plan

Issue / Concern

Reviewer Comments / Reasoning: A more detailed draft Progressive Reclamation Plan should be included as part of the draft IS for areas that would be disturbed during the Construction Phase and no longer required for the Operation Phase of the proposed Project. The draft reclamation plan is necessary because: 1) Closure and reclamation influence the significance of long-term environmental and socio-economic effects. 2) Progressive reclamation is itself a mitigation measure and should be assessed as part of the Project. 3) Regulators, Inuit organizations, communities, and NIRB need sufficient information to determine whether residual effects are acceptable. 4) Waiting until detailed licensing stages would prevent meaningful assessment of closure outcomes and financial liabilities.

Missing Information / Gap: 1. A draft Progressive Reclamation Plan has not been provided. 2. Closure objectives and proposed end land uses have not been clearly defined. 3. A progressive reclamation philosophy, including commitments to reclaim areas once they are no longer required, has not been described. 4. Principles and measures for minimizing the disturbed Project footprint have not been clearly identified. 5. Areas that could be progressively reclaimed during construction and operations have not been identified. 6. Conceptual reclamation methods, including stabilization, material replacement, revegetation, drainage restoration, monitoring, and adaptive management, have not been adequately described.

Information Request

Provide a draft Progressive Reclamation Plan that include closure objectives and end land use, progressive reclamation philosophy that includes commitment to reclaim areas no longer needed for construction/operations and principles for minimizing the disturbed footprint, identification of reclaimable areas, and conceptual reclamation methods.

Proponent Response

A draft Progressive Reclamation Plan is filed as Volume 11, Appendix 37F. Volume 11, Section 37.1.8 states that the Project "*is largely composed of permanent infrastructure.*" Temporary facilities not required during Operations and Maintenance "will be reclaimed in accordance with permit conditions," and progressive reclamation will be carried out concurrently with final construction and commissioning. The PRP sets out the following:

- **Overarching objective (PRP Section 2.2):** stable, self-sustaining conditions compatible with a healthy environment and consistent with Inuit land use and cultural values.

- **Design measures that minimize the disturbed footprint (PRP Section 2.4):** minimizing the PDA, using previously disturbed areas, siting roads over bedrock, and limiting clearing.
- **Reclamation approaches (PRP Section 3.1):** most temporary-area reclamation is to be completed within the final year of construction.

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

NIRB 423. (IR-901)

Subject

Inclusion of sufficient information to support assessment of impacts and mitigation - Environmental Protection Plan

Issue / Concern

Reviewer Comments / Reasoning: The Draft Environmental Protection Plan (EPP) does not appear to contain sufficient information to support the environmental impact assessment or to allow reviewers to adequately evaluate the effectiveness of the proposed mitigation measures. Throughout the document, numerous sections contain statements such as "to be updated as plans progress" or similar commitments to provide information at a later stage. These statements indicate that key environmental management and mitigation details have been deferred rather than provided as part of the Draft IS.

As a result, reviewers are unable to assess the specific measures that would be implemented to avoid, minimize, manage, monitor, and respond to potential environmental effects associated with Project construction, operation, maintenance, and potential temporary closure activities. The Draft IS relies on the EPP as a primary mechanism for mitigating environmental effects; however, the absence of detailed mitigation measures, implementation procedures, monitoring requirements, performance objectives, and adaptive management responses introduces uncertainty regarding the effectiveness of the proposed environmental protection framework and the conclusions of the effects assessment. This concern applies to several key Project components and activities, including but not limited to project planning, site access and transportation, site preparation and earthworks, material and equipment storage, fuel handling and storage, power generation and utilities, blasting, erosion and sediment control, spill prevention and response, waste management, water withdrawal and use, and watercourse crossings. In many cases, the Draft EPP does not provide sufficient information regarding mitigation measures, monitoring programs, performance criteria, responsibilities, or contingency actions.

In addition, the Draft EPP provides limited Project-specific information regarding major Project components, including the Grays Bay Road corridor, the Jericho facilities and station area, the port site, and associated infrastructure. Consequently, it is difficult to determine how environmental protection measures would be applied across the various Project components and whether the proposed measures are appropriate given the environmental sensitivities and potential effects associated with each area. Without a more complete EPP, reviewers cannot adequately evaluate whether the proposed mitigation measures are technically feasible, sufficiently protective, or capable of supporting the residual effects conclusions presented in the Draft IS.

Missing Information / Gap: 1. The Draft Environmental Protection Plan lacks sufficient Project-specific detail to evaluate mitigation effectiveness, feasibility, and implementation. 2. Environmental risks, mitigation measures, performance criteria, monitoring, reporting, and adaptive management have not been clearly identified for each Project activity and component. 3. Information deferred to future planning stages, including its scope, rationale, timing, and effect on assessment certainty, has not been clearly documented. 4. Detailed mitigation and monitoring measures for access, earthworks, storage, fuel, power

generation, blasting, erosion, spills, waste, water use, and watercourse crossings have not been adequately provided. 5. The basis for assuming that incomplete or unfinalized mitigation measures will be effective has not been clearly explained. 6. Uncertainty associated with relying on future plan development has not been adequately incorporated into residual effects and significance conclusions. 7. It is unclear whether residual effects conclusions could change once the outstanding environmental management and mitigation plans are completed.

Information Request

The Draft Environmental Protection Plan contains numerous references to information that will be developed or updated in the future and does not provide sufficient detail to support review of the proposed environmental management and mitigation framework. It is recommended the Proponent provide: a) An updated Environmental Protection Plan that includes sufficient Project specific information to support assessment of the effectiveness, feasibility, and implementation of proposed mitigation measures. b) For each Project activity and component, including the Grays Bay Road corridor, port facilities, Jericho facilities and station area, borrow sources, camps, laydown areas, and associated infrastructure, provide: i) the environmental risks and potential effects identified; ii) the mitigation measures that will be implemented; iii) performance objectives and criteria; iv) monitoring and inspection requirements; v) reporting procedures; and vi) adaptive management and contingency measures. c) A description of all information currently identified as "to be updated as plans progress" or otherwise deferred to future planning stages, including: i) the specific information that remains outstanding; ii) the rationale for not providing the information in the Draft IS; iii) when the information will be available; and iv) how the absence of the information affects the certainty of the effects assessment. d) Detailed mitigation and monitoring measures related to: i) site access and transportation; ii) site preparation and earthworks; iii) material and equipment storage; iv) fuel handling and storage; v) power generation and utilities; vi) blasting activities; vii) erosion and sediment control; viii) spill prevention and response; ix) waste management; x) water withdrawal and use; and xi) watercourse crossings. e) An explanation of how the effectiveness of mitigation measures was evaluated and incorporated into the effects assessment where detailed mitigation measures have not yet been finalized. f) A discussion of the uncertainty associated with relying on future plan development to address currently undefined mitigation measures and how this uncertainty was considered in residual effects predictions and significance determinations. g) Confirmation of whether any residual effects conclusions presented in the Draft IS could change following completion of the outstanding environmental management and mitigation planning. If not, provide justification.

Proponent Response

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates.

The draft Environmental Protection Plan (EPP) identifies its tables as "*examples and not exhaustive lists of mitigation measures*" and states that "*the EPP will be updated as the Project progresses*" (Volume 11, Appendix 37H, Section 3). Monitoring requirements and thresholds are carried in the related plans, which include proposed criteria or thresholds to trigger mitigation measures if monitoring results warrant

(Volume 11, Section 37.1.3), including the Erosion and Sedimentation Control Plan, Spill Contingency Plan, Water Management Plan and Waste Management Plan (Volume 11, Appendix 37H, Attachments H2, H5, H6 and H7).

Volume 11 states that plans vary in level of detail depending on the Project's development and refinement throughout the Impact Statement (IS) review and subsequent regulatory processes (Section 37.1.3), and that plans will be developed during the review process of the IS and will be refined as Project design advances and additional information become available (Volume 11, Section 37.1.6). Some content depends on detailed design and contractor selection. For example, the Contractor will prepare required plans and documents for WKR review and approval before construction (Appendix 37H, Section 3.1).

The topics in part (d) are set out in Section 3 of the EPP. Residual effects conclusions are presented in each VC section of Volumes 5 to 9. See response to NIRB 428 (IR-906) and NIRB 429 (IR-907).

NIRB 424. (IR-902)

Subject

Inclusion of sufficient information to support assessment of impacts and mitigation - Borrow Pit and Quarry Management Plan

Issue / Concern

Reviewer Comments / Reasoning: The draft Borrow Pit and Quarry Management Plan (BPQM) provides insufficient detail for a Draft IS particularly as this document is intended to support NIRB's impact assessment. Many sections of the Plan contain repeated statements of "Update section..." which suggest that the Proponent has deferred key information to a future stage rather than providing information sufficient for NIRB to assess effects now. For example, under Section 2.2: Geotechnical Investigation, a Draft IS should not simply state that the section will be updated, it should present: existing geotechnical investigations completed to date; permafrost conditions; slope stability considerations; foundation characteristics; limitations and uncertainties; and how these results influenced quarry and borrow pit selection.

Another example is Section 2.3: ARD/ML potential, if borrow pits and quarries are proposed, the Draft IS should include: geochemical characterization completed to date; number and location of samples; static test results; preliminary ARD and metal leaching predictions; identification of uncertainties and additional testing requirements. Simply saying that testing will be completed later does not allow reviewers to determine whether excavated material may generate acidic drainage or release metals. Further, for the mitigation and monitoring (2.3.3), saying "Update this section on mitigation and monitoring if necessary, after confirmation testing is complete" is problematic as it tells reviewers that the Proponent will determine whether mitigation is necessary later. But mitigation measures are part of the project description and are needed to assess residual effects. A Draft IS should contain: preliminary mitigation measures; trigger values and adaptive management framework; proposed water quality monitoring; material segregation procedures (if needed); contingency measures; and closure and reclamation considerations.

Missing Information / Gap: 1. Results of geotechnical and geochemical investigations completed to date have not been adequately presented. 2. Acid rock drainage and metal leaching potential from borrow pits and quarries has not been clearly assessed. 3. Preliminary impact predictions, mitigation measures, and monitoring requirements have not been sufficiently described. 4. Remaining uncertainties and planned confirmation testing have not been clearly identified. 5. A detailed draft Borrow Pit and Quarry Management Plan has not been provided. 6. Deferring key information to future investigations limits the ability to assess mitigation effectiveness and residual effects before the Final IS and hearings.

Information Request

The Draft IS should present the results of geotechnical and geochemical investigations completed to date and provide sufficient information regarding acid rock drainage and metal leaching potential, as well as proposed mitigation and monitoring measures, to enable assessment of potential effects associated with borrow pits and quarries. Statements indicating that these sections will be updated following future

investigations do not provide sufficient information for NIRB and reviewers to evaluate the effectiveness of mitigation or characterize residual effects. Any remaining uncertainties and planned confirmation testing should be clearly identified, but should not replace the provision of preliminary impact predictions and mitigation measures. The Proponent should provide a draft Borrow Pit and Quarry Management Plan that provides sufficient detail to allow the Board and intervenors to evaluate the project before moving to Final IS and hearings. A Draft IS should contain preliminary assessments and proposed mitigation, not placeholders.

Proponent Response

See the response to information request GC-IR 05 (IR-152) for information on geotechnical and geochemical investigations completed to date, including the ARD/ML sampling program completed during the summer of 2026.

As final borrow pit and quarry areas have not been finalized these overlaps have not yet been provided. Final borrow pit and quarry locations will be selected based on available material and proximity to construction activities. Further information on borrow pit and quarry selections are provided in responses to KAA-70 (IR-70), KAA-72 (IR-72) and CIRNAC-IR 02 (IR-157).

NIRB 425. (IR-903)

Subject

Inclusion of sufficient information to support assessment of impacts and mitigation - Management Plans within the Environmental Protection Plan

Issue / Concern

Reviewer Comments / Reasoning: As the Environmental Protection Plan (Appendix 37H) do not provide sufficient detail for a Draft IS particularly as these documents are intended to support NIRB's impact assessment. Many sections of the plans contain repeated statements of "Update section..." which suggest that the Proponent has deferred key information to a future stage rather than providing information sufficient for NIRB to assess effects now.

Missing Information / Gap: 1. Updated draft plans with sufficient Project-specific detail have not been provided. 2. The plans rely on placeholders or information deferred to future stages. 3. Preliminary assessments, mitigation measures, monitoring requirements, and adaptive management actions have not been adequately described. 4. The lack of complete draft plans limits the ability of NIRB and intervenors to evaluate the proposed Project.

Information Request

The Proponent should provide updates draft Plans with sufficient information that contain preliminary assessments and proposed mitigation to allow the NIRB and intervenors to evaluate the proposed Project, not placeholders.

Proponent Response

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates. Refer also to the responses to NIRB 413 (IR-891) and NIRB 423 (IR-901).

NIRB 426. (IR-904)

Subject

Inclusion of sufficient information to support assessment of impacts and mitigation

Issue / Concern

Reviewer Comments / Reasoning: As with the other management plans, the Port Management Plan, the Inuit Human Resources and Business Development Plan, and Socio-economic Monitoring Plan do not provide sufficient detail for a Draft IS particularly as these documents are intended to support NIRB's impact assessment.

Missing Information / Gap: 1. Updated draft plans with sufficient Project-specific information have not been provided. 2. The plans rely on placeholders and information deferred to future stages. 3. Preliminary assessments, mitigation measures, monitoring, and adaptive management actions are not adequately described. 4. These gaps limit the ability of NIRB and intervenors to evaluate the proposed Project.

Information Request

The Proponent should provide updates draft Plans with sufficient information that contain preliminary assessments and proposed mitigation to allow the NIRB and intervenors to evaluate the proposed Project, not placeholders.

Proponent Response

Please refer to NIRB 4 (IR-482) describing the current state of the management plans, and commitments to future updates. Refer also to the responses to NIRB 413 (IR-891) and NIRB 423 (IR-901).

NIRB 427. (IR-905)

Subject

Conclusion

Issue / Concern

Reviewer Comments / Reasoning: Volume 10 Section 36.1 provides a brief final conclusion stating that VCs were evaluated using Inuit, Indigenous, and Community Knowledge alongside western science, that measures will reduce or manage adverse effects, that residual effects are not anticipated to be significant, and that positive effects are expected particularly for training, employment, and the economy. However, the conclusion is highly condensed and does not provide a structured synthesis across the biological, ecological, physical, health, social, economic, and cultural categories named in the Guidelines.

Missing Information / Gap: The conclusion does not provide a consolidated final table or narrative that links each impact category to the relevant VCs, affected receptors, direction of effect, residual consequences, uncertainty, significance, and key mitigation/monitoring commitments. It also does not clearly identify trade-offs among environmental, socio-economic, cultural, health, and rights-related outcomes.

Information Request

Provide a revised Section 36 conclusion or addendum that includes: 1. a final summary matrix organized by biological, ecological, physical, health, social, economic, and cultural impact category; 2. the VCs and receptors associated with each category; 3. positive and adverse residual impacts; 4. magnitude, duration, geographic extent, reversibility, certainty, and significance; 5. key mitigation, monitoring, and enhancement measures relied upon; and 6. a concise explanation of how the overall conclusion was reached across categories rather than only by individual VC.

Proponent Response

WKR has considered these related requests together, as each concerns the content and form of the Impact Statement's conclusion (Volume 10, Section 36).

The requirement for the conclusion is set out in Section 12.0 of the Final IS Guidelines, which directs that the Impact Statement "shall end with a conclusion presenting a summary analysis of the overall projected biological, ecological, physical, health, social, economic and cultural impacts, anticipated transboundary and cumulative effects, proposed mitigation measures, and residual impacts," and that, while highlighting the Kitikmeot Region, the conclusion "shall clearly present the importance of the Impact Statement findings to the designated area specifically and Canada more generally." The Guidelines call for a summary analysis and do not require the conclusion to take the form of a consolidated matrix, decision record, reconciliation register, or similar table. Volume 10, Section 36 provides that summary analysis, including the importance of the findings to the Kitikmeot Region, the designated area, and Canada more generally.

The analytical content underlying the conclusion — significance determinations, residual Project and cumulative effects, prediction confidence and uncertainty, and mitigation, monitoring, and enhancement measures — is required by other sections of the Guidelines and is provided in the body of the Impact Statement rather than in the conclusion:

- Residual Project and cumulative effects, and the Project's contribution to cumulative effects, are characterized VC by VC in Volumes 5 to 9, with the cumulative approach (including the separation of past/present/reasonably foreseeable activities from Reasonably Foreseeable Induced activities) and the RFI quantitative assumptions presented in Volume 4, Section 9 and Appendix 9A, Attachment 9A2.
- Significance for all VCs is determined in the Significance of Effects sub-section of each VC assessment and summarized in Volume 10, Table 32.2.
- Prediction confidence and uncertainty, including gaps and assumptions, is addressed in the Prediction Confidence and Uncertainty sub-section of each VC assessment (Volume 4, Section 9.4.4).
- Mitigation, management, and enhancement measures are described in each VC assessment and are listed and classified (Design Measure, Mitigation Measure, or Commitment) by VC and Project phase in Volume 1, Appendix B, with management-plan status addressed in Volume 11 (see NIRB 4 / IR-482).
- The Holistic Assessment (Volume 10, Section 31) complements the VC assessments by examining interconnections from a systems perspective (see NIRB 6 / IR-484).

The information the Board seeks is therefore already present in the Impact Statement, organized by Valued Component and supported by the methodology, significance, uncertainty, and mitigation sub-sections within each assessment. Reorganizing that material into consolidated matrices, VC-by-VC decision records, mitigation-classification tables, or a final reconciliation register would extract findings from the context in which they were made and assessed, which risks presenting them in a manner disconnected from the supporting analysis. The basis for each conclusion is the corresponding VC assessment in Volumes 5 to 9 and is intended to be read in that context.

WKR respectfully submits that Volume 10, Section 36, read together with the supporting VC assessments and summary in Volume 10, Table 32.2, fully addresses the conclusion requirements of Section 12.0 of the Guidelines, and that the additional consolidated tables, matrices, and registers requested are not required by the Guidelines and are not necessary for the Board's review.

NIRB 428. (IR-906)

Subject

Conclusion

Issue / Concern

Reviewer Comments / Reasoning: Section 36.2 summarizes cumulative effects and identifies the Project Inclusion List of 129 physical activities, the potential for cumulative effects to emerge under reasonably foreseeable induced development, and the conclusion that effects remain generally low to moderate and not significant. The supporting cumulative effects overview in Section 32 provides more detail.

Missing Information / Gap: The final conclusion does not provide a VC-by-VC cumulative-effects decision record, does not distinguish present-day, Project-only, and reasonably foreseeable induced scenarios in the conclusion, and does not identify which cumulative conclusions depend on regional measures that are outside the Proponent's direct control.

Information Request

Provide a cumulative-effects conclusion table that includes: 1. each VC with a cumulative effects pathway; 2. the RFI scenario(s) used; 3. quantitative assumptions for mine, road, air, marine, fuel, workforce, and infrastructure activity where relevant; 4. the residual cumulative effect and significance conclusion; 5. key uncertainty and sensitivity factors; 6. regional measures assumed or recommended; and 7. whether the conclusion would change if regional measures are not implemented.

Proponent Response

See response to NIRB 427 (IR-905).

NIRB 429. (IR-907)

Subject

Conclusion

Issue / Concern

Reviewer Comments / Reasoning: The conclusion states that measures will be in place to reduce or manage potential adverse effects and that residual effects are not anticipated to be significant. Mitigation and commitments are provided elsewhere, particularly Volume 1 Appendix B and Volume 11 management plans.

Missing Information / Gap: The conclusion does not summarize the key mitigation measures relied upon for final conclusions, distinguish committed measures from draft/future plan elements, or identify residual impacts that cannot be mitigated, require compensation/offsetting, or remain uncertain. It also does not identify which final conclusions depend on management plans that are still draft, preliminary, or contain placeholders.

Information Request

Provide a final mitigation-and-residual-impact conclusion table identifying: 1. each key residual impact; 2. the mitigation, management, enhancement, compensation, or offsetting measure applied; 3. whether the measure is committed, draft, future, or subject to permitting; 4. monitoring and adaptive-management triggers; 5. residual impacts that cannot be fully mitigated or compensated; 6. residual significance after mitigation; and 7. management-plan dependencies and deadlines for completion before construction.

Proponent Response

See response to NIRB 427 (IR-905).

NIRB 430. (IR-908)

Subject

Conclusion

Issue / Concern

Reviewer Comments / Reasoning: The conclusion and executive summary highlight economic development benefits to the Kitikmeot and identify training, employment, and the economy as key positive effects. The IS also discusses cumulative and transboundary effects in other sections.

Missing Information / Gap: The final conclusion does not provide a balanced regional-and-national importance analysis that considers both benefits and adverse consequences for the Kitikmeot Region, the Nunavut Settlement Area, adjacent jurisdictions, and Canada more broadly. It does not clearly identify who receives benefits, who may experience adverse effects, and how uncertainties or mitigation dependencies affect the overall public-interest conclusion.

Information Request

Provide a regional-and-national importance analysis that includes: 1. Kitikmeot-specific benefits and adverse effects; 2. distribution of benefits and burdens among communities, Inuit, other Indigenous groups, workers, governments, and third-party users; 3. implications for Nunavut infrastructure, Canadian Arctic transportation, sovereignty, emergency response, and economic development where relied upon; 4. adverse social, cultural, health, environmental, and rights-related consequences; and 5. a final balanced conclusion explaining the importance of the IS findings to the designated area and Canada generally.

Proponent Response

See response to NIRB 427 (IR-905).

NIRB 431. (IR-909)

Subject

Conclusion

Issue / Concern

Reviewer Comments / Reasoning: The final conclusion relies on the overall statement that residual Project and cumulative effects are not significant. However, across the IS some conclusions rely on future design work, draft management plans, future monitoring thresholds, offsetting, adaptive management, or positive effects that are not fully characterized. Missing Information / Gap: The conclusion does not reconcile major uncertainties, future design dependencies, incomplete management plans, positive effects not characterized further, offsetting assumptions, or unresolved engagement issues with the final not-significant conclusion. Without this reconciliation, reviewers may not be able to see how all uncertainties and dependencies were weighed in the final conclusion.

Information Request

Provide a final conclusion reconciliation register that identifies: 1. each VC final significance conclusion; 2. key prediction-confidence and uncertainty statements; 3. unresolved data gaps; 4. future design/permitting dependencies; 5. draft or incomplete management plans relied upon; 6. offsetting or compensation assumptions; 7. positive effects requiring enhancement or monitoring; 8. unresolved engagement or knowledge-holder concerns; and 9. whether any of these factors could change the final Project conclusion.

Proponent Response

See response to NIRB 427 (IR-905).