Application for Approval to Construct a Railway Line Submitted to: The Canadian Transportation Agency under Section 98 of the Canada Transportation Act

Baffinland Iron Mines Corporation
Mary River Project
NIRB File No. 08MN053

Project Title:	Mary River Project, Steensby Railway Component
Project Location:	Baffin Island, Nunavut, Canada
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I. ORGANIZATION OF SECTION 98 APPLICATION

1. This is an application (the **Section 98 Application**) by Baffinland Iron Mines Corporation (**Baffinland**) to the Canadian Transportation Agency (the **Agency**) for an order approving the construction of a railway line pursuant to section 98 of the *Canada Transportation Act,* S.C. 1996, c. 10 (***CTA***). Baffinland seeks approval from the Agency to construct a railway of approximately 149 kilometers in length connecting the Mary River Mine to the Steensby Port (the **Steensby Railway**).

2. This Section 98 Application consists of the following components:

   a. A "**Community Summary",** which is separately attached. The Community Summary is a plain language summary of this Section 98 Application targeted to support the understanding of Inuit, other Nunavut residents and members of the public, and will be provided in English and Inuktitut.

   b. This document, which provides Baffinland's submissions on the legal test under section 98(2) of the CTA, includes the **"Application Brief"** and "**Background to the Application Brief**". The Supporting Documents are referenced and described throughout.

      The "Background to the Application Brief" provides more detailed factual information about the Steensby Railway to demonstrate that its location is reasonable, taking into consideration operational and service requirements and the interests of localities. The "Background to the Application Brief" has eight parts (Parts 1 to 8) which are organized to correspond with the information requirements set out in Sections 3.2 to 3.4 of the Agency's Guide to Section 98 Applications.

   c. The **"Index of Supporting Documents"**, which is attached as SD-1. The Index of Supporting Documents includes the following:

      - A Table of Commitments (SD-2) which describes the commitments, Nunavut Impact Review Board Project Certificate terms and conditions (SD-31) and the provisions of the Inuit Impact Benefit Agreement (SD-72) which specifically address the interests identified by localities in relation to the Steensby Railway. The Table of Commitments includes details on how each of these measures will be undertaken by Baffinland, the capacity of the measures to address the localities' interests, and any necessary adaptive management requirements.
      - A Table of Concordance (SD-3) which directs the reader to the requirements of the Guide and where specifically each requirement can be found in the Section 98 Application. The Tables of Concordance also address the preliminary questions and information requests issued by Agency staff to Baffinland in December 2023 (SD-4), June 2024 (SD-5), and July 2024 (SD-6).
      - A Glossary (SD-7), which includes a definition for all capitalized terms used in the Application.
      - Technical documents (including reports, drawings and plans) detailing the Steensby Railway design criteria, construction and operations (SD-12 to SD-29).

- Detailed reports and documentation evidencing engagement with localities, including Inuit, Indigenous groups, Nunavut communities, federal and territorial government agencies and other stakeholders (SD-69 to SD-82).
- Environmental, regulatory and permitting documentation, including:
    - a summary of pending applications for activity-specific authorizations (SD-30);
    - the 2012 Final Environmental Impact Statement (**2012 FEIS**) (together with all supporting documents) (SD-41) and the positive decisions based on the 2012 FEIS issued by the Nunavut Impact Review Board (SD-43) and the federal Minister of Northern Affairs (SD-45), as well as the resulting Project Certificate; and
    - updates on key topics carried out by Baffinland and its third-party consultants since 2012, including climate change (SD-65), noise and vibration (SD-66), archaeology (SD-81), geotechnical (SD-67), updated information on caribou (SD-83) and wildlife/caribou crossings (SD-64).

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II. APPLICATION BRIEF

II.A. OVERVIEW OF SECTION 98 APPLICATION

1. The Steensby Railway is a critical component of Baffinland's multi-phase **Mary River Project** to develop and operate the Mary River Mine on northern Baffin Island within the Qikiqtani Region of Nunavut. The Mary River Project has been in operation since 2015, and is one of the most northern mining operations in the world. The Steensby Railway will provide freight rail service to the Mary River Mine and is critical to the long-term viability and success of the Mary River Project.

2. In considering whether to approve the construction of the Steensby Railway, section 98(2) of the *CTA* directs the Agency to consider whether the location of the railway line is reasonable, taking into consideration the requirements for railway operations and services, and the interests of the localities that will be affected by the line.

3. The Steensby Railway will be located in a remote area of the Canadian Arctic approximately 200 kilometers away at its midpoint from the nearest community. It has been designed, evaluated, and refined by Baffinland over the course of more than 10 years of operational experience and 18 years of engagement and collaboration with localities (including Inuit, local communities, and Inuit organizations), territorial and federal regulatory authorities, and others. The Steensby Railway has already been approved by other federal regulatory authorities.

4. In this Application Brief, Baffinland will provide the Agency with an overview of the extensive engagement that took place between Baffinland and localities in relation to the Mary River Project and the Steensby Railway, as well as Baffinland's careful incorporation of the advice of localities in the railway location and design. It will also highlight the geographic, physical, and socio-economic issues relating to the Steensby Railway, which are unique compared to a railway in southern Canada.

5. Baffinland's Section 98 Application must be understood within the unique legal and cultural context of Nunavut, as informed by the ***Nunavut Agreement*** which established the "Nunavut Settlement Area" and instilled the Nunavut Impact Review Board (**NIRB**) as the agency with sole jurisdiction over environmental assessment in Nunavut.[1] The *Nunavut Agreement* requires Baffinland to have an "Inuit Impact and Benefit Agreement" with the Designated Inuit Organization (in this case, the Qikiqtani Inuit Association or **QIA**) prior to proceeding with a project.[2]

[1] The *Nunavut Agreement* is a land claims agreement between the Canadian Government and Inuit, as represented by the Tunngavik Federation of Nunavut (now known as Nunavut Tunngavik Inc. or **NTI**), which was ratified by the *Nunavut Land Claims Agreement Act*, S.C. 1993, c. 29 and came into force on July 9, 1993 [**Nunavut Agreement**]. Article 12.12.7 of the *Nunavut Agreement* states that "[t]he Canadian Environmental Assessment Act, and any successor legislation replacing that *Act*, shall not apply within the geographic area to which this Article applies".

[2] *Nunavut Agreement, supra* note 1 at Article 26, Part 2. Per Article 1, the *Nunavut Agreement* defines "Designated Inuit Organization" as either NTI or an organization designated by NTI to perform one or more particular powers, functions or authorities set forth in the *Nunavut Agreement*. Designated Inuit Organizations operate with accountability and democratic control by Inuit, pursuant to Article 39 of the *Nunavut Agreement*.

6. The Mary River Inuit Impact and Benefit Agreement (the **Mary River IIBA)** between Baffinland and the QIA[3] fulfils the requirements of Article 26 of the Nunavut Agreement and applies to the Steensby Railway.[4] The Mary River IIBA, amongst other things, codifies the mitigation measures identified by QIA to address issues raised by Inuit in respect of the Mary River Project and establishes significant financial compensation and benefits to Inuit which have the potential to support Inuit in their goals for generations. Baffinland's commitments in the Mary River IIBA are legally binding.[5] The Mary River IIBA also confirms QIA's relationship to the Mary River Project and reflects "*the principle of mutual benefit, collaboration and consultation for both Inuit and [Baffinland] from the [Mary River Project].*"[6] This context is fundamental to assessing the interests of the localities that may be affected by the Steensby Railway and, in turn, the reasonableness of the location.

7. This Application Brief explains why the location of the Steensby Railway is reasonable and meets the requirements of section 98(2) of the *CTA*, taking into consideration the requirements for railway operations and services and the interests of the localities. The "Background to this Application Brief" provides more detailed information on the Steensby Railway and the key facts which demonstrate that its location is reasonable. This document includes, for example, a detailed overview of the Steensby Railway's location (**Part 2 and 3**), railway operations, services and construction (**Part 5 and 6**), the environmental assessment (**Part 7**); and the extensive consultation and engagement between Baffinland and localities (**Part 8**).

[3] QIA is a Designated Inuit Organization under the *Nunavut Agreement*, representing the rights and values of the approximately 15,500 Inuit within the Qikiqtani region.

[4] The Mary River IIBA is included as SD-72 and also available online, here: <https://www.qia.ca/wp-content/uploads/2018/10/Mary-River-IIBA-Signed.-October-22-2018.pdf>. It was established in 2013, and amended and restated in 2018, pursuant to Article 26 of the *Nunavut Agreement, supra* note 1.

[5] *Nunavut Agreement, supra* note 1 at Article 26.9.1 which provides that an IIBA may be enforced in accordance with the common law of contract.

[6] See Section 2.1.1 of the Mary River IIBA at SD-72.

II.B. HISTORY OF THE MARY RIVER PROJECT

II.B.i. Background on Baffinland Iron Mines Corporation

9. Baffinland is a Canadian iron ore mining company with a Northern head office in Iqaluit, Nunavut and head-quartered in Oakville, Ontario. Baffinland's mining operations are located at the Mary River Mine on northern Baffin Island.

10. Baffinland is the largest private employer in the Qikiqtani region and is one of the largest private employers in Nunavut. Baffinland has committed to maximizing Inuit employment in its operations and to delivering other long-term socio-economic benefits to the community, including through the Mary River IIBA.[7]

11. To date, through the Mary River IIBA and other community partnerships, Baffinland has cumulatively paid more than $164 million in financial benefits to Qikiqtani Inuit,[8] provided over $150 million in wages to Inuit employees and contractors, reached over $1.79 billion in contracts awarded to Inuit firms, provided over $3.8 million through its Sponsorship and Donation Program, seen over 650 graduates of pre-employment training programs, and delivered over 229,000 hours of training to Inuit employees, amongst other socio-economic benefits.

12. Baffinland estimates that the total value of financial benefits which will flow to Inuit and Nunavut over the life of the Mary River Project (including the Steensby Railway) will exceed $5 billion CAD in direct payments to the Governments of Nunavut and Canada, and to Inuit Organizations, including QIA and Nunavut Tunngavik Inc. (**NTI**), as well as more than $1 billion CAD paid directly to Inuit through employment at the Mary River Project.

13. These estimates do not reflect other monetary and non-monetary benefits which will flow to Qikiqtani Inuit, other Nunavummiut, and Canadians generally as a result of the Mary River Project, such as the opportunities and training that generations of Qikiqtani Inuit and other Nunavummiut will experience as a result of the Mary River Project.[9]

14. Further detailed background information on Baffinland is available in Part 1 of the Background to the Application Brief [*Applicant and Project Overview*] (starting at page 39 of this document), and in the Supporting Document SD-8, "Overview Presentation".

[7] The Mary River IIBA provides mutual benefits to the QIA (on behalf of Qikiqtani Inuit) and Baffinland, and addresses areas such as wildlife, shipping, Inuit employment, training, cultural awareness, community monitoring, Inuit knowledge and financial compensation.

[8] These financial benefits are paid to the QIA, in trust for Qikiqtani Inuit, in the form of royalties, lease payments, and other direct payments under the terms of the Mary River IIBA.

[9] Other monetary benefits include, for example, payments made by Baffinland for research, and through its gas program.

II.B.ii. History of the Mary River Project

15. The Mary River Project is a multi-phase project to operate the Mary River Mine and to develop the essential rail transportation, port infrastructure and international southern marine shipping routes needed to make it a financially viable project.

16. Baffinland has conducted numerous studies and assessments in support of the Mary River Project, including an extensive environmental assessment undertaken by NIRB pursuant to Article 12 of the *Nunavut Agreement*, which spanned from 2008 to 2012.

17. At the end of the NIRB review process, the Mary River Project was approved by the Minister and NIRB issued Project Certificate No. 005 on December 28, 2012 (the **Project Certificate**).[10] The Project Certificate authorized Baffinland to proceed with the Mary River Project and at that time, included the following project components:

    (a) mining iron ore at the Mary River Mine, and year-round transportation and shipping of that iron ore to market via the Steensby Railway, the Steensby Port, and a southern shipping route from Steensby Port through the Foxe Basin to the world market (the **Southern Transportation Corridor**); and

    (b) sealift deliveries of equipment and materials via the port within Milne Inlet on the northern shore of Baffin Island (the **Milne Port**) and the 100 kilometer Milne Inlet Tote Road (the **Tote Road**), which connects the Mary River Mine to the Milne Port and a northern shipping route (the **Northern Transportation Corridor**).

18. The Steensby Railway is, and has always been, a critical component of the Mary River Project. As the Mary River Project is a bulk commodity operation, it is essential that Baffinland minimize its transportation costs to insulate the project against volatile iron ore pricing. The long-term success of the project requires a railway to service the mine and lower fixed transportation costs.

19. Notwithstanding the critical importance of rail service to the Mary River Project, Baffinland was not initially able to raise the full funding required to develop all approved project components—including the Steensby Railway and the Steensby Port (together, the **Steensby Components**)—due to depressed iron ore market conditions and the economic climate for mining projects at that time.

20. In order to build stakeholder confidence in the Mary River Project and to allow Baffinland to secure the funds necessary to proceed with the Steensby Components, Baffinland implemented a phased approach to the development of the project, starting with a smaller mining operation. Baffinland applied to NIRB in 2013 to amend the Project Certificate to permit an "**Early Revenue Phase**". The Early Revenue Phase proposal sought to add components to the approved project, including the transportation of 4.2 MTPA of iron ore by truck from the Mary River Mine via the Tote Road, and to ship that iron ore from the Milne Port through Eclipse Sound to Baffin Bay.

[10] As detailed in paragraphs 20 to 22 below, five amendments to the Project Certificate have been issued since 2012. These amendments resulted in the most recent Project Certificate No. 005, Amendment 5 issued in 2023 and attached as SD-58.

21. The Minister approved the Early Revenue Phase proposal and NIRB issued Amendment No. 1 to the Project Certificate on May 28, 2014. Baffinland began construction in 2013, commenced operation of the Early Revenue Phase in 2014, and commenced trucking and shipping iron ore to market via the Northern Transportation Corridor in 2015.

22. Since commencing the Early Revenue Phase, Baffinland has applied for and received further amendments to the Project Certificate in each of 2018, 2020, 2022 and 2023, which allow it to increase Early Revenue Phase production and transportation of iron ore on the Northern Transportation Corridor by 1.8 MTPA (collectively, the **Production Increase Proposals** or the **PIP Amendments**).[11] The Early Revenue Phase and PIP Amendments were always intended to be a means to advance towards development of the Steensby Components, and not an alternative to developing the Steensby Railway to provide rail service to the Mary River Mine.

23. Between 2018 and 2022, Baffinland also proposed to amend the Project Certificate to take advantage of its Northern Transportation Corridor infrastructure and construct a northern railway, which would have followed the general route of the Tote Road and connected the Milne Port to the Mary River Mine (the **Phase 2 Proposal**). Baffinland proposed that the northern railway would operate in addition to the Steensby Railway. However, the Minister rejected Baffinland's proposal following a negative recommendation by NIRB. Baffinland therefore did not proceed with the Phase 2 Proposal.

24. The full potential of the Mary River Project cannot be realized until the Steensby Railway is developed. Without a railway the full benefits of the Mary River Project to Inuit, local communities, Nunavut and Canada will not be realized. This includes not only the economic benefits assumed by the investors who financed the development of the project, but also the substantial long-term economic, socio-economic and other benefits which Qikiqtani Inuit and local communities can receive under the Mary River IIBA.

25. Baffinland is currently in a position to move forward with securing funding for the Steensby Components of the Mary River Project, including the Steensby Railway. Given international financial markets and narrow available Arctic construction windows, time is of the essence.

26. Further detailed background on the history of the Mary River Project is available in the Background to the Application Brief, Part 1 [*The Mary River Project*] (starting at page 34 of this document), and in the following Supporting Documents: SD-8, "Overview Presentation"; SD-43, "Nunavut Impact Review Board Final Hearing Report, Mary River Project, Baffinland Iron Mines 2012 Corporation, Nunavut Impact Review Board File No. 08MN053 (2012)"; SD-46, "Nunavut Impact Review Board Final Hearing Report, Mary River Project: Early Revenue Phase Proposal, Baffinland Iron Mines Corporation, Nunavut Impact Review Board File No. 08MN053"; SD-57, "Nunavut Impact Review Board Reconsideration Report and Recommendations, Sustaining Operations Proposal (2023)."

[11] As detailed in paragraph 94 below, each of the PIP Amendments triggered additional NIRB environmental assessment processes.

II.B.iii. The Steensby Railway Component of the Mary River Project

27. Once constructed, the Steensby Railway will provide dedicated freight rail services between the Mary River Mine and the Steensby Port at the Steensby Inlet transporting loaded and empty iron ore rail cars from and to the mine.

28. The Steensby Railway's operations will be comprised of the following: (i) operation of the main line between the Mary River Mine and the Steensby Port, (ii) operation of the yard tracks at the Steensby Port and the Mary River Mine, (iii) loading and unloading of rail cars carrying iron ore and general supplies for the Mary River Mine, and (iv) railway, rolling stock and locomotive maintenance. The railway will be operated by a qualified railway operator contracted by Baffinland.

29. The construction and operation of the Steensby Railway was approved by NIRB in the Project Certificate. Baffinland has also already acquired other key regulatory approvals that are required to proceed with the construction of the Steensby Railway including the Type A Water License issued by the Nunavut Water Board (the **NWB**), and Amendment No. 1 to the North Baffin Regional Land Use Plan issued by the Nunavut Planning Commission (the **NPC**) which establishes a railway transportation corridor.

30. Baffinland has also applied for, and expects to obtain, other key activity specific authorizations for the Steensby Components by Q4 2024 or earlier, including *Fisheries Act*[12] Authorizations and Navigation Protection Program approvals.[13]

31. Further background information on the Steensby Components is available in the Background to the Application Brief at Part 1, Section 1F [*The Steensby Components of the Mary River Project*] (starting at page 49 of this document), and Section 1G [*Purpose and Benefits of the Steensby Railway*] (starting at page 51 of this document).

[12] *Fisheries Act*, R.S.C. 1985, c. F-14 [*Fisheries Act*].

[13] Further details with respect to the applicable regulatory approvals which are already in place for the Steensby Railway, as well as those that are currently in progress or outstanding, are provided in SD-30, 'Permit Authorization Register Status".

II.C. LEGAL FRAMEWORK FOR EVALUATING THE LOCATION OF THE STEENSBY RAILWAY

II.C.i. The Agency's Mandate under Section 98 of the CTA

32. Section 98(1) of the *CTA* requires a railway company to seek approval from the Agency prior to constructing a railway line.[14] The Agency is to consider whether the location of the railway line is reasonable taking into consideration the factors in section 98(2), which states:

> 98(1) A railway company shall not construct a railway line without the approval of the Agency.
>
> 98(2) The Agency may, on application by the railway company, grant the approval if it considers that the location of the railway line is reasonable, taking into consideration requirements for railway operations and services and the interests of the localities that will be affected by the line.

33. The Steensby Railway will be located wholly within the territory of Nunavut. Given that the *Nunavut Act*, S.C. 1993, c. 28 (***Nunavut Act***)[15] establishes federal legislative authority over the territory of Nunavut, Baffinland must seek approval from the Agency to construct the Steensby Railway.

34. The Federal Court of Appeal in *Sharp v. Canada (Transportation Agency)*[16] held that the Agency's jurisdiction under section 98 of the *CTA* does not include considering whether the proposed railway line is "needed" or whether its construction is reasonable. Rather, the Court described the scope of the Agency's jurisdiction on a section 98 application, as follows:

> [9] I am unable to accept the appellant's contention that section 98 requires an assessment of need. Subsection 98(2) requires the Agency to focus on whether the "location of the railway line is reasonable". It is significant that although the application is for approval to construct a railway line, the Agency is not mandated to consider whether the construction of the line is reasonable. That may have imported a needs test. On the contrary, it is apparent that Parliament distinguished between construction and location, limiting the Agency's role to considering only the reasonableness of the location of the line. There is no needs test implied in a consideration of the reasonableness of the location of the line.

[14] Section 98(3) of the *CTA* provides certain exceptions to the requirement that a railway company seek approval to construct a railway under section 98(1) including, for example, where the construction is within the right of way of an existing railway line. These exceptions do not apply to the Steensby Railway, which will be a newly constructed railway.

[15] *Nunavut Act*, S.C. 1993, c. 2.

[16] *Sharp v. Canada (Transportation Agency)*, [1999] 4 FCR 363 (FCA) [***Sharp***].

> [10] Nor do the words "taking into consideration requirements for railway operations and services" suggest that the need for the line is a relevant consideration for the Agency. In the context of a location decision, "requirements for railway operations and services" refers only to those requirements that will enable the railway company to provide service to its customers. It does not refer to the need for the line. …
>
> [11] Nor does the requirement to consider the "interests of localities" import consideration of whether or not the line is needed. What is contemplated is localities bringing to the attention of the Agency their concerns respecting the location of the line and the Agency having regard to those concerns in determining whether the location is reasonable. It is, of course, open to the Agency to determine that a location is not reasonable, in which case it will not grant approval for the construction of the line. However, in making that assessment, the Agency is not to take into account whether the line is needed. The need for the line will be presumed by reason of the application made by the railway company.[17] [*emphasis original*]

35. In *Canadian National Railway Co. v. Canadian Transportation Agency,*[18] the Federal Court of Appeal interpreted the meaning of the term "interests of the localities affected by the line" in section 98(2) of the *CTA*, as follows:

> [12] The purpose of section 98 is to provide regulatory oversight to the location of railway lines, including railway lines in yards, having regard to the interests of affected localities. Here the Act is concerned with balancing the requirements for railway operations and services as advanced by the railway company, with the effect of the physical co-existence of railway lines in proximity to localities. This is not economic regulation. [*emphasis added*]

36. Accordingly, the Agency's mandate on an application under section 98(1) of the *CTA* is to consider the extent to which the interests of the localities relate to the physical co-existence of the railway line in proximity to those localities, and to weigh those interests against the requirements for railway operations.[19]

37. The interests of localities to be considered by the Agency in a section 98 application will depend on the circumstances in each application. However, in the past, the Agency has considered interests which have included noise and vibration levels, disturbance of local wildlife, dust emissions, soil stability and drainage patterns, safety concerns, and the concerns of Indigenous groups.[20]

[17] *Sharp, supra* note 16 at paras. 9-11.

[18] *Canadian National Railway Co. v. Canadian Transportation Agency,* 1999 FCA A-46-99 at para. 12 [***Canadian National***].

[19] Agency Determination No. R-2021-172 at paras. 35-36, [**CN Milton Decision**].

[20] See, for example, Agency Decision No. 379-R-2015, Decision No. 118-R-2015, Decision No. 591-R-2006, and Decision No. 248-R-2016.

II.C.ii. The Agency's Jurisdiction in respect of NIRB's Environmental Assessment

38. Where a proposed railway line is located on federal lands, the Agency's mandate on an application under section 98(1) of the *CTA* may, in some circumstances, also include an assessment of the railway's potential environmental effects, as required by section 82 of the *Impact Assessment Act*, S.C. 2019, c. 28, s.1 (the **Impact Assessment Act**).[21]

39. However, where the railway project triggers an impact assessment by an agency specifically mandated under environmental legislation, and that agency authorizes the project, the Agency's role with respect to that environmental assessment is limited to considering that assessment to "inform" the Agency of the interests of localities potentially affected by the location of the railway line.

40. The Agency has interpreted its role with respect to such environmental assessments as follows:

> [247] … environmental considerations, including any environmental assessment that may have been conducted by another administrative body and the mitigation measures that are to be implemented to address environmental effects, are one of the factors that the Agency may be called to consider when examining the interests of the localities for the purpose of deciding if the location of the line is reasonable. To the extent that a Project has been authorized by an Agency specifically mandated under environmental legislation to examine these very concerns, the Agency may be satisfied that these issues have already been addressed. Environmental assessments and rail construction authorizations are two different regulatory authorizations, decided under two different statutory regimes. In the Agency's view, Parliament did not intend for Projects to undergo two consecutive environmental assessments, nor to mandate the Agency to redo and question the work and the conclusions of the IAA or the Minister.
>
> [248] The limitations of the statutory jurisdiction of the Agency do not, however, prevent the Agency from reading and considering the environmental assessment report of the Review Panel and the Minister's Decision Statement. Indeed, it is wise and prudent for the Agency to do so when deciding what constitutes an interest of the locality affected by the line and what weight to attach to the report and the Decision Statement. In Decision No. 85-R-2013 dated March 8, 2013, which involved a section 98 application, the Agency said that the information provided as part of an environmental assessment is relevant "to inform" the Agency of the interests of the localities potentially affected by the location of the railway lines. The environmental assessment in that case was not conducted by the Agency itself and was conducted prior to CEAA 2012, but the principle remains valid. The environmental assessment information on the record of this

[21] *Impact Assessment* Act, S.C. 2019, c. 28, s. 1 at s. 82 [*Impact Assessment Act*]; Canada Transportation Agency, "*How to Apply for Approval to Construct a Railway Line: A Guide for Federally Regulated Railway Companies*" (October 4, 2019) at section 1.3(ii) [the **Section 98 Guide**], available online, here: <https://otc-cta.gc.ca/eng/publication/how-apply-approval-construct-a-railway-line-a-guide>.

> proceeding similarly "informs" the Agency in its decision-making process; it does not dictate how the Agency will exercise its discretion involving an interest of a locality affected by a line.[22] [*emphasis added*]

41. Although portions of the Steensby Railway are located on federal lands, neither the *Impact Assessment Act* nor its predecessor legislation, the *Canadian Environmental Assessment Act*, S.C. 1992, c. 37, apply in the Nunanvut Settlement Area, and therefore also do not apply to the Steensby Railway. Environmental assessments in the Nunavut Settlement Area are currently conducted under:

    (a) the *Nunavut Agreement* (a land claim agreement within the definition of section 35 of the Canadian *Constitution Act*)[23] which established the Nunavut Settlement Area and NIRB. Under Article 12, Part 12 of the *Nunavut Agreement*, NIRB is the sole legal body with jurisdiction over environmental assessment within the Nunavut Settlement Area;[24] and

    (b) the federal *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (***NuPPAA***) which fulfils Canada's obligation under the *Nunavut Agreement* to enact federal legislation describing the land use planning and impact assessment processes applicable in Nunavut. Under section 7 of *NuPPAA*, the *Impact Assessment Act* does not apply in respect of the Nunavut Settlement Area.[25]

42. Under the *Nunavut Agreement* and *NuPPAA*, the terms and conditions of project certificates issued by NIRB are to be implemented by all government departments and agencies in accordance with their authorities and jurisdictional responsibilities.[26]

[22] CN Milton Decision, *supra* note 19 at paras. 247-248.

[23] *The Constitution Acts, 1867 to 1982* at s. 35.

[24] *Nunavut Agreement, supra* note 1 at Article 12.12.7, which states that "[t]he *Canadian Environmental Assessment Act*, and any successor legislation replacing that Act, shall not apply within the geographic area to which this Article applies".

[25] *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, at s. 7 [*NuPPAA*].

[26] *Nunavut Agreement, supra* note 1 at Part 9; *NuPPAA, supra* note 25 at ss. 136-137.

43. As is further detailed in this Application Brief and in the Background to the Application Brief at Part 7 [*Environmental Assessment and Other Regulatory Activities*] (starting at page 124 of this document), the environmental assessment for the Mary River Project, including the Steensby Railway, was conducted by NIRB under the *Nunavut Agreement*.[27] In completing its assessment of the Mary River Project, NIRB was required to gather information and evidence concerning, amongst other things, railway operations and the interests of the localities. The Agency actively participated and provided submissions to NIRB in its assessment of the Steensby Railway component of the Mary River Project.

44. The Agency's mandate on this Section 98 Application is not to redo or re-evaluate the work of NIRB. While the Agency may inform itself of NIRB's findings and consider its assessment when examining the interests of the localities, the Agency is not required under section 98 of the *CTA* (or permitted under the *Nunavut Act* and NuPPAA) to reassess the significance of those findings as environmental effects. Instead, pursuant to section 98 of the *CTA*, the Agency's mandate is to review and consider NIRB's findings to determine what relevance they have, as part of its consideration of whether the location of the Steensby Railway is reasonable.[28]

45. In this regard, this Section 98 Application includes and incorporates by reference:

(a) the Final Environmental Impact Statement (the **2012 FEIS**) filed by Baffinland with NIRB in 2012, pursuant to the *Nunavut Agreement*;[29]

(b) the positive recommendation report for the Mary River Project issued by NIRB in 2012;[30]

(c) the terms and conditions of the Project Certificate issued by NIRB on December 28, 2012, following Ministerial approval of NIRB's positive recommendation report;

(d) the subsequent assessments carried out by NIRB since the Project Certificate was issued, including Amendment No. 1 for the Early Revenue Phase and Amendments No. 2 to 5 for the PIP Amendments;[31] and

(e) the ongoing monitoring reports issued by Baffinland and NIRB under the Project Certificate, from 2013 to present.[32]

[27] The Project Certificate and Amendment No. 1 predated *NuPPAA* and were assessed under Article 12 of the *Nunavut Agreement* only. All assessments that were carried out from 2015 onwards (including the PIP Amendments) were subject to the *Nunavut Agreement* and *NuPPAA*.

[28] CN Milton Decision, *supra* note 19 at paras. 35-36 and 247-248.

[29] Baffinland, *Final Environmental Impact Statement for the Mary River Project* (2012) [**2012 FEIS**] (SD-41).

[30] NIRB, *Final Hearing Report, Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053* (2012) (SD-43).

[31] See SD-46, SD-50, SD-52, SD-54, and SD-57

[32] See **SD-59 and SD-60**

46. The 2012 FEIS provided the basis for NIRB's assessment, for Ministerial approval of the Mary River Project, and for the issuance of the Project Certificate. It remains current as a basis for the Agency's approval of this Application. To this effect, this Application also includes the following updates related to the 2012 FEIS:

    (a) As described in **paragraph 94** below, the 2012 FEIS has been continually revisited and updated through Baffinland's applications to amend the Project Certificate which were assessed and approved by NIRB, as well as through ongoing project monitoring under the Project Certificate.[33] There have been no changes to the Steensby Railway through these processes;

    (b) As detailed in **paragraph 56** below, Baffinland has prepared updated analyses, technical memos and engineering reports on key topics from the 2012 FEIS, including with respect to engagement activities undertaken since 2012;

    (c) Baffinland has also developed detailed mitigation, monitoring and management plans for the Mary River Project since 2012;[34] and

    (d) the Table of Commitments at SD-2 which outlines the terms and conditions and commitments made under the Project Certificate since 2012 and under the Mary River IIBA since 2013.

47. The 2012 FEIS and the terms and conditions of the Project Certificate were also relied upon by Crown-Indigenous Relations and Northern Affairs Canada (**CIRNAC**), the Government of Nunavut, NWB, NPC, and NTI in issuing the authorizations and by QIA in entering into the agreements needed to proceed with the Steensby Railway.

48. The information provided in this Section 98 Application, together with the comprehensive Inuit-focused environmental assessment and ongoing monitoring requirements established by NIRB, meets the Agency's requirements with respect to consideration of the environmental assessment for the Steensby Railway under section 98 of the *CTA.*

[33] Further information about the amendment applications and project monitoring is detailed in Application Background Part 2 [*The Mary River Project*] and Part 7 [*Environmental Assessment and Other Regulatory Activities*].

[34] A complete list of these plans is set out at Application Background Part 6 Section I [*Baffinland's Health, Safety and Environment Management Framework*].

II.D. THE LOCATION OF THE STEENSBY RAILWAY

II.D.i. Alignment of the Steensby Railway

49. The location of the Steensby Railway and the design of its rail infrastructure were extensively studied and developed by Baffinland in order to appropriately address the unique geographic, physical and socio-economic surroundings of the North Baffin region of Baffin Island. Baffinland also incorporated extensive advice provided by Inuit, Inuit organizations and communities into its selection of the location for and design of the railway.

50. These unique factors are outlined in detail in the Background to the Application Brief at Part 2, Section III.2A [*The Remote Location of the Steensby Railway*] (starting at page 57 of this document) and include, at a high level, the following:

(a) The North Baffin region is extremely remote. There is no existing major transportation infrastructure, other than what has already been constructed for the Mary River Project, and there are no communities connected by road, adjacent or even near to the Steensby Railway. As a result, the Steensby Railway will not interact with roads, utilities, property use (private or public) or neighbouring localities in the same way as a railway in southern Canada.

(b) The semi-arid and extremely cold arctic climate in the region has significant effects on ground, hydrologic and soil conditions which, in turn, have design and operational impacts on the railway. Baffinland has evaluated the location of the Steensby Railway to minimize these risks, and developed a railway design which specifically accounts for the extreme cold weather conditions and the anticipated climate change risk in the region, such as warming and thawing of permafrost.[35]

(c) Given the remote location of the Steensby Railway, the identification of localities and the assessment of how they may be affected by the railway cannot be determined based solely on "proximity", but rather, must be based on the long-term cultural, socio-economic and environmental ties of Inuit and local communities to the area, such as hunting, harvesting and other regional land uses.

[35] See, in particular: Systra Canada, "*Extreme Cold Weather and Climate Change for Steensby Railway Project*" (May 1, 2024) at SD-65.

51. The Steensby Railway will originate at the iron ore loading station at the Mary River Mine and will travel 149 kilometers in a general southeast direction from the Mary River Mine to the Steensby Port site at Steensby Inlet, as follows:

    (a) From the iron ore loading station just west of the Mary River Mine at kilometre post (**KP**) 0, the Steensby Railway will run in a southeast direction for approximately 35 kilometers until it reaches the east end of Angijurjuk Lake. It will then turn south and cross the Ravn River at approximately KP 37.

    (b) After crossing the Ravn River, the railway will then skirt along the west side of the Pingimajuq Ridge for approximately 35 kilometers towards the divide between the Ravn River watershed and the Cockburn River watershed. It will enter the Cockburn Valley and continue south along the western shore of Cockburn Lake until it reaches the natural constriction point in Cockburn Lake at KP 95, where the railway then crosses to the eastern bank of Cockburn Lake.

    (c) After crossing Cockburn Lake, the railway will then follow the east bank of Cockburn Lake for approximately 27 kilometers towards the southern point of Cockburn Lake. It will then extend southeast away from Cockburn Lake into the lowlands along the eastern side of the Steensby Inlet, where it will meander between many small lakes until it reaches the Steensby Port at KP 149.

52. The design of the Steensby Railway includes the following key pieces of infrastructure:

    (a) a total of 149 kilometres of single track main line rail and track infrastructure, plus three passing sidings for oncoming trains;

    (b) approximately six kilometers of yard tracks at the Mary River Mine and Steensby Port;

    (c) 42 open span steel bridges and an estimated 258 culverts, which have been designed to minimize intrusion into water bodies and reduce multiple crossings of the same watercourse;

    (d) two railway tunnels measuring 1,000 meters and 300 meters in length which will be located on the east bank of Cockburn Lake. The tunnels are necessary at these locations in order to avoid cutting back the entire slope of the mountain, which would be more disruptive to the surrounding environment as compared to the tunnels;

    (e) an estimated nine snowmobile/all-terrain vehicle (**ATV**) crossings which will permit hunters and other local land users to safely cross the railway at locations determined in consultation with Inuit;[36] and

[36] Although the snowmobile/ATV crossings will not be connected to or otherwise form part of any roads or trails and are only seasonably accessible, they will nevertheless be constructed in accordance with the *Grade Crossing Regulations*, SOR/2014-275 and all other Transport Canada requirements.

(f) an estimated five crossings designed to facilitate caribou movement located at locations along the railway where caribou herd are known to migrate. In order to create the caribou crossings, the slope of the embankment in these areas will be reduced to permit crossing by the caribou. Caribou and other wildlife may also choose to cross at other areas of the Steensby Railway, where feasible.

53. The Steensby Railway will be located on undeveloped land in a remote area where there are no existing public roads, utility lines, stormwater or drainage structures, or other railways. Accordingly, it will not require any public crossings, utility crossings or railway line crossings. In fact, there are no road, utility or other connections between the Mary River Project area and the communities in the North Baffin region. The only crossings and modifications to infrastructure which the railway may require will be private infrastructure owned by Baffinland and located within the mine or port sites.

54. The location for the Steensby Railway was selected by Baffinland following a detailed evaluation of a number of alternative locations, and following extensive public engagement. It is the most suitable location because it:

(a) minimizes the potential impact and disruption of local geography, wildlife and Inuit land uses,

(b) addresses the interests and concerns of the local communities, Inuit, Inuit Organizations, community organizations, and other localities, and

(c) has suitable physical conditions that can support safe and efficient railway operations.

55. The reasonableness of its location is reflected in numerous regulatory authorizations and Inuit agreements which have been issued since the 2012 FEIS, including:

(a) the Project Certificate issued by NIRB;[37]

(b) the rail transportation corridor established under Amendment No. 1 to the North Baffin Regional Land Use Plan, granted by the NPC;[38]

(c) the Order-in-Council granted by the Governor in Council pursuant to subsection 11(2) of the *Territorial Lands Act*,[39] approving CIRNAC to lease approximately 95,000 acres of territorial land to Baffinland for the purposes of developing the Steensby Components (the **Steensby Land OIC**);[40]

[37] SD-31

[38] Amendment No. 1 to the North Baffin Regional Land Use Plan was approved by the Minister, the Government of Nunavut, and Nunavut Tunngavik Inc. in 2024, pursuant to Article 11 of the *Nunavut Agreement*, *supra* note 1 and section 10 of NuPPAA, *supra* note 25.

[39] *Territorial Lands Act*, R.S.C., 1985, c. T-7.

[40] The Steensby Land OIC was issued on September 27, 2013. Baffinland is currently in the process of negotiating the terms of the lease for the lands under the Steensby Land OIC, and anticipates that the lease will be executed in the near term. A copy of the Steensby Land OIC is available as SD-37.

(d) the Type A Water Licence issued by the NWB, which includes the Steensby Railway within its general scope, and the Water Compensation Agreement with the QIA, which ensures Inuit are compensated for impacts on Inuit rights relating to water arising from the issuance of the Type A Water Licence;[41]

(e) the Mary River Commercial Lease with the QIA, which includes areas for the Steensby Railway; and

(f) the Mary River IIBA, which is based on the Mary River Project as approved by NIRB in 2012 and subsequent Project Certificate amendments, including explicitly the Steensby Railway.

56. In order to support its application for the *Fisheries Act* Authorization(s) and this Section 98 Application, Baffinland has prepared updated analyses, technical memos and railway engineering reports which consider key topics relevant to the location of the Steensby Railway, including the requirements for railway operations and the interests of the localities. These updated analyses include:

(a) ongoing engagement since mining operations began in 2015, as detailed in Baffinland's Stakeholder Engagement Report;[42]

(b) updated freshwater and marine assessments between 2021 and 2023 in areas covering the Mary River Mine, Steensby Railway and Steensby Port, in support of Baffinland's application for *Fisheries Act* authorizations;[43]

(c) an aerial caribou survey in March 2023 covering the Mary River Project area to identify the number and composition of caribou in relation to current and future infrastructure, including the Steensby Railway;[44]

(c) updated geotechnical surveys were carried out in 2023 to identify ice-rich areas along the Steensby Railway alignment, to address future thaw and settlement issues in the final railway design, and to inform the final railway alignment presented in this Section 98 Application;[45]

(d) an updated memo validating the noise and vibration assessment from the 2012 FEIS;[46] and

[41] The Type A Water License approval was issued by the Minister, per Article 13 of the *Nunavut Agreement*, *supra* note 1, and section 56 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, S.C. 2002, c.10 (**NWNSRTA**), and includes detailed terms and conditions with respect to water use and waste including, for example, those that are applicable to the Steensby Railway construction camps and waste management. The Water Compensation Agreement is required under Article 20 of the *Nunavut Agreement, supra* note 1.

[42] Baffinland, "*Stakeholder Engagement Report*" (May 2024) as SD-69 [**Stakeholder Engagement Report**]; Baffinland has referred to this report as a "Stakeholder Engagement Report" for ease of reference. However, Baffinland notes that Inuit and Inuit Organizations have previously indicated that they do not wish to be referred to as "stakeholders".

[43] See Appendix F.1 of Baffinland's *Application for an Authorization Under the Fisheries Act for the Steensby Component Interactions with Freshwater Fish and Fish Habitat* (DFO File Referral No. 23-HCAA-01144), attached as SD-38.

[44] See SD-83.

[45] See Hatch, "*2023 Geotechnical Investigation Report – Steensby Rail Alignment*" (2023), attached as SD-67.

[46] See RWDI Consulting Engineers, "*Steensby Port Noise, Baffinland Iron Mine, RWDI Reference No. 2400388*" (May 6, 2024) attached as SD-66.

(e) a technical memo on the design elements for the railway to ensure that it meets the geotechnical requirements for railway operations in arctic conditions, and also to account for the anticipated effects of climate change in the region (e.g. warming and thawing of permafrost).[47]

57. Further detailed information about the location and infrastructure required for the Steensby Railway is provided in the Background to the Application Brief Part 2 [*Location of the Steensby Railway*] (starting at page 57 of this document) and Part 5 [*Railway Operations and Services*], and in the supporting documents cited in those Parts. Detailed maps and plans showing the alignment of the track and the profile of the Steensby Railway are located at SD-15.

II.D.ii. Alternative Railway Locations Considered

58. In its initial development of the Mary River Project, Baffinland evaluated both "Tier 1 Alternatives" for the whole of the railway alignment, and "Tier 2 Alternatives" to certain segments of the Steensby Railway. Specifically, Baffinland evaluated the following routes to provide rail service between the Mary River Mine and the Steensby Port:

(a) the location for the Steensby Railway as set out in this Application, also known as the "**Eastern Route**" in the FEIS, which generally follows the east side of Angijurjuk Lake and then runs in a generally south direction before crossing over to the east side of Cockburn Lake; and

(b) a potential alternative "**Western Route**" which would have originated at the iron ore loading station at the Mary River Mine and run in a generally south direction along the west side of Angijurjuk Lake, then the east side of Nina Bang Lake, and then the eastern foreshore of the Tariujaq Arm. The Western Route would then extend in a southeast direction crossing over the Cockburn River below its outlet from Cockburn Lake, before arriving on the eastern shore of Steensby Inlet; and

(c) three alternative segments for the Eastern Route, which generally would have departed from the Eastern Route to connect with the southern portion of the Western Route (the **Alternative Segments**).

59. Baffinland undertook feasibility studies for the Eastern Route, Western Route and Alternative Segments which evaluated the routes based on a number of technical, environmental, socio-economic and other factors, including the length of the route; the suitability of the land for safe and efficient railway construction and operations; the significant rail infrastructure requirements for each route; minimizing watercourse encroachments and disruptions to wildlife; and minimizing disruptions to Inuit land use, including hunting and other Inuit cultural activities.

[47] See Systra Canada, "*Extreme Cold Weather and Climate Change for Steensby Railway Project*" (May 1, 2024) at SD-65.

60. Baffinland ultimately determined that the Eastern Route was the preferred route for the Steensby Railway based on the overall suitability of the ground and soil conditions, the overall infrastructure requirements, and the comparative disruption to watercourses, wildlife and Inuit land uses. The Western Route would have, amongst other things, routed through areas with ground and soil conditions that were simply not operationally suitable for a railway, required more environmentally intrusive water crossings, and significantly disturbed both wildlife and cultural land uses.

61. Baffinland similarly determined that none of the Alternative Segments, which route through the same southern portion of the Western Route, were suitable alternatives. Not only do the Alternative Segments join with and share the same challenges as the southern portion of the Western Route, the Alternative Segments would have also traversed areas with steeper grades and more difficult topography, making them less operationally suitable for a freight railway.

62. The Western Route, the Eastern Route, and the Alternative Segments were all canvassed in public engagement and the feedback shared was integrated into and considered by Baffinland in its assessment of the alternative railway alignments.

63. During the course of NIRB's review of the Mary River Project and the related public consultations, Baffinland was asked by local communities to also evaluate alternative locations for the Steensby Port on the north and east coasts of Baffin Island, and on the Nuvuit Peninsula which, necessarily, required Baffinland to consider corresponding alternative locations for the Steensby Railway.

64. Specifically, Baffinland considered the following railway locations:

    (a) possible railway routes to an alternative port location along the east coast of Baffin Island, between Pond Inlet and Clyde River (the **East Alternatives**);

    (b) an alternative railway route to the existing port facility at Nanisivik, to the northwest of the Mine Site and an alternative route to a possible port location on the north coast of Moffat Inlet (the **North Alternatives**); and

    (c) an alternative southern route to a port location at Cape Jensen on the Nuvuit Peninsular, at the eastern entrance to Steensby Inlet (the **South Alternative**, and collectively the **Alternative Port Locations**).

65. Baffinland evaluated and considered the Alternative Port Locations by, amongst other things, completing a comprehensive desktop study of the viability of the alternative port locations and their associated connecting railways. Baffinland ultimately determined that the Alternative Port Locations are not feasible alternatives to the Steensby Railway because, amongst other things:

    (a) the port sites for the East Alternatives and North Alternatives had unacceptable safety and environmental concerns due to ice conditions and ship navigability; and

    (b) the South Alternative would have required a railway 104km longer than the Steensby Railway which would, in turn, proportionately increase the operating risks, environmental impacts, and socio-economic impacts of the railway to unacceptable levels.

66. As detailed in the Background to the Application Brief in Part 3 [*Alternative Alignments*] (starting at page 68 of this document), QIA also undertook its own analyses of the Alternative Port Locations—including independent reviews of Baffinland's technical reports and by commissioning an independent third-party report of the South Alternative—which supported Baffinland's conclusions.

67. The Eastern Route, Western Route, Alternative Segments, and Alternative Port Locations were all before NIRB at the time that NIRB conducted its review of the Mary River Project, and were considered by NIRB when it issued its positive Recommendation Report for the Mary River Project (including the Steensby Railway or the Eastern Route, as it was referred in the 2012 FEIS) to the Minister.

68. Finally, as described in **paragraph 23** above, the rejection of Baffinland's Phase 2 Proposal confirms that the northern railway is not an available option at this time.

69. Further detailed information about the alternative railway locations that Baffinland and the NIRB evaluated is provided in the Background to Application Brief Part 3 [*Alternative Alignments*] (starting at page 68 of this document), and in SD-9, "Nuvuit Coastal Rail Link Alignment Pre - Feasibility Design, Prepared for Baffinland Iron Mines"; SD-10, "Nuvuit Coastal Rail Link Alignment Pre - Feasibility Design, Prepared for Qikiqtani Inuit Association"; and SD-11, "Evaluation of Alternative Port Sites and Connecting Railway Routes".

II.E. RAILWAY OPERATIONS, SERVICES AND CONSTRUCTION

II.E.i. Railway Services

70. The Steensby Railway will provide critical transportation infrastructure which, as outlined above, has always been foundational to the Mary River Project. Baffinland has consistently stated, in submissions to regulatory authorities and during engagement with localities, that it intended to proceed with the Steensby Components.[48]

71. Once constructed, the Steensby Railway will serve the following purposes:

(a) it will provide new rail access to the Mary River Mine and, in doing so, will create a new and more efficient transportation infrastructure network in the remote North Baffin region;

(b) once the railway reaches commercial transportation rates, the Mary River Project will transition away from—and eventually cease altogether—ore trucking on the Tote Road. This will address community concerns about the environmental impacts of ore trucking by eliminating the dust currently generated by the ore trucking operation. Additionally, shipping from the Steensby Port through Foxe Basin will eliminate ore shipping from the Milne Port through Milne Inlet, which is

[48] See Application Background to the Application Brief Part 2 [*Purpose and Benefits of the Steensby Railway*].

part of the proposed Talluritiup Imanga National Marine Conservation Area and is pending establishment under the *Canada National Marine Conservation Areas Act*;[49]

(c) the railway will permit a larger output of iron ore from the mine to be transported to port for global shipping. The current output of the mine is limited by the capacity of the Tote Road and the seasonal shipping from the Milne Port, as provided in the Project Certificate; and

(d) the railway will increase operating efficiencies and reduce operating costs for the Mary River Project, which is key for the long-term viability of the mine and, in turn, will address the desire expressed by localities for increased employment, financial payments, and other economic opportunities under the Mary River IIBA that are available as a result of the Mary River Project.

72. Further information about the railway services that will be provided is in Background to the Application Brief at Part 5 [*Railway Operations and Services*] (starting at page 87 of this document), and in the Supporting Documents cited therein.

II.E.ii. Railway Operations

II.E.ii.a. Main Line Operations

73. The rail traffic on the Steensby Railway will predominantly consist of unit trains dedicated to iron ore transport, with some mixed general freight traffic transporting equipment and materials required for mining operations. Baffinland currently plans to operate up to four to five 110-car unit trains, with average train volumes of 6.5 round trips daily.

74. Further detailed information about the mainline operations on the railway and the infrastructure required for those operations are provided in the Background to the Application Brief at Part 5 [*Infrastructure and Ground Alterations*] and [*Operational Activities*], and in the Supporting Documents cited therein.

II.E.ii.b. Yard Operations

75. The Steensby Railway's operations will include rail yard and terminal operations at both the Mary River Mine and the Steensby Port. The yard operations at the mine will include loading and inspecting of ore cars, unloading and switching of the general freight train, and operation of a track maintenance storage facility. The yard at the port will include unloading, inspecting and servicing ore trains, storage of rolling stock and other railway equipment, and locomotive and rolling stock maintenance.

[49] *Canada National Marine Conservation Areas Act*, S.C. 2002, c. 18; Further information about the proposed Tallurutiup Imanga National Marine Conversation Area is available online, here < https://parks.canada.ca/amnc-nmca/cnamnc-cnnmca/tallurutiup-imanga>.

76. Further detailed information about the yard operations and infrastructure are provided in Background to the Application Brief at, Part 5, Section III.5C [*Operational Activities*] (starting at page 103 of this document), and in the supporting documents cited therein. Further detailed information about the yard operations and infrastructure are provided in the Background to the Application Brief, Part 5, Section III.5C [*Operational Activities*] (starting at page 103 of this document), and in the supporting documents cited therein. Detailed plans and profiles showing the terminal facilities and yard track layout for the rail yards are listed in the Index of Supporting Documents SD-1.

II.E.iii. Construction of the Steensby Railway

77. Baffinland plans to complete construction of the Steensby Railway over a three-to-four-year period starting with construction of the required temporary construction facilities and works followed by the earthworks, water crossings, tunnel works and, finally, the rail superstructure. Baffinland intends to begin construction at the mine and the port, concurrently and will progress towards the midpoint of the railway.

78. A detailed summary of the planned line construction activities is provided in the Background to the Application Brief at **Part 6** [*Railway Construction Activities*], and in the supporting documents cited therein.

II.E.iv. Noise and Vibration

79. Baffinland commissioned a noise and vibration assessment for the Steensby Railway in accordance with the applicable Agency guidance document[50] as part of the 2012 FEIS. Accordingly, the noise and vibration assessment was considered by NIRB in its assessment of the Mary River Project.

80. Baffinland's assessment considered the potential impact of noise and vibration, during both railway construction and operations, on the following:

(a) local hunters moving through the area of the railway. As detailed in the Background to the Application Brief **Part 3, Section III.3C** [*Proximity of the Steensby Railway to Localities*], the communities located on northern Baffin Island are more than 150 kilometers away from the railway, and are not connected to the Mary River Project area by road;

(b) Baffinland's workers' accommodations located at the mine site (during the operations phase) and at the temporary construction compounds during the construction phase;[51] and

(c) fish-bearing watercourses and wildlife in proximity to the railway.

[50] Canadian Transportation Agency, "*Railway Noise Measurement and Reporting Methodology*" (August 2011), available online here: <https://otc-cta.gc.ca/eng/railway_noise_measurement>.

[51] Further information with respect to the temporary construction compounds is available in Background to the Application Brief at Part 6 **Section B** [*Temporary Facilities and Construction Compounds*].

81. Due to the remote location of the railway and the distance between the railway and local communities, significant noise and vibration effects are not anticipated. The assessment predicted that noise and vibration levels from the construction and operation of the railway will be intermittent, minor and localized. While there is potential for noise to extend outwards from the railway alignment, this level of noise is not expected to cause notable disturbance to animals or humans.

82. While no additional infrastructure or ground alterations will be necessary in order to abate noise and vibration from the construction or operation of the railway, Baffinland intends to implement the following measures to mitigate noise and vibration:

    (a) to limit potential effects from blasting on freshwater fish in watercourses during the construction of the railway, measures will be taken to maintain blasting below the Department of Fisheries and Oceans' guideline of 100 kPa;

    (b) to limit noise and vibration from passing trains during the operation of the railway, ballasted track will be used in the normal course to help absorb noise and vibration from passing trains. The construction of stable embankments is also expected to dampen vibration during operations; and

    (c) during operations, regular maintenance of all engines and equipment (e.g. rail grinding, wheel trying and track lining) will be implemented in order to limit noise and vibration along the main line and in the yards.

83. For the purposes of this Application, the original assessment of noise and vibration impacts from the railway was recently reviewed by RWDI Consulting Engineers, who reconfirmed that the effects predictions presented in the 2012 FEIS remain valid.[52]

84. Further details with respect to Baffinland's assessment of the noise and vibration impacts of the Steensby Railway, and the mitigation measures that will be implemented to mitigate those impacts, are summarized in Background to the Application Brief at Part 5, Section III.5B.i.j [*Noise and Vibration Mitigation Infrastructure and Measures*], and in the Supporting Documents cited therein.

[52] See RWDI Consulting Engineers, "*Steensby Port Noise, Baffinland Iron Mine, RWDI Reference No. 2400388*" (May 6, 2024) at SD-66.

II.F. ENGAGEMENT WITH LOCALITIES

II.F.i. Identification of the Localities

85. Section 98(2) of the *CTA* requires the Agency to consider the effect of the physical co-existence of the Steensby Railway on localities in proximity to the railway.[53] The Agency, in its Section 98 Guide, defines the term "locality" as including neighbourhoods, communities, townships, and municipalities and encompassing residents, land owners, business owners, public institutions, and Indigenous peoples.[54]

86. Unlike railways located in southern Canada, the Steensby Railway is in an extremely remote location a great distance away from the closest communities. Potentially affected localities cannot, therefore, be identified based only on conventional proximity to the railway. Rather, in this case the "localities" must be identified based on the long-term cultural, socio-economic and environmental ties of Inuit and local communities to the area.

87. As is detailed in the Stakeholder Engagement Report, Baffinland identified the localities who will be affected by the railway through, amongst other things, the scoping and review process conducted by NIRB during the course of its environmental assessment of the Mary River Project; engagement with the QIA during the negotiation of the Mary River IIBA; the establishment of the railway transportation corridor under the North Baffin Regional Land Use Plan; and socio-economic baseline studies and other surveys conducted by Baffinland.

88. Based on the outcomes of these processes, Baffinland has identified the following local communities as the localities who may be impacted by physical coexistence with the Steensby Railway:

    (a) Arctic Bay, which is located on northern Baffin Island approximately 337km northwest of the midpoint of the Steensby Railway;

    (b) Clyde River, which is located on northeastern Baffin Island approximately 356km from the midpoint of the Steensby Railway;

    (c) Igloolik, which is located on a small island in the Foxe Basin off of the northeast corner of the Melville Peninsula, approximately 155km from the Steensby Port and 214km from the midpoint of the Steensby Railway;

    (d) Pond Inlet, which is located on northern Baffin Island approximately 160km northwest of the Mary River Mine and 204km from the midpoint of the Steensby Railway; and

[53] *Canadian National*, *supra* note 19.

[54] Section 98 Guide, *supra* note 21 at Section 2 [*Pre Application Activities, "Key Terms"*].

(e) Sanirajak, which is located on the Melville Peninsula south of Igloolik approximately 192km from the Steensby Port and 264km southwest of the midpoint of the Steensby Railway (collectively, the **North Baffin Localities**).[55]

89. The North Baffin Localities comprise the Steensby Railway's social zone of influence. They were identified by both NIRB and QIA (through the Mary River IIBA) as localities that may be impacted by the Mary River Project, based on their long-term socio-economic and eco-systemic ties to the area of the Steensby Railway including, for example, hunting and other traditional cultural practices.

90. In addition to the North Baffin Localities, Baffinland has also identified a number of Inuit organizations, community organizations, local businesses, the employees' union, relevant federal agencies, territorial government agencies, and institutions of public government (established under the *Nunavut Agreement*) who are also potential localities for the purposes of section 98(2) of the *CTA*.

91. Further details with respect to the localities are set out in the Background to the Application Brief at **Part 8** *[Inuit and Stakeholder Engagement*] and in the Stakeholder Engagement Report.[56]

II.F.ii. Overview of Engagement

92. The Mary River Project has been the subject of extensive and continuous engagement spanning more than 18 years. Baffinland has engaged with the North Baffin Localities and all other potentially affected localities both directly and through the regulatory processes established under the *Nunavut Agreement*.

93. Over this time period, Baffinland has engaged with these localities regarding the railway during three concentrated periods of focus:

(a) During the NIRB environmental assessment of the Mary River Project which was undertaken between 2008-2012. This process included numerous public hearings and other engagement opportunities at which localities such as federal, territorial and local government representatives, Inuit Organizations, community representatives, Elders and members of the general public were able to share their perspectives about the potential positive and negative effects of the railway.[57] The process focused on: (i) the concept of a railway and the preferred location (as put forward in this Application), and (ii) the mitigation measures which ultimately would be included in the Terms and Conditions and the commitments in the Project Certificate.

[55] For ease of reference by the Agency, Baffinland has used the defined term **North Baffin Localities** to refer to these communities. However, Baffinland notes that the North Baffin Localities generally refer to themselves as "communities" or "hamlets".

[56] Stakeholder Engagement Report, at SD-69, Sections 3 and 4.

[57] Public hearings were held by NIRB in Iqaluit, Pond Inlet and Igloolik and each public hearing had simultaneous English and Inuktitut translation.

During this time period, NPC and NWB also carried out the following:

i. From 2011 to 2012, NPC carried out its initial joint public review with NIRB regarding Baffinland's proposed amendment to the North Baffin Regional Land Use Plan, including public consultation, which was required in order to establish a transportation corridor for the portion of the railway near the mine site. This process culminated in approval by the North Baffin Regional Land Use Plan's signatories—namely, the Government of Canada, Government of Nunavut, and NTI—and in the NPC issuing Amendment No. 1 to the North Baffin Regional Land Use Plan in 2024, permitting the Steensby Railway's transportation corridor;[58] and

ii. From 2011 to 2013, NWB carried out a water licencing process involving numerous public engagement opportunities, which focused on mitigating use of water by and management of waste from the Mary River Project, including the railway. This process culminated in the NWB issuing the Type A Water License for the project in 2013.

(b) Between 2018 and 2022, Baffinland engaged with respect to the Phase 2 Proposal, which included the proposed addition of a northern railway. Although the Phase 2 Proposal was ultimately rejected by NIRB and the Minister, the public engagement that occurred during this period was extensive and provided an opportunity to work with localities regarding the concept of a railway more generally.

(c) In 2023 and 2024, Baffinland directly engaged with local communities and stakeholders regarding the Steensby Railway for the purposes of receiving further feedback for this Section 98 Application and for the required *Fisheries Act* Authorization(s). This engagement has included the following:

i. Baffinland visited the North Baffin Localities (defined below) and the communities of Kinngait and Kimmirut. It held numerous public meetings with Hamlet Councils,[59] hunters and trappers organization (**HTO**) members, and others in order to provide updates on and seek feedback regarding: (a) the status of the Mary River Project and specifically the Steensby Components, and (b) how Inuit Qaujimajutuqangit (**IQ**) or Inuit traditional knowledge will be integrated into the development of the Steensby Components; and

ii. Baffinland hosted technical workshops in Igloolik, Sanirajak and Pond Inlet to seek feedback on the railway including on topics such as the nature and location of crossings, fish and wildlife (caribou), terrestrial environment, and archaeology.

[58] In 2024, the NPC completed Amendment No. 1 to the NBRLUP, based primarily on the information shared through the joint NPC-NIRB review that completed in 2012 (some delay occurred due to concerns raised about cumulative effects should a North and South Railway proceed, but with Phase 2's rejection, NPC determined these outstanding issues were resolved), with additional NPC led public consultation from 2018 to 2024.

[59] Hamlet Councils are democratically elected local governments that have the responsibility to represent their entire communities, and to weigh a broad spectrum of interests, including environmental, community services, food security, economics, and the health and wellness of their residents.

94. In addition to these concentrated periods of engagement, Baffinland has also regularly engaged with affected localities through the following processes:

(a) Between 2013 and 2023, Baffinland applied to NIRB for amendments to the Project Certificate for the Early Revenue Phase and the PIP Amendments.[60] Each of these applications triggered NIRB to carry out further assessments of the Mary River Project and required Baffinland to prepare updates to its 2012 FEIS, and to engage with localities as part of the assessment process for each amendment. While the Early Revenue Phase and PIP Amendments did not propose any modifications to the Steensby Railway, each of these processes considered and built on the 2012 FEIS.

(b) In each year since the Project Certificate was first granted in 2012, Baffinland has undertaken comprehensive, ongoing monitoring of the Mary River Project and reported to NIRB on the outcomes of this monitoring. Where it determined that additional measures need to be taken to reduce effects from the Mary River Project—either through the monitoring itself, or where communities have indicated additional measures are needed based on their lived experience—Baffinland has applied principles of Inuit knowledge and adaptive management to address those concerns.

(c) Baffinland has continuously and directly engaged with the QIA. QIA participated in all stages of NIRB's review process and supported the Minister's approval of the Mary River Project, the Early Revenue Phase, and the PIP Amendments.[61] Baffinland has also engaged with QIA through the structures established by the Mary River IIBA in 2013. The Mary River IIBA builds in processes for ongoing engagement with QIA for the life of the Mary River Project on the issues that have been identified as important to Inuit such as direct financial benefits, Inuit employment and training, support for communities, project monitoring and environmental mitigation measures, Inuit access to lands, and contracting opportunities.

The engagement structures established under the terms of the Mary River IIBA include the following:

i. Baffinland and QIA are required to regularly report to each other on the performance of their respective obligations under the Mary River IIBA;

[60] As detailed in Application Background to the Application Brief at Part 1 [*The Mary River Project*] and Part 7 [*Environmental Assessment and Other Regulatory Activities*], NIRB approved updated assessments for the Mary River Project and issued related amendments to the Project Certificate in each of 2014, 2018, 2020, 2022 and 2023.

[61] QIA participated in all stages of NIRB's environmental assessment review process including by forming and administering seven "Mary River Project Committees", whose comments on the Steensby Railway were presented in QIA's final submissions to NIRB. QIA supported the Minister's approval of the Mary River Project, the Early Revenue Phase, and each of the PIP Amendments. Further information about QIA's participation in NIRB's assessment is set out in the Stakeholder Engagement Report at SD-69.

ii. Baffinland and QIA jointly host an Annual Project Review Forum to provide information on the progress of the Mary River IIBA implementation to representatives of the North Baffin Localities;

iii. Baffinland provides funding to QIA to participate in the annual NIRB monitoring process; and

iv. in addition to the NIRB monitoring process, QIA is also developing an Inuit-led monitoring program, funded by Baffinland, called the Inuit Stewardship Plan. The Inuit Stewardship Plan will provide a new pathway to receive Inuit feedback about Mary River Project effects and incorporate the information received into monitoring and adaptive management actions, where needed.[62]

95. This ongoing monitoring and collaboration with communities under the Project Certificate and the Mary River IIBA will continue for the life of the Mary River Project, and will apply to the construction and operation of the railway.

96. Baffinland has also engaged directly with local communities and Inuit organizations outside of the NIRB and Mary River IIBA processes. These direct engagement activities have been extensive. Since 2014, there have been:

i. over 250 formal meetings with Hamlet Councils and HTOs;

ii. approximately 100 public meetings, town halls or public phone-in radio shows;

iii. nearly 75 working group meetings with members of the Terrestrial Environment Working Group, the Marine Environment Working Group and the Mary River Socio-Economic Working Group;

iv. more than 20 formal site visits by Inuit and Inuit groups to the mine site; and

v. numerous career fairs, youth forums, and community organization meetings.

97. These activities do not reflect the frequent informal engagements and interactions between Baffinland and local community members through, for example, the Baffinland Community Liaison Offices in each of the North Baffin Localities, nor do they reflect the volume of written correspondence and e-mail exchanges between Baffinland and key Inuit organizations such as the Hamlet Councils and the HTOs.

98. Baffinland's approach with respect to its direct engagement with the localities is detailed in Baffinland's Community and Stakeholder Engagement Plan (**CESP**).[63] The CESP was designed to draw on the knowledge gained by Baffinland from past engagement practices, and focuses on maintaining and improving existing relationships with Inuit, Inuit Organizations, and others.

[62] This commitment is reflected at Appendix B to the Project Certificate, at SD-31.

[63] Baffinland, "Community Stakeholder and Engagement Plan" (2016), at SD-74 [*CESP*].

99. Further information with respect to the engagement activities undertaken by Baffinland are detailed in the Background to the Application Brief at Part 7 [*Environmental Assessment and Other Regulatory Activities*] (starting at page 124)**,** Part 8 [*Inuit and Stakeholder Engagement*] (starting at page 154)**,** and, in particular, Baffinland's Stakeholder Engagement Report (SD-69) which provides a comprehensive summary of Baffinland's engagement activities from 2008 to date and the topics and issues that have been raised by localities. The Stakeholder Engagement Report also describes the key relevant provisions of the Mary River IIBA.[64] Information about the commitments made by Baffinland in response to the interests identified by localities can be found in the Table of Commitments (SD-2).

II.F.iii. Responses to Issues Raised by Localities

100. As detailed in the Stakeholder Engagement Report, Baffinland has identified the interests and concerns of the localities. The main interests and concerns with respect to the Steensby Railway which emerged from Baffinland's lengthy and extensive engagement included the following:

(a) the importance of collecting and incorporating IQ and Inuit experiences into project planning, assessments and mitigations;

(b) the potential impact(s) of water crossings on wildlife including, for example, impacts on fish migration and spawning;

(c) the potential impact(s) of the railway on land users and hunters including, notably, impacts on access to traditional hunting routes and summer hunting camps, and the ability for land users to cross the railway;

(d) the potential impact on caribou, including the ability of caribou to cross the railway and the potential impact of noise and vibration on caribou movements;

(e) the potential impact(s) of dust emissions from iron ore loading including, for example, impacts of dust on vegetation ingested by wildlife and, in turn, on wildlife by humans, as well as the potential to reduce dust emissions from the Tote Road due to the use of rail transportation instead of hauling ore by truck;

(f) the potential impacts of air emissions from the diesel engines of the locomotives;

(g) the potential disturbance of cultural and archeological sites;

(h) the need for an emergency response plan and restoration of the land in the event of a derailment; and

(i) the need for benefits for the communities including, for example, employment opportunities support families and to support participation in cultural activities (e.g. through purchase of equipment and gas, etc.).

[64] See *Stakeholder Engagement Report* at SD-69.

101. Baffinland has carefully incorporated and addressed each of these concerns through one or more of the following:

(a) by negotiating the comprehensive Mary River IIBA with QIA pursuant to Article 26 of the *Nunavut Agreement*;[65]

(b) by addressing issues identified by the localities in the design and development of the railway;

(c) implementation of the comprehensive and detailed mitigation measures provided for in the Terms and Conditions of the Project Certificate, which were developed by NIRB in consultation with QIA, the North Baffin Localities, federal and territorial regulatory authorities and Baffinland (among others) through NIRB's review and assessment process; and/or

(d) the other commitments made by Baffinland in respect of the Mary River Project and Steensby Railway. These commitments are detailed in **SD-2** [*Table of Commitments*].

102. For example, Baffinland has implemented the following measures to address the main concerns identified by the localities:

(a) Baffinland is supporting the incorporation of IQ and Inuit Knowledge in the Mary River Project through, for example, programs such as the QIA-led and Baffinland -funded Inuit Stewardship Plan and the Inuit Knowledge Holder and Community Relations Guide positions established by Baffinland in each of the North Baffin Localities.

(b) It will also update the CESP, in collaboration with the North Baffin Localities. As a separate initiative, Baffinland is looking into collaboratively developing community-specific engagement protocols for those North Baffin Localities that decide they would like to have community-specific engagement protocols in place.

(b) Baffinland has incorporated snowmobile/ATV and caribou crossings (and other caribou protection measures) into the design of the railway, the locations for which have been determined in consultation with Inuit.[66] The locations and/or number of caribou crossings and snowmobile/ATV crossings will be adjusted, if required, based on further ongoing engagement with the North Baffin Localities and the QIA as the railway is being constructed.

(c) In order to reduce potential interactions with caribou, Baffinland will also extend a version of its "Caribou Decision Framework" to the Steensby Railway.[67] This framework provides guidance on slow-down and stopping procedures, and is already in effect for drivers on the Tote Road.

[65] *Nunavut Agreement, supra* note 1 at Article 26.

[66] There are no maintained or established ATV trails in the North Baffin region to which the crossings will connect. Rather, land users will use ATVs to navigate over the best possible path on rough tundra.

[67] The existing version of the Caribou Decision Framework (SD-73.1) applies to trucking along the Tote Road, and will be modified for rail operations.

(d) Baffinland has incorporated additional bridges over fish-bearing waters and larger diameter culverts into the design of the Steensby Railway in order to facilitate fish migration. As outlined in the Background to the Application Brief at Part 2 [*Location of the Steensby Railway*] and Part 3 [*Alternative Alignments*] (starting at page 68), the alignment of the Steensby Railway has been chosen to, in part, minimize intrusion into water bodies and reduce multiple crossings of the same watercourse.

(e) Baffinland will extend its dust management system for the mine to the Steensby Components, and has also developed additional dust mitigation measures for the Steensby Components. These dust management systems have been developed based on input from localities. It will also cease transportation of iron ore by truck within the Northern Transportation Corridor once the railway reaches commercial transportation rates, in order to limit any potential for cumulative effects.[68]

(f) Baffinland has developed a detailed safety management and inspection system, as well as a railway emergency response plan, to ensure safe construction and operation of the railway.

(g) In response to comments from the localities about the need for employment and other economic benefits and opportunities, Baffinland communicated that the construction of the Steensby Components will bring better financial stability to the Mary River Project and, in turn, stabilize employment and contracting opportunities. Baffinland has also committed that no Inuit will lose their jobs as a result of the transition from trucking to railway and, as described in the Backgroud to the Application Brief at **Part 1, Section III.1D** [*Summary of Regulatory History of the Mary River Project*] (starting at page 40), will also support the timely sharing of benefits with Qikiqtani Inuit under the Mary River IIBA.

103. Further detailed summaries of the issues raised by localities during the course of engagement, as well as Baffinland's responses and proposed mitigation measures to address those issues, are detailed in the Background to the Application Brief, **Part 8** [*Stakeholder Engagement*] (starting at page 154), **SD-2** [*Table of Commitments*], and the Stakeholder Engagement Report (**SD-69**).

[68] A transition period will apply.

II.G. CONCLUSION

104. In this Section 98 Application, Baffinland has provided the Agency with extensive evidentiary support for the reasonableness of the Steensby Railway location. Specifically, the evidence demonstrates that the location of the Steensby Railway:

(a) was selected by Baffinland following detailed analyses of all possible alternatives and intensive engagement with the localities. Given the unique geographic and physical surroundings of the Canadian Arctic, the selected location is best suited for the purposes of the Steensby Railway's railway operations and services;

(b) appropriately balances the technical and geographic requirements for the construction and operation of a railway, including minimizing the rail infrastructure required along the railway and disruption of the physical and socio-economic surroundings; and

(c) has been the subject of extensive and continuous engagement over the course of the past 16 years, as reflected in the breadth and scope of the numerous regulatory processes and public hearings which engaged all localities, including Inuit, Inuit organizations, local communities and community groups, and others.

105. In addition, Baffinland has carefully incorporated advice received from, and addressed issues raised by, Inuit. These concerns have been addressed in a manner that is appropriate to the unique cultural and legal context of Nunavut. through the terms and conditions of the Project Certificate, the terms of the Mary River IIBA, and the many other commitments made by Baffinland. The construction of the railway will itself ensure that Baffinland is able to fulfill its commitments on one of the key interests raised by the localities during engagements—that is, for Baffinland to deliver the full socio-economic and financial benefits set out in the Mary River IIBA. Without the Steensby Railway, those benefits cannot be realized to the full extent possible.

106. The Agency can also take comfort in the extensive and unique assessment of the Steensby Railway location which has already occurred under the Nunavut Agreement and NuPPAA. The location of the railway has already been validated by the following:

(a) the Project Certificate issued by NIRB following a fulsome environmental assessment between 2008 and 2012 and approval by the Minister;

(b) Amendment No. 1 to the North Baffin Regional Land Use Plan granted by the NPC in 2024, which established a transportation corridor for the Steensby Railway location;

(c) the Steensby Land OIC granted by the Governor in Council in 2013, which approved the lease by CIRNAC of approximately 95,000 acres of territorial land to Baffinland for the purposes of developing the Steensby Components;

(d) the Type A Water Licence issued by the NWB in 2013, which includes within its general scope the Steensby Railway location;

(e) the Mary River Commercial Lease with the QIA, which includes areas for the Steensby Railway; and

(f) the Mary River IIBA, which is based on the Mary River Project as approved by NIRB in 2012 and subsequent Project Certificate amendments, including the Steensby Railway.

107. In conclusion, the location of the proposed Steensby Railway is reasonable given the requirements for railway operations in the remote arctic conditions of North Baffin Island, the extensive environmental assessment and public engagement which has occurred in respect of the Steensby Railway, and Baffinland's careful incorporation of Inuit advice to minimize negative impacts to the localities affected by the Steensby Railway.

108. Accordingly, Baffinland requests that the Agency approve the construction of the Steensby Railway as proposed in this application, pursuant to Section 98 of the *CTA*.

III. BACKGROUND TO THE APPLICATION BRIEF

Part 1: The Mary River Project

III.1A. Background on Baffinland Iron Mines Corporation

1. Baffinland Iron Mines Corporation (**Baffinland** or the **Company**) is a Canadian mining company. Baffinland's mining operations are located at the Mary River Mine site on northern Baffin Island within the Qikiqtani Region of Nunavut (the **Mary River Mine**).[69]

2. All rights and interests in the Mary River Project are owned by Baffinland. Baffinland is owned by Nunavut Iron Ore, Inc. (**NIO**). NIO is jointly owned by funds managed by The Energy and Minerals Group and by a subsidiary of ArcelorMittal.

3. Baffinland was founded in 1986 with the mandate of developing the Mary River Mine (the **Mary River Project**). Baffinland started exploration and development of Mary River in 1986, commenced construction of the Mary River Project in 2013, began mining operations in 2014, and shipped its first commercial ore in 2015.

4. Baffinland's head office is located in Oakville, Ontario and its Northern head office is located in Iqaluit, Nunavut. Baffinland also has community-liaison offices on northern Baffin Island in the communities of Arctic Bay, Clyde River, Igloolik, Pond Inlet (also known among Inuit by its Inuktitut place name, Mittimatalik) and Sanirajak (formerly known as Hall Beach).

5. Baffinland is the largest private employer in the Qikiqtani region and one of the largest private employers in Nunavut with approximately 1,700 full-time equivalent employees in 2023, including over 360 full-time equivalent Inuit employees (including both Baffinland staff and contractors). This does not include the many thousands of contracting and other jobs located in Nunavut and Southern Canada that depend in whole or in part on the Mary River Project.

III.1B. The Mary River Project

6. Baffinland owns and operates the Mary River Project, which is an open pit iron ore mine located on northern Baffin Island in the Qikiqtani Region of Nunavut. The Mary River Project is one of the most northern mines in the world, and is in a remote area of the Canadian Arctic. The midpoint of the Steensby Railway is located approximately 200 kilometers from the nearest communities—namely, Igloolik and Pond Inlet—and more than 1,000 kilometers from the territorial capital of Iqaluit, Nunavut. The location of the Mary River Project, including the Steensby Railway, relative to these communities is depicted in **Figure 1** below.

[69] Additional information about Baffinland is available online at: < https://www.baffinland.com/about-us/who-we-are/>.

Figure 1: Baffinland Iron Mines, Mary River Project Location Map

7. As part of operating and developing the Mary River Mine, Baffinland also operates and maintains the Milne Port facilities located within Milne Inlet on the northern shore of Baffin Island (the **Milne Port**), as well as the 100km Milne Inlet Tote Road (**Tote Road**), which connects the Mary River Mine and the Milne Port, as depicted in **Figure 1** above.

8. Mary River consists of nine high-grade iron ore deposits, which are among the richest iron ore deposits in the world. Although there are nine identified iron ore deposits, Baffinland is only currently approved under its Project Certificate No. 005 (the **Project Certificate**) issued by the Nunavut Impact Review Board (**NIRB**) to mine from Deposit No. 1.[70]

9. Baffinland's iron ore mining operations are unique. The iron ore deposits at the Mary River Mine are of such high quality that Baffinland's mining operations do not require concentrating or processing of the ore and, therefore, do not produce any tailings or waste. Unlike other iron mines, this permits Baffinland to crush and screen the iron ore on site, and then ship directly to market. This feature of the Mary River Mine's iron ore makes it ideal for producing green steel, which is key to reducing the carbon footprint of manufacturing.[71]

10. Since it commenced shipping in 2015, Baffinland has produced and delivered to market more than 38,000,000 tonnes of high-quality iron ore.

III.1C. Mary River Inuit Impact Benefit Agreement, Community Partnerships and Contributions

11. Baffinland is committed to maintaining strong working relationships and ongoing dialogue with the local communities in the North Baffin, Foxe Basin and Hudson Strait areas of Nunavut, and to delivering long-term socioeconomic benefits, which will contribute to the ongoing health and strength of those communities. It achieves this through multiple means, some of which are highlighted below.

12. In Nunavut, major development projects such as the Mary River Project are required to have an Inuit Impact and Benefit Agreement between the project proponent and Designated Inuit Organization prior to commencing the project.[72] In 2013, Baffinland entered into the Mary River Inuit Impact and Benefit Agreement (the **Mary River IIBA**) with the Qikiqtani Inuit Association (**QIA**).[73]

[70] Mining from Deposits No. 2 to 9 will require further environmental assessments by NIRB and if approved, amendments to the Project Certificate before mining can proceed.

[71] Additional information about the high-grade iron ore at the Mary River Mine is available online at: < https://www.baffinland.com/operation/nunavut-high-grade-iron-ore/>.

[72] This is a requirement of Article 26 of the Nunavut Agreement, which is further detailed in Application Background Part 2, Section A, and states: "[s]ubject to Sections 26.11.1 to 26.11.3, no Major Development Project may commence until an IIBA is finalize in accordance with this Article."

[73] Mary River Inuit Impact and Benefit Agreement between Baffinland and the QIA (2018), at SD-72.

13. The Mary River IIBA is the result of comprehensive negotiations on a wide range of topics. It is intended to secure progressive and meaningful benefits for Qikiqtani Inuit and to provide certainty for Baffinland in its development of the Mary River Project. The Mary River IIBA will be in place throughout the life of the Mary River Project (including throughout the construction and operation of the Steensby Railway), and will ensure both parties are cooperating to mutually benefit from the Mary River Project development and to limit any potentially negative effects to Inuit.

14. During engagement, Inuit organizations and communities have consistently identified that there is an urgent need for more job opportunities for Inuit, and for more investment in the region in order to provide economic opportunity to Nunavut's expanding and young population. There is also an emphasis that such opportunities must proceed in a way that is compatible with Inuit environmental and social values.

15. The Mary River IIBA addresses areas of interest to the localities of the Qikiqtani region of Nunavut—as identified by QIA and NIRB—that may be impacted by the Mary River Project including, but not limited to, environmental protection measures, support for hunters and harvesters, Inuit travel and access in the Project area, safety, Inuit employment and training, cultural awareness, community-led monitoring, incorporation of Inuit knowledge and financial compensation.

16. The Mary River IIBA is a landmark agreement, as stated by then QIA President, Okalik Eegeesiak, on signing day:

> *This is a historic deal for Inuit of the Qikiqtaaluk region and for all of Nunavut and has the potential to positively change the economic and social fabric of the territory. We are satisfied with the terms and conditions of the agreement which maximizes benefits while minimizing impacts*.[74]

17. In 2018, Baffinland and QIA renegotiated the Mary River IIBA in accordance with its terms (which require a three-year review). As directed by the communities, QIA's primary focus during the renegotiation was on training, education, employment and contracting. Then QIA President P.J. Akeeagok stated in relation to the amended and restated IIBA:

> *I'm pleased with the benefits we have gained for Qikiqtani Inuit through the renegotiation of the Mary River IIBA… our goal was to increase training and employment opportunities and we have done that and much more.*[75]

[74] Qikiqtani Inuit Association, "Joint News Release: Baffinland and Qikiqtani Inuit Sign Mary River Agreements" (September 6, 2013), available online at: < https://www.qia.ca/joint-news-release-baffinland-and-qikiqtani-inuit-sign-mary-river-agreements/>.

[75] Qikiqtani Inuit Association, "Joint News Release: QIA and Baffinland announce improvements to Mary River IIBA" (October 3, 2018), available online at https://www.qia.ca/qia-baffinland-announce-improvements-to-mary-river-iiba/

18. Between 2020 to 2023, Baffinland and QIA made additional commitments to update the Mary River IIBA.[76] Baffinland and QIA are currently working together to add, amongst other things, the following to the Mary River IIBA:

    (a) Baffinland will fund and QIA will establish the Inuit Stewardship Plan, which is an Inuit-led monitoring program and Inuit advisory committee(s) that will advise Baffinland on Inuit-led monitoring results and mitigations (in accordance with the commitment at Appendix B to the Project Certificate);

    (b) development of Inuit objectives, indicators, thresholds and responses for the Adaptive Management Plan related to narwhal, seal, Arctic char, caribou, dust, and culture, resource and land use (in accordance with the commitment at Appendix B to the Project Certificate);

    (c) adoption of "measurable objectives", which are specified IIBA objectives that if not met by Baffinland, result in financial payments to a fund administered by QIA (in accordance with the commitment at Appendix B to the Project Certificate); and

    (d) updates to contracting, training, budgeting, reporting and other administrative matters.

19. The Mary River IIBA also establishes substantial financial compensation and benefits to Inuit which have the potential to support Inuit in their goals for generations. Baffinland's current mining operation is a smaller scale phased mining operation and the full potential of the Mary River Project has not yet been realized. The full financial benefits of the Mary River Project to Inuit and local communities under the Mary River IIBA will be realised when the Steensby Railway and Steensby Port are constructed and in operation. For example, in addition to generating Inuit employment and contracting opportunities, the Mary River Project has the potential to generate royalty payments to QIA (on behalf of Qikiqtani Inuit) under Article 5 of the Mary River IIBA in excess of $850 million USD, based on proven and probable reserves.[77]

20. Although the full potential of the Mary River Project has not yet been realized, Baffinland has already made significant contributions with wide-ranging socioeconomic benefits to communities through the Mary River IIBA including, for example, the following:

    (a) Over $164,075,000 has been paid to QIA to date in royalties and other financial payments (including rent under the commercial lease between QIA and Baffinland, contribution to a training centre in Pond Inlet, QIA implementation costs, and other Mary River IIBA related payments).

    (b) Over $150 million in wages have been paid to Inuit Mary River Project employees and contractors since operations began. In 2023, $24,555,999 in wages were paid by Baffinland to Inuit employees and contractors, up from $24,082,687 in 2022. The average salary for full-time equivalent Inuit employees in 2023 was $108,000.

[76] See Appendix B to the Project Certificate (SD-31). Mary River Project Certificate 005 Appendix B Commitments, Interim Status Update, April 5, 2024, SD-63**.**

[77] This calculation of royalties under Article 5 of the Mary River IIBA is an estimate based on the Mary River Mine reaching its full production output levels, and assumes an average iron ore price of $85/dmt (62% Fe) over the life of the Mary River Project.

(c) Over $1.79 billion in contracts have been signed and awarded to Inuit Firms since operations began. Baffinland has retained a number of Inuit businesses, and awarded a total of $171,300,000 in contracts to Inuit firms in 2023, an increase from $162,000,000 in 2022.

(d) Baffinland provides significant education and training opportunities to Inuit workers including the Inuit Internship Program, its off-site and on-site Work Ready Program, and its apprenticeship program. In 2023, the average hours of training for Inuit workers was 153 hours per full-time equivalent Inuit worker. In comparison, the average hours of training for non-Inuit workers in 2023 was 57 hours per full-time equivalent non-Inuit worker.

(e) Baffinland provides financial and in-kind supports to the Qikiqtani Skills and Training for Employment Partnership (**Q-STEP**) initiative, which is also funded by the Government of Canada. The aim of Q-STEP is to hire and maintain 16 Inuit apprentices in various trades. Q-STEP provides funding for training-related expenses such as wages, accommodations and travel. In 2023, Q-STEP provided funding for the Work Ready Program and the apprenticeship program.

(f) In 2023, Baffinland contributed more than $9,000,000 in funding for programming such as the Community Counsellors Program, the Harvesters Enabling Program, the Inuit Internship Program, as well as various scholarships and other funds.

21. The benefits under the Mary River IIBA are not the only benefits to Inuit and localities arising from the Mary River Project. Notably, Baffinland:

(a) made tax payments totalling $16,700,000 to the Government of Nunavut in 2023;

(b) made payments to the Tasiuqtiit Working Group based in Pond Inlet of $270,000 in 2023 for a lifetime total of $1,070,000 to be spent on community wellness initiatives.

(c) regularly sponsors community events and makes additional community donations which, in 2023, exceeded $500,000;[78]

(d) provides ongoing financial support for school-based initiatives in the communities under the Sponsorship and Donation Program such as the School Lunch Program and laptop donations;

(e) maintains Inuit Knowledge Holders, Community Relations Guides and Community Liaison Officers in the communities of Arctic Bay, Clyde River, Igloolik, Pond Inlet and Sanirajak, which provide an in-community opportunity for residents to engage with the project, and for Baffinland to learn from Inuit and incorporate ongoing feedback into our operations;[79] and

[78] NIRB Annual Monitoring Reports under Project Certificate No. 005, 2022 (2023), at SD-59; NIRB Annual Monitoring Reports under Project Certificate No. 005, 2023, at SD-60.

[79] Baffinland is expanding its offices to include Kinngait and Kimmirut, as these communities are expected to become points of hire once shipments of iron ore from the Steensby Port commence. Baffinland has hired Inuit Knowledge Holders and Community Relations Guides in these South Baffin communities, and plans to hire Community Liaison Officers as development of the Steensby Component nears completion

(f) has entered into community partnership and contribution agreements with the Government of Nunavut and various associations in the North Baffin area. For example, Baffinland and the Government of Nunavut entered into a memorandum of understanding in 2019 in which, amongst other things, Baffinland committed to maximizing Inuit employment in its operations.[80]

22. In 2023, Baffinland and its business partners (including, for example, Arctic co-op) also contributed over $1.5 million through quarterly benefits, food banks, and other initiatives towards various social, recreational, educational and cultural initiatives in the communities of Arctic Bay, Clyde River, Igloolik, Pond Inlet and Sanirajak and in Iqaluit. This further enhances Baffinland's commitment to creating a positive benefit to Nunavut communities.

23. Baffinland regularly reports to QIA on the performance of its obligations under the Mary River IIBA and also provides annual environmental and socio-economic monitoring reports to the NIRB under the terms of the Mary River Project Certificate No. 005, which is detailed further in Part 7 of this Background to the Application Brief. Further detailed information about Baffinland's community partnerships and contributions are available in Baffinland's 2023 Socio-Economic Monitoring Report to NIRB for the Mary River Project.[81]

III.1D. Summary of Regulatory History of the Mary River Project

24. Baffinland initiated the formal process to approve the mining of iron ore from Deposit No. 1 at the Mary River Mine in 2008. Prior to and since that time, Baffinland has conducted numerous studies and assessments in support of the Mary River Project, and has completed the environmental assessment process established under the Nunavut Agreement[82] and the *Nunavut Planning and Project Assessment Act* (**NuPPAA**), as applicable.[83]

[80] Memorandum of Understanding between Baffinland and the Government of Nunavut (2019), at SD-80.

[81] Ibid.

[82] The *Nunavut Agreement* is available online at: <https://publications.gc.ca/collections/Collection/R32-134-1993E.pdf> or <https://nlca.tunngavik.com/>.

[83] *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2, available online at: <https://laws-lois.justice.gc.ca/eng/acts/N-28.75/index.html>. The original Mary River Project Certificate and Amendment No. 1 predated NuPPAA and were assessed under Article 12 of the Nunavut Agreement only. All assessments that were carried out from 2015 onwards were subject to the Nunavut Agreement and NuPPAA.

25. The Nunavut Agreement is an agreement between the Canadian Government and Inuit, as represented by the Tungavik Federation of Nunavut (later, Nunavut Tunngavik Inc. or **NTI**), which established the central and eastern Northwest Territories as a separate territory called the "Nunavut Settlement Area". The Nunavut Agreement is a land claim agreement that was ratified by the *Nunavut Land Claims Agreement Act*[84] and came into force on July 9, 1993. Nunavut was subsequently established as a territory of Canada on April 1, 1999 pursuant to the *Nunavut Act*.[85]

26. In addition to establishing the Nunavut Settlement Area, the Nunavut Agreement also created the Nunavut Impact Review Board (**NIRB**).[86] NIRB has sole legal jurisdiction to conduct impact assessments on project proposals within the Nunavut Settlement Area, and is required by law to carry out such assessments. Pursuant to Article 12.12.7 of the Nunavut Agreement, the *Impact Assessment* Act, S.C. 2019, c. 28, s. 1 (and its predecessor legislation, the *Canadian Environmental Assessment Act, 2012*, S.C. 2012, c. 19, s. 52) does not apply in Nunavut.

27. NIRB's mandate under the Nunavut Agreement and *NuPPAA* includes assessing the potential environmental, biophysical, and socio-economic impacts of proposed developments in the Nunavut Settlement Area and making recommendations and decisions about which projects may proceed. NIRB also establishes monitoring programs for projects that have been assessed and approved to proceed.[87]

28. As NIRB was created under the Nunavut Agreement, it has enhanced obligations to consult and consider community and Inuit views as part of its process. For example, section 12.2.5 of the Nunavut Agreement directs that, in carrying out its functions, the primary objectives of NIRB are to at all times protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB is also mandated to take into account the well-being of residents of Canada outside the Nunavut Settlement Area.

29. The Steensby Railway has been a core approved component of the Mary River Project since 2012. NIRB completed its assessment of the Mary River Project and issued its Recommendation Report to the Minister on September 14, 2012. Following Ministerial approval, Project Certificate No. 005 was issued by NIRB to Baffinland on December 28, 2012.[88] The Project Certificate authorized Baffinland, on the terms and conditions set out in the Project Certificate, to proceed with the Mary River Project as described in the project description, including mining iron ore at the Mary River Mine and year-round transportation and shipping of iron ore to market via the **Southern Transportation Corridor**, as defined in **paragraphs 47 to 48** below (the **Approved Project**).

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[84] *Nunavut Land Claims Agreement Act*, S.C. 1993, c. 29, available online at: <https://laws-lois.justice.gc.ca/eng/acts/n-28.7/FullText.html Note that NTI has since asked that the term "Nunavut Land Claim Agreement" be avoided and indicated that "Nunavut Agreement" is preferred: see <https://www.tunngavik.com/news/terminology-change-to-use-of-terms-nunavut-agreement-and-inuit/#:~:text=(NTI)%20Acting%20President%20James%20Eetoolook,in%20Rankin%20Inlet%20last%20month>.

[85] *Nunavut Act,* S.C. 1993, c. 28, available online at: <https://laws-lois.justice.gc.ca/eng/acts/n-28.6/index.html>.

[86] NIRB was established under Article 12 of the *Nunavut Agreement.*

[87] Additional information about the NIRB and its mandate is available online at: <https://www.nirb.ca/mandate-and-mission>.

[88] The Project Certificate, as amended, is at **SD-31**.

30. As detailed in Part 7 of this Background to the Application Brief below, the Project Certificate includes terms and conditions and commitments that are generally applicable to the Mary River Project, and also specifically address the potential ecosystemic effects arising from the Steensby Railway. The Mary River IIBA manages potential socioeconomic effects, by agreement with the QIA. Many of these terms, conditions and commitments specifically address issues that the QIA, local Hamlets, community representatives and community members raised during the regulatory and community engagement process. The location of the Steensby Railway is also incorporated in and approved by Amendment No. 1 to the North Baffin Regional Land Use Plan (issued by the NPC),[89] the Type A Water Licence (issued by the NWB),[90] and the Order in Council (issued by the Governor in Council).[91] All of these additional authorizations were based on processes that were joint or ran in parallel with the NIRB's environmental assessment process, and incorporated the relevant terms and conditions established by NIRB under the Project Certificate as required by the Nunavut Agreement.

31. Due to depressed iron ore market conditions and global financial markets relating to mining financing at that time, Baffinland was not able to immediately proceed with the development of the Southern Transportation Corridor aspects of the Approved Project (including the Steensby Railway and the Steensby Port). Baffinland determined that the only way that it could proceed was to implement a phased mining operation which would allow Baffinland to build investor and customer confidence in the Mary River Project while it generated and continued to raise the funds necessary to proceed with phased development of the remaining components of the Approved Project, including the Steensby Railway.[92]

32. Accordingly, in 2013 Baffinland applied to NIRB to amend the Project Certificate to transport and ship iron ore via the Northern Transportation Corridor during the shipping season of July to October (the **Early Revenue Phase**). The Early Revenue Phase did not propose any changes to the Steensby Railway. Amendment No. 1 to the Project Certificate was issued on May 28, 2014 and permitted Baffinland to proceed with the Early Revenue Phase as well as the previously Approved Project, including the Steensby Railway component.

33. Baffinland upgraded the Tote Road and commenced operation of the Early Revenue Phase in 2014, and commenced shipping iron ore to market via the Northern Transportation Corridor in 2015.

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[89] NPC Approval of Amendment No. 1 of the North Baffin Regional Land Use Plan (Steensby Railway transportation corridor), is at **SD-34.**

[90] Type 'A' Water Licence - 2AM-MRY1325 (as amended) is at **SD-32.**

[91] Order-in-Council 2013-0953 for authority for Crown Indigenous Relations and Northern Affairs Canada to issue lease for Steensby Railway lands located on federal lands, per *Territorial Lands Act*, granted by Governor in Council on September 27, 2013, is at **SD-37.**

[92] Greg Missal, Baffinland, Vol. 3, Early Revenue Phase (2014) NIRB Transcripts. pp. 693-696, in which Mr. Missal states that "the owners of Baffinland … realized or saw that the [amount] of money that was needed to build Steensby was greater than what they were able to afford or able to raise [out] in the world markets" and that "in late 2012 and in early 2013, there [were a lot of] big mining projects all around the world that were put on hold or that were cancelled by may different companies […] because money was very difficult to find to build these very big projects, and to the build the rail line project for Mary River was about $6 billion…". Mr. Missal goes on to say that "the owners of Baffinland … wanted to get this project going somehow … so we came up with the idea of the early revenue phase and using the Tote Road…". **SD-47.**

34. Over the period of 2018 to 2022, Baffinland applied for and was granted further amendments to the Project Certificate to allow for a short-term increase of 1.8 million tonnes per annum (**MTPA**) of iron ore transportation via the Northern Transportation Corridor (over and above the 4.2 MTPA already permitted by the Early Revenue Phase for a total of 6 MTPA) (collectively, the **PIP Amendments**). Specifically:

    (a) in 2018, the NIRB approved an amendment to the Project Certificate to allow Baffinland to transport an additional 1.8 MTPA via the Northern Transportation Corridor (for a total of 6 MTPA) until December 31, 2019;[93]

    (b) in 2020, the NIRB approved an amendment to the Project Certificate to continue approved Northern Transportation Corridor limits to December 31, 2021;[94]

    (c) in 2022, the NIRB approved an amendment to the Project Certificate to continue approved Northern Transportation Corridor limits to December 31, 2022;[95] and

    (d) in 2023, the NIRB approved an amendment to the Project Certificate to continue approved Northern Transportation Corridor limits to December 31, 2024.[96]

35. In 2024, Baffinland is applying to NIRB for an amendment to the Project Certificate to continue approved Northern Transportation Corridor limits to December 31, 2032 (the **SOP2**).

36. The Early Revenue Phase and PIP Amendments are not an alternative to developing the Southern Transportation Corridor, including the Steensby Railway. Baffinland sought and was granted approval by NIRB to carry out the Early Revenue Phase while financing was sought to fund the full scope of the Mary River Project. While the Early Revenue Phase was approved on the understanding that it has no expiry date and the Project Certificate approves continuing to truck and ship iron ore along the Northern Transportation Corridor in parallel with shipment of iron ore by railway and ship along the Southern Transportation Corridor, Baffinland will cease its ore trucking and shipping operation along the Northern Transportation Corridor once the Steensby Railway reaches commercial transportation rates.[97] This is in direct response to the preferences expressed in recent years by some members of the localities (in particular, members of the local Pond Inlet hunters and trappers organization) and QIA.

37. Separate from the PIP Amendments, Baffinland also applied to the NIRB in 2018 to amend its Project Certificate (the **Phase 2 Proposal**) to permit the construction and operation of a proposed northern railway from the Mary River Mine to the Milne Port (the **North Railway**). The North Railway would have been approximately 110 kilometres in length and generally followed the route of the Tote Road within the Northern Transportation Corridor, as depicted in **Figure 2**, below.

[93] Project Certificate, Amendment 02 issued 30 October 2018.

[94] Project Certificate, Amendment 03 issued 18 June 2020.

[95] Project Certificate, Amendment 04 issued 3 November 2022.

[96] Project Certificate, Amendment 05 issued 17 November 2023, at **SD-31** (note this is a cumulative document that reflects the original approval as well as Amendments No. 1-5).

[97] A necessary transition period will apply.

38. Specifically, the Phase 2 Proposal sought approval for the following:

    (a) increased Northern iron ore transportation from 4.2 MTPA under the Early Revenue Phase to up to 12 MTPA;

    (b) replacement of the northern ore trucking operation on the Tote Road with construction and operation of the North Railway, which would have been developed and operated in addition to (not as alternative for) the Steensby Railway;

    (c) additional shipping along the Northern shipping route; and

    (d) expansion and improvement of the facilities at the Milne Port (including, for example, a second ore dock and railway unloading facilities) and the Mary River Mine (including, for example, rail loading infrastructure and additional fuel storage).

39. NIRB's assessment of the Phase 2 Proposal spanned from 2018 to 2022, including sharing of documents, information requests, technical comments, public hearings and community roundtables. Ultimately, however, NIRB issued a negative recommendation in May 2022, and the Minister of Northern Affairs rejected the Phase 2 Proposal in November 2022, including the proposed North Railway. In rejecting the Phase 2 Proposal (which included the North Railway), the Minister expressly acknowledged that the current Project Certificate continues to authorize transportation of ore along the Southern Transportation Corridor (including the Steensby Railway) as an available development option to the company.[98]

40. While the Phase 2 Proposal was rejected, the intensive community engagement process regarding the North Railway from 2018 to 2022 provided a recent opportunity to work with localities to enhance railway mitigations and an opportunity to further understand areas of particular importance to local Inuit in consideration of a railway.

[98] Government of Canada, "Statement by the Minister of Northern Affairs regarding the federal government's decision on Baffinland's Mary River Mine Phase 2 development project proposal" (November 16, 2022), available online at: <https://www.canada.ca/en/crown-indigenous-relations-northern-affairs/news/2022/11/statement-by-the-minister-of-northern-affairs-regarding-the-federal-governments-decision-on-baffinlands-mary-river-mine-phase-2-development-project.html>.

Figure 2: Previously Proposed North Railway (Phase 2 Proposal)

41. Following the above-described regulatory history, the current Approved Project under the Project Certificate includes: (i) the Mary River Project as described and approved in 2012 under the Project Certificate (including the Steensby Railway and Steensby Port), (ii) the Early Revenue Phase, and (iii) the PIP Amendments. Each of these components were subject to environmental assessment by NIRB, approval by the Minister, and Project Certificate issuance/amendment before they were permitted to proceed. There is no part of the approved scope of the Mary River Project, inclusive of the Steensby Railway, which has not been assessed and subject to thorough public review under the NIRB and reflected in the Project Certificate.

42. Baffinland has obtained all of the necessary authorizations for the Mary River Project's current operations from the applicable territorial and federal authorities and agreements with Inuit groups including, but not limited to: the QIA, the Nunavut Planning Commission (**NPC**), Nunavut Water Board (**NWB**), the Government of Nunavut, Fisheries and Oceans Canada (**DFO**), Crown-Indigenous Relations and Northern Affairs Canada (**CIRNAC**), Transport Canada,[99] and the Governor in Council, which are listed in a table in **SD-30.** A number of these include provisions specific to the Steensby Railway, such as the Project Certificate, Amendment No. 1 to the North Baffin Regional Land Use Plan, the Type A Water Licence and the Mary River IIBA. Through the course of the comprehensive environmental assessment processes before the NIRB, as well as through the ongoing operation of the Mary River Project, Baffinland has engaged extensively with the North Baffin Localities. A longer summary of the environmental review and engagement processes and permitting status of the Mary River Project generally, and the Steensby Railway specifically, is provided in the Background to the Application Brief at **Part 7** below.

III.1E. Current Operations

43. The current operation of the Approved Project includes three primary project components:

(a) the **Mary River Mine** (as defined in **Part 1, paragraph 1** and further described in **Part 1, paragraph 6**). The infrastructure at the Mary River Mine currently generally includes:

i. the open pit mine and the fleet of trucks used in mining operations;

ii. warehouses and laydown areas, ore stockpiles and associated runoff management facilities;

iii. facilities to prepare and store explosives;

iv. a waste rock pile, ore sizing facilities, and ore loading facilities for trucks; and

v. other operating facilities including maintenance and administrative buildings, camps, water supply, wastewater treatment plants, waste management facilities including landfills, power generation, fuel depots, telecommunication facilities, and an airstrip.

[99] See Table 1.2 of the 2023 NIRB Annual Report for the Mary River Project, **SD-60.**

(b) the **Milne Port** (as defined in this Background to the Application Brief at **Part 1, paragraph 7**) located on the northern shore of Baffin Island at Milne Inlet. The infrastructure at the Milne Port generally includes:

i. a fixed ore dock, ore conveyer and ship loading facilities which operate during the shipping season of July to October (except as adjusted under the Project Certificate);

ii. an ore stockpile area which operates year-round to accept and store deliveries of iron ore from the Mary River Mine;

iii. a freight dock and barge landing ramp; and

iv. other operating facilities including maintenance and administrative buildings, camps, water supply, wastewater treatment plants, waste management facilities including landfills, power generation, fuel depots, telecommunication facilities, and an airstrip.

(c) the **Tote Road** (as defined in this Background to the Application Brief at **Part 1, paragraph 7**) which connects the Mary River Mine and the Milne Port. The Tote Road is approximately 100km in length.

44. At a high level, Baffinland's current mining operation proceeds as follows:

(a) Baffinland conducts weekly blasts at the open faces of Deposit No. 1 and mines out run-of-mine iron ore using hydraulic excavators and large front-end loaders. Once mined, the ore is then loaded onto mine haul trucks and delivered to nearby outdoor crushers for crushing;

(b) Baffinland transports the crushed iron ore materials 100 kilometers by ore haul truck along the Tote Road to the Milne Port. The Tote Road is depicted in **Figure 3**, below;

(c) the crushed iron ore materials are stockpiled in one of two ore stockpile areas at the Milne Port—the lump stockpile or the fines stockpile—until such time that it can be shipped by bulk carrier ship. Due to the arctic conditions, shipping is typically July to October, depending on sea ice;

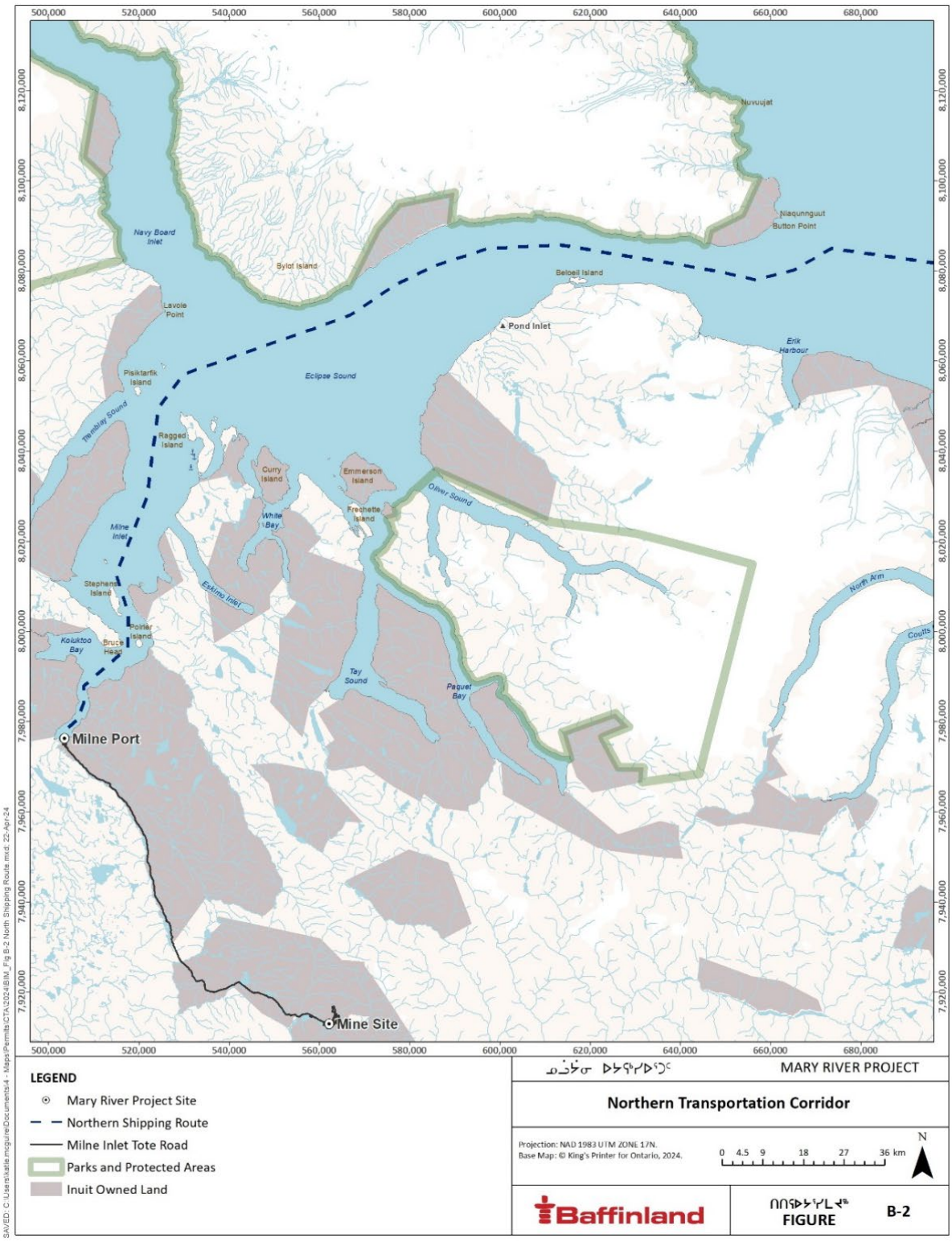
(d) during the shipping season, the iron ore is transferred from the stockpiles via front-end loaders onto a conveyor belt, where it is then loaded by the ship loader onto ships at the ore dock; and

(e) from the Milne Port, Baffinland ships its iron ore products through Eclipse Sound to Baffin Bay, and then directly to markets primarily in Europe. This shipping route is referred to in this Application as the "**Northern Shipping Route**", and is depicted in **Figure 3**, below.[100]

45. The Mary River Project operations also include sealift deliveries of equipment, materials and bulk fuel to the Milne Port, which will continue throughout the life of the Mary River Project (however, as described in **paragraph** above, once the Steensby Railway reaches commercial transportation rates, ore transportation along the Northern Transportation Corridor will be phased out).

[100] Additional information about Baffinland's current operations is available online at: < https://www.baffinland.com/operation/mary-river-mine/>.

Figure 3: Northern Transportation Corridor



III.1F. The Steensby Components of the Mary River Project

46. As set out in **paragraphs 31 to 33** above, since the issuance of the Project Certificate, certain elements of the Approved Project have not yet been constructed, including: (i) the port at Steensby Inlet (the **Steensby Port**), and (ii) the Steensby Railway (together, the **Steensby Components**).

47. Once the remaining outstanding activity-specific authorizations (including approval to construct a railway pursuant to section 98 of the *CTA*) are issued,[101] Baffinland will proceed with the following project components:

(a) Baffinland will construct additional infrastructure at the Mary River Mine site to accommodate increased iron ore output and to facilitate transportation of the iron ore by rail. Specifically, this will include construction of the following infrastructure at the Mary River Mine site:

i. additional infrastructure for ore crushing, screening and stockpiling;

ii. a conveyor system to deliver run of mine ore from Deposit No. 1 to the crushing and screening facilities, which will also generate a significant renewable power supply;

iii. additional fuel storage;

iv. expanded mine maintenance facilities, administrative support buildings, and other facilities such as warehouses and shops; and

v. rail loading facilities, including a rail siding and rail car loading terminal.

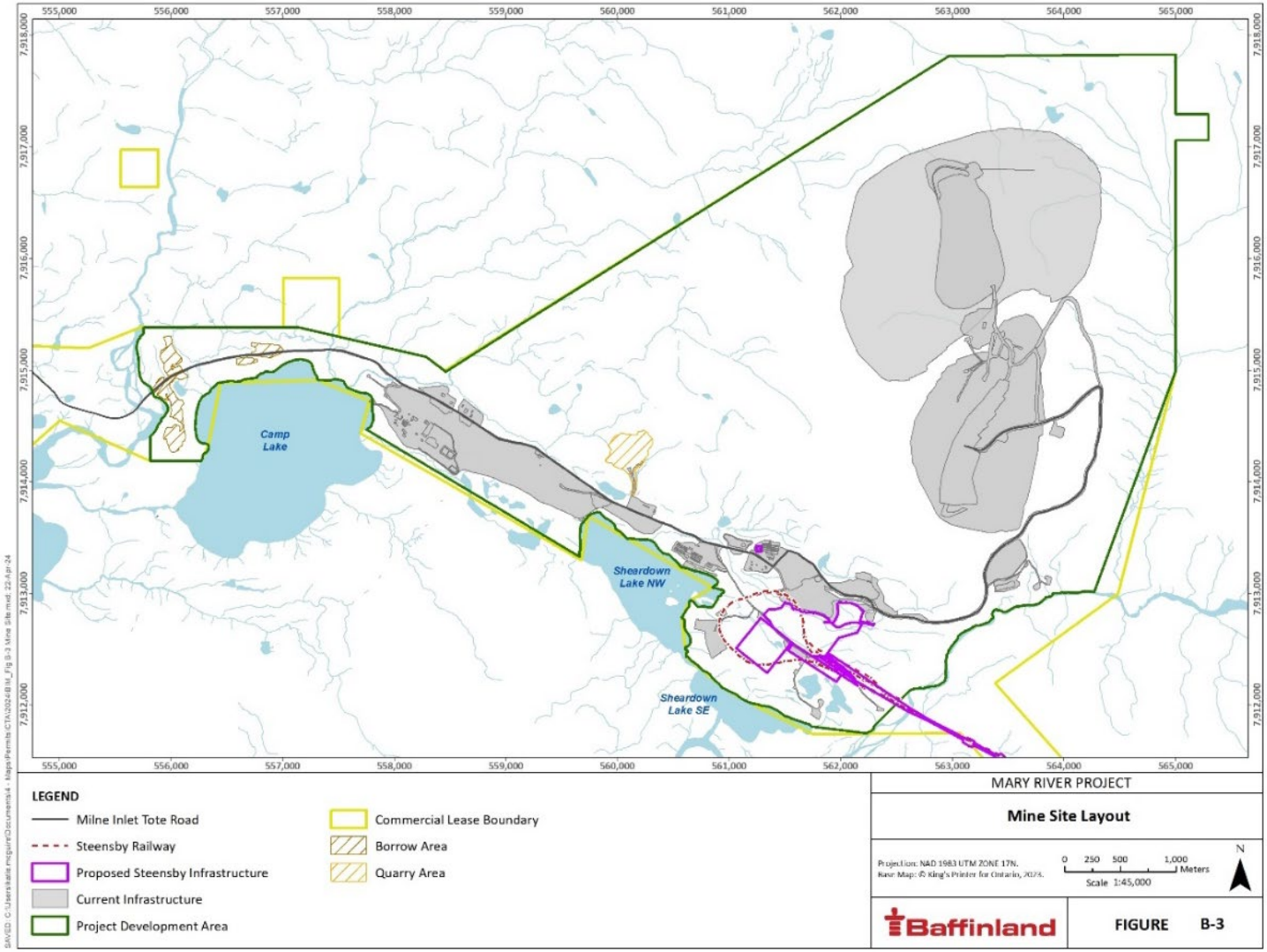
The layout of the Mary River Mine site following the construction of this additional infrastructure is depicted in **Figure 4**, below.

(b) Baffinland will develop a new port facility within the Steensby Inlet on Baffin Island (the **Steensby Port**). The infrastructure at the Steensby Port will include, amongst other things, an ore dock, and construction dock; ore handing facilities including rail car dumpers, conveyors, stockpiles, and ship loading facilities; an airstrip; access roads; rail workshops and maintenance facilities; a power plant; a water and sewage treatment plant; waste management facilities; employee accommodation buildings; and administration buildings.

(c) In order to connect the Mary River Mine site with the Steensby Port, Baffinland will construct the "**Steensby Railway**" (defined in this Background to the Application Brief at **Part 2**), which is the subject of this Application. The specifics of the Steensby Railway are described further in this Background to the Application Brief at **Part 2, 5,** and **6**. As outlined in **Section III.1A**, above, the Steensby Railway is part of the Approved Project which has already been approved by the NPC through Amendment No. 1 to the North Baffin Regional Land Use Plan, by NIRB under the Project Certificate, and by the NWB under the Type A Water License.

[101] Subject to financing and a final construction decision by the Company.

Figure 4: Mary River Mine Site Layout



(d) The shipping route from Steensby Port will traverse through Foxe Basin along the east side of Koch Island and Rowley Island and then join the established shipping lane in southern Foxe Basin and into Hudson Strait. This shipping route is referred to in this Application as the "**Southern Shipping Route**", and is depicted in **Figure 1**, above.

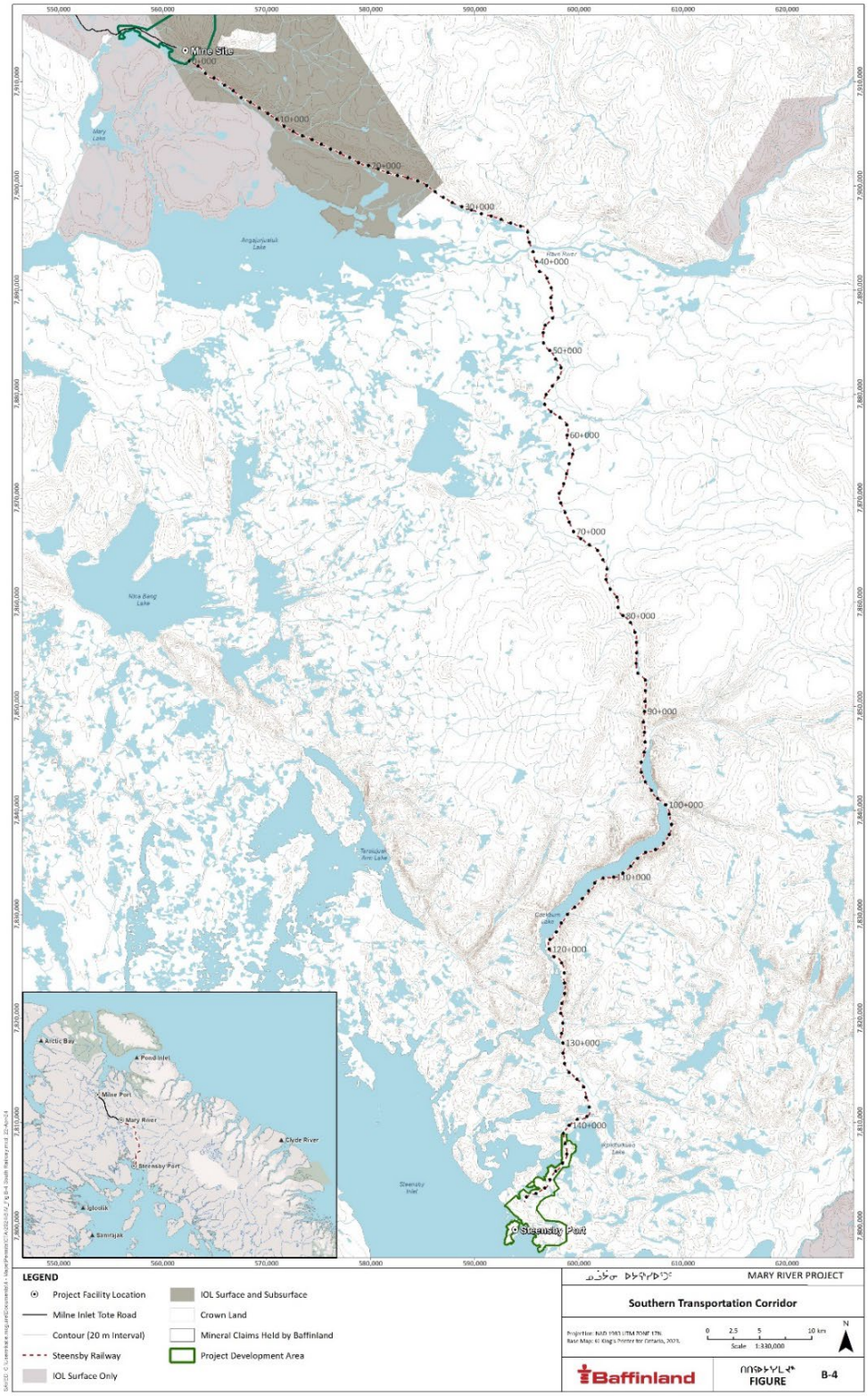
48. The entire movement of iron ore from the Mine Site to the Steensby Port by way of the Steensby Railway and to market via the Southern Shipping Route is referred to in this Application as the "**Southern Transportation Corridor**", and is depicted in **Figure 5,** below.

III.1G. Purpose and Benefits of the Steensby Railway

49. The world requires iron ore in order to continue to build and develop the materials that our society uses every day. Global iron ore demand is expected to increase as emerging countries continue to develop and the economies of western countries continue to grow. Baffinland has developed the Mary River Project to supply high quality iron ore to world markets.

50. The Steensby Railway is, and has always been, a critical component of the Mary River Project. Baffinland's trucking operations under the Early Revenue Phase and PIP Amendments are not sustainable in the long-term from a financial perspective. As a bulk commodity project, it is essential to lower fixed costs to insulate the Project against the frequent short-term changes in iron ore prices. The viability of the Mary River Project requires a railway to service the Mary River Mine.

Figure 5: Southern Transportation Corridor



51. Baffinland has consistently indicated in its submissions to regulatory authorities and in its public statements that it would eventually proceed with the Steensby Components. For example:

(a) During its application to NIRB to amend the Project Certificate to permit the Early Revenue Phase, Baffinland stated that:

> *The owners of Baffinland would still one day like to develop the rail portion of this project. We'd still like to do that, but we can't do that until the price of iron ore gets stronger or gets higher and the global markets are a little bit stronger as well.*[102]

(b) During its application to NIRB for the Phase 2 Proposal, Baffinland indicated that:

> *[T]he Phase 2 Development Proposal is [an]… economically feasible option to generate the capital required for the development of the Steensby component of the approved Mary River Project (including the South Railway and shipping through Foxe Basin) … the revenues generated from the increase in shipments would be used by Baffinland to facilitate the financing of the South Railway and Steensby Port components of the approved Mary River Project*.

(c) At the February 2023 Northern Lights conference in Ottawa, Baffinland's Chief Executive Officer, Brian Penney, gave a keynote speech in which he publicly reconfirmed the company's intention to proceed with the Steensby Components. In a responding statement, the Minister of Northern Affairs said:

> *The southern route through Steensby Inlet has previously received approval and we are encouraged by Baffinland's continued engagement with local communities and Inuit partners. Our office will continue to work with all partners to protect jobs and grow the economy, while ensuring Inuit rights are respected*.[103]

52. The Section 98 Approval is required from the Agency as soon as practicable. Because of the limitations imposed on construction in an Arctic environment decisions on key logistics and major investments need to be made well in advance of the execution of any construction projects. Missed timing on key decisions can have the unintended consequence of a year long delay to those projects rather than an equitable delay to the missed timing target (for example, not being in a position to secure key decisions for sea-lift in late Fall or early Winter will result in a year long delay to those planned projects). Delays are likely to increase overall Project costs and could negatively impact investor interest for Steensby and overall Project viability. While the Early Revenue Phase and the PIP Amendments have delivered significant benefits to Inuit and Inuit communities to date, however the high capital cost associated with the current operational structure is not viable in the long term. The deferral of the construction and operation of the Steensby Components has resulted in significant uncertainty to the Company and at the same time has also resulted in the deferral

[102] Greg Missal, Baffinland, Early Revenue Phase (2014) Transcript Vol 3, pp. 696-697, at SD-47.

[103] https://nunatsiaq.com/stories/article/baffinland-to-go-back-to-steensby/

of the full benefits that Inuit expected to receive from the Mary River Project under the Mary River IIBA (as described in Part 1, Section C above).

53. The need for more financial, employment and contracting benefits from the Mary River Project is an interest consistently expressed by localities. For example, Baffinland addressed community members in Pond Inlet on this topic during public hearings before the NIRB during the Phase 2 Proposal:

> *I understand -- and we've heard it a lot -- that we haven't seen -- people in Pond especially haven't seen the benefits they thought were coming. And one of the issues we've had throughout this review and in relation to the project in general since we started operation is we came in here as a company a decade ago talking about a very large project, the Steensby project, and all the benefits that could bring. And those were all very real and genuine commitments, but that project never materialized. We never built that project. We didn't get the funding to do it. What we did instead, based on our circumstances, we still went forward with a version of the project, but it was a lot smaller. It wasn't the project that could deliver the benefits that we set up for with those initial expectations*.[104]

54. Proceeding with the full Mary River Project, including the Steensby Railway, will provide the following local community and global benefits, which are all responsive to topics that arose during engagement with localities:

(a) a proportionate increase in annual direct financial benefits under the Mary River IIBA (i.e., royalties payable to QIA on behalf of Qikiqtani Inuit) that will come with the ability to roughly quadruple current production while maintaining a minimum 21 year mine life with the possibility for additional years through an ongoing exploration program that seeks to maximize the ore reserves in Deposit No. 1.

(b) expanded output of the Mary River Mine which will, in turn, contribute to the long-term success of the North Baffin region by contributing to the development of infrastructure, skills, jobs, and business opportunities available on Baffin Island (as detailed in **Part 8**, localities have consistently expressed concerns about a lack of training and well-paying, permanent jobs in the region);

(c) increased long term project stability will ensure that benefits from the Mary River Project continue to flow to nearby Inuit communities and the Qikiqtani Region of Nunavut for years to come (as detailed in this Background to the Application Brief at **Part 8**, localities have indicated that they wish to experience more direct benefits from the Mary River Project, and Baffinland and QIA have worked together to establish a fund administered by QIA for this purpose);

(d) realization of the full benefits as expected through payment of mineral royalties to Canada (which in turn will be remitted by Canada to NTI, per the Nunavut Agreement) - this will be a significant source of revenue for NTI (for the benefit of all Inuit in Nunavut, not just Qikiqtani Inuit) with over $1.42 billion expected in payout based on currently proven and probable reserves;

[104] Lou Kamermans, Baffinland, Phase 2 (2021), NIRB Transcript Vo. 17, pp. 3298-3299.

(e) increased tax revenues to the Government of Nunavut which could, in turn, help support the devolution process described in this Background to the Application Brief at **Part 7, Section III.7G** below, which will see the Government of Nunavut assume decision making power over Nunavut lands and waters from the Federal government by April 1, 2027;[105]

(f) increased tax revenues to the Government of Canada, Baffinland currently pays $22.25 million per year (as of 2023) in federal income tax. Additional payments to the federal government are made in the form of federal excise taxes, carbon tax payments, corporate taxes and more;

(g) an estimated increase of $19.3 billion to the total gross domestic product (GDP) that could be generated in the Nunavut economy over the life of the Mary River Project, and at the national level an estimated increases of $30.7 billion. This equates roughly to a $1.5 billion annual increase in Nunavut's GDP and $2 billion annual increase over Canada's GDP;

(h) support of the traditional lifestyle of Inuit, as well as providing opportunities for those who wish to participate in wage-based employment (as detailed in this Background to the Application Brief at **Part 8,** localities have indicated that they wish to have jobs and other opportunities available for Inuit at the Mary River Project, and Inuit workers at the Mary River Mine have consistently indicated that wage employment is needed or helpful to support their participation in cultural activities, such as purchasing hunting equipment and gas);

(i) increased stability of employment opportunities for Inuit and residents of Nunavut. The number of jobs, measured as full-time equivalents (FTE) generated by the Mary River Mine for residents of Nunavut is expected to total 16,221 FTE with a multiplier effect of 1.9 (for every one direct FTE, 0.9 indirect and induced FTEs are created). Within Canada, the number of FTEs generated by the Mary River Mine is expected to reach 136,745 FTE with a multiplier value of 3.1 (for every 1 direct FTE, 2.1 indirect and induced FTEs are created);

(j) numerous environmental advantages arising from the transition of trucking to rail transportation including, notably, a decrease in both greenhouse gas and dust emissions (as detailed in this Background to the Application Brief at **Part 8**, some localities have expressed a need to significantly reduce dust from the Tote Road – while Baffinland is already taking meaningful steps to reduce dust in collaboration with an Inuit-led Dust Audit Committee,[106] transitioning ore transport from a Northern trucking operation to the Steensby Railway will significantly reduce dust emissions along the Tote Road);

[105] See also https://www.rcaanc-cirnac.gc.ca/eng/1352471770723/1537900871295 for more details on the Devolution Agreement signed between Nunavut, Canada and NTI in January 2024.

[106] The Dust Audit Committee is comprised of nominated representatives from the hamlets and their Hunter and Trappers' associations including Pond Inlet, Igloolik, Clyde River, Sanirajak and Arctic Bay, as well as representatives from the QIA and facilitators and engineering subject matter experts from Nunami Stantec and CWA Engineers Inc.

(k) increased High Arctic emergency response capabilities and a potential staging point for the Canadian Coast Guard and Canadian Military. Similarly, establishing the Southern Shipping Route from the Steensby Port will contribute to the understanding of safe and sustainable arctic shipping routes (as detailed in this Background to the Application Brief at **Part 8**, supporting safe navigation and enhancing the ability to respond to emergency situations, such as lost hunters, is an interest that has been identified by the localities);

(l) strengthening Canada's sovereignty in the North by protecting the country's environmental heritage, promoting economic and social development in the region, and improving Northern governance, which is an interest identified by the Federal government and most recently confirmed in a speech by the Canadian Northern Economic Development Agency (**CANNOR**) at the Nunavut Mining Symposium in Iqaluit in April 2024,[107] and

(m) with the Steensby Components in operation, Baffinland will cease shipping of iron ore through Milne Inlet, which will result in a significant reduction of industrial shipping activity in the pending Tallurutiup Imanga National Marine Conservation Area (**TINMCA**).[108] As detailed in this Background to the Application Brief at **Part 8**, this interest has been expressed by QIA, who have indicated that the TINMCA is an important area to Inuit.[109]

55. In summary, Baffinland estimates that the total value of financial benefits of developing the originally intended Mary River Project, to the extent that they can be monetized, will exceed $5 billion CAD in direct payments to the Governments of Nunavut and Canada, QIA and NTI. It is also anticipated well over $1 billion will be transferred directly to Inuit through employment in the Project if current employment levels remain. This number does not reflect non-monetary benefits, such as the generations of opportunity and training that Qikiqtani Inuit, other Nunavummiut,[110] and Canadians resident in southern Canada can experience as a result of the project, whether they work at the Mary River Project or apply those skills to other employment and educational opportunities.

[107] See https://www.cbc.ca/news/canada/north/mining-puts-arctic-at-risk-of-foreign-investment-experts-say-1.7186761 for further details.

[108] See https://parks.canada.ca/amnc-nmca/cnamnc-cnnmca/tallurutiup-imanga for more details about the TINMCA.

[109] See https://www.qia.ca/tallurutiup-imanga-and-tuvaijuittuq-agreements/.

[110] This is an Inuktitut word meaning "Inuit and Non-Inuit Nunavut residents" commonly used in Nunavut.

Part 2: Location of the Steensby Railway

III.2A. The Remote Location of the Steensby Railway

56. As detailed in this Background to the Application Brief at **Part 1** and **Part 7**, Baffinland has received approval from NIRB, NPC, NWB, and other authorities, as well as negotiated the Mary River IIBA with QIA to (among other things) construct a railway line which will originate at the Mary River Mine and terminate at the Steensby Port (the **Steensby Railway**). The Steensby Railway will consist of 149 km of rail which will run in a generally southeast direction from the Mine Site to the Steensby Port located on the eastern shore of Steensby Inlet at the top of Foxe Basin.

57. The North Baffin region in which the Steensby Railway will be situated is an isolated and remote region of the high Canadian Arctic. As such, the geographic and physical surroundings of the railway location are unique compared to railway projects in southern Canada. Many of the potential impacts of railway projects in southern Canada arise from the proximity of the project to urban areas—including, for example, noise and vibration, and road and utility crossings—which will not be applicable to a remote Arctic railway such as the Steensby Railway, to the same extent or at all.

58. The unique aspects of the Steensby Railway's geographic, physical and socio-economic surroundings, which were considered in detail during the NIRB assessment described in **Part 1** and **Part 7**, are also relevant to this Application and include the following:[111]

    (a) There are no localities[112] which are "proximate"[113] to the Steensby Railway specifically, or to the Mary River Project more generally. That is, the Steensby Railway is located at a great distance from any local communities. As detailed in this Background to the Application Brief at **Section III.2C** below, the closest communities to the Steensby Railway are Pond Inlet and Igloolik, which are located approximately 200 km from the mid-point of the Steensby Railway. Pond Inlet is located 160 km northwest of the Mary River Mine site. Igloolik is located on a small island in the Foxe Basin off of the northeast corner of the Melville Peninsula, approximately 155 km from the Steensby Port site.

    (b) Although there are no communities that are proximate, adjacent or even near to the Steensby Railway, Baffinland respects that each of the North Baffin Localities have long-term cultural, economic and environmental ties to the Mary River Project area and that it is an area in which some Inuit land users exercise their Inuit rights. Some land users will use the Steensby Railway area from time to time including, for example, for harvesting of caribou. It is expected that the level of

[111] See generally Sustaining Operations Proposal Addendum (2023), at SD-57.

[112] Per the Agency's Section 98 Guide, localities include: "neighborhoods, communities, townships and municipalities and encompasses its residents, land owners, business owners, public institutions, and Indigenous peoples."

[113] Section 2.1 of the Section 98 Guide states: "You are expected to identify the localities that would be affected by the location of the railway line and keep a record of the criteria you used to identify these localities. Proximity to the proposed railway line, the construction and operational activities involved, and the impacts these may have are important considerations when identifying relevant localities."

Inuit land use in the Steensby Railway area will be similar to or lower than the levels of land use along the Tote Road component of the Northern Transportation Corridor.[114]

(c) There are no land tenures or land use permits issued to third parties for lands near or adjacent to the Steensby Railway. The majority of the Steensby Railway right of way is located on extremely remote, undeveloped Crown land that will be leased by the Crown to Baffinland.[115] The remaining portion of the Steensby Railway is located on Inuit Owned Land leased to Baffinland by the landowner, QIA, for the purpose of the Mary River Project.[116]

(d) The North Baffin region has no existing major transportation infrastructure[117] other than the Tote Road and the Milne Port, both of which have already been improved and constructed, respectively, by Baffinland as part of the greater Mary River Project.

(e) The climate in the region of the Steensby Railway is semi-arid and extremely cold with mean annual temperatures of approximately -15C. Permafrost coverage in the region is continuous and extends to a depth of 500 meters, with an active layer of up to 2 meters.

(f) The extremely cold temperatures and very low average annual precipitation in this region results in low hydrologic conditions and a short period of runoff as compared to the rest of Canada. The runoff period in the North Baffin area typically occurs from June to September but may extend into October in watersheds that have large lake surface areas. During the remaining months of the year, nearly all of the rivers and creeks are frozen solid.[118]

(g) The soil in this region has low capacity to hold moisture and, when combined with the region's extremely low temperatures, results in minimal vegetation and abundant surface water. As a result the region is dotted with thousands of small lakes and streams.[119]

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[114] See Land Use Mapbook for more details on Inuit land use in the Steensby area, at SD-71. Also See TSD-05 Mary River Inuit Knowledge Study Mapbook, **SD-70**.

In consideration of interests expressed by Inuit and the localities about protecting Inuit travel and access in the area, the IIBA includes specific measures at Article 13 which are designed to address those concerns. The Nunavut Agreement also includes specific provisions which address this topic (for example, no firearms are to be used within specified distances to areas subject to a land lease)

[115] The Governor in Council approved the leasing of 95,496 acres of lands to Baffinland in Order-in-Council 2013-0953 granted on September 27, 2013, per the Territorial Lands Act. The Order-in-Council is available online here: < https://orders-in-council.canada.ca/attachment.php?attach=28206&lang=en>, SD-37.

[116] The details of the land tenures on which the mine, Steensby Railway and Steensby Port are situated can be found in Section 2.2 of the 2012 FEIS, and are depicted in Figure 2-2.1 of the same, Final Impact Statement for the Mary River Project (2012), SD-41**.**

[117] It is acknowledged that communities do have their own airports, community roads and in some cases small craft harbours, but they are all within each communities' limited boundary and nothing connects two communities.

[118] Baffinland, 2023 Sustaining Operations Proposal at Appendix 9, Baseline Summary, SD-56**;** Appendix G.5.1 of the 2023 NIRB Annual Report for the Mary River Project, SD-60.

[119] Ibid.

(h) There are populations of terrestrial mammals in the region, specifically, barren ground caribou of the North Baffin herd. Based on Inuit knowledge, the density of North Baffin caribou populations typically varies in accordance with a 60-to-70-year cycle. Currently, the North Baffin caribou are at low densities and are expected to remain at low numbers for the next several decades. Only one caribou has been observed within the Tote Road area since project monitoring began in 2013, but it is known that there are greater numbers of caribou to the south of the Mary River Project based on 2023 surveys of the Steensby area.[120] The Steensby Railway has been designed to include caribou protection measures (based on Inuit knowledge, western science, and industry best practices), and will also include crossings designed and placed in consultation with Inuit, in anticipation of the return of larger numbers of caribou to the Mary River Project area in the future.[121]

59. The location of the Steensby Railway has been extensively studied and developed by Baffinland (based on the substantial input and advice provided by Inuit, Inuit organizations, communities, and territorial and governmental representatives through the NIRB, NPC, and NWB processes, as described in **Section 7**) in order to, amongst other things: (i) minimize the potential impact and intrusion of the Steensby Railway on the local geography and wildlife; (ii) address the interests[122] of the communities; and (iii) ensure that the railway can be operated safely and efficiently.

60. For example, between 2006 and 2012, Baffinland conducted extensive land use studies in support of the 2012 FEIS which scoped the ecological and socio-economic components of the environment that the Mary River Project may interact with, the mitigations and monitoring programs to manage those potential project effects, and the adaptive management systems to address unanticipated effects, should they occur.[123]

61. Since 2012, Baffinland and the QIA have also carried out supplemental Inuit land use studies to support the ongoing development of the Mary River Project and the various PIP Amendments that have been approved. Those land use studies are consistent with the original studies carried out to support the 2012 FEIS, and are current to the drafting of this Application.[124]

[120] SD-83

[121] Further details with respect to these mitigations are provided in **Part 7** and **8** of this Background to the Application Brief.

[122] Per the Section 98 Guide, Baffinland has applied the Agency's definition of "Interests of the Localities", namely, "[c]oncerns that localities have, and/or benefits they see, with regards to the location of the proposed railway line, including any activities related to its construction and operation."

[123] TSD 05 Mary River Inuit Knowledge Study Mapbook is provided at SD-70.

[124] Land Use Mapbook, SD-71.

III.2B. Steensby Railway Alignment

62. The Steensby Railway route will run through the following segments:

(a) **Mary River Mine (KP 0) to the Ravn River Crossing (KP 37).** The Steensby Railway will originate at the iron ore loading station at the Mary River Mine—which is located just west of the Mary River Mine at kilometre post ("**KP**") 0—and from there will run in a southeast direction for approximately 35 km, through the valley between the low hills on the northern side of the Angijurjuk Lake and the mountains to the north, where it will emerge on the east end of Angijurjuk Lake. The railway will then turn south and cross the Ravn River at approximately KP 37.

(b) **Ravn River Crossing (KP 37) to the Cockburn Lake Crossing (KP 95).** After crossing the Ravn River at KP 37, the Steensby Railway will then skirt along the west side of the Pingimajuq Ridge for approximately 35 km towards the divide between the Ravn River watershed and the Cockburn River watershed. At approximately KP 73, it will then enter the Cockburn Valley and continue south along the western shore of Cockburn Lake until it reaches the natural constriction point at Cockburn Lake at KP 95, where the railway then crosses to the eastern bank of Cockburn Lake.

(c) **Cockburn Lake Crossing (KP 95) to the Steensby Port (KP 149).** After crossing Cockburn Lake, the Steensby Railway will then follow the east bank of Cockburn Lake for approximately 27 km. During this stretch, two railway tunnels (described in paragraphs 73 to 74, below) will direct the railway southward through the east side of Cockburn Lake Valley and towards the southern point of Cockburn Lake. At the south end of Cockburn Lake, the railway will then extend southeast away from Cockburn Lake into the lowlands along the eastern side of the Steensby Inlet, where it will meander between many small lakes until it reaches the port site at Steensby Port (KP 149).

63. The alignment of the Steensby Railway is depicted at a high-level in **Figure 5** above, and more detailed list of maps and plans of the railway alignment are provided in this Background to the Application Brief at **Part 4.**

64. The key rail infrastructure along the railway alignment will include water crossings, tunnels, and crossings for snowmobiles/ATV (All Terrain Vehicle)[125] and wildlife (including caribou), as outlined below and further detailed in this Background to the Application Brief at **Part 5** and **Part 6**.

[125] Note there are no established ATV trails in the area of the Steensby Railway and users on ATVs would determine their own route over rough tundra.

III.2B.i. Water Crossings

65. The Steensby Railway will traverse watercourses within three major watersheds—namely, the Ravn River watershed, the Cockburn River watershed, and the Ikpikitturjuaq River watershed.[126] In addition, the final six kilometers of the Steensby Railway (including the rail loop which will be located within the Steensby Port) will lie within a smaller, unnamed watershed in and around the Steensby Inlet area.

66. In order to traverse these watersheds, the Steensby Railway will require more than 300 water crossings along the length of the railway alignment. A list of water crossings and representative engineering drawings are available in SD-12, SD-13 and SD-14.[127]

67. Of the water crossings along the Steensby Railway alignment, 42 crossings will be open span steel bridges of varying lengths, spanning from 15 meters to 215 meters. The longest of these bridges range from 154 meters to 215 meters in length, and are located at the locations marked in **Figure 6** below.

68. Only eight of these bridges have been designated as "major works", and a further three bridges have been designated as "minor works", under the *Canadian Navigable Waters Act*.[128] These works cross key waterbodies along the railway alignment, such as Ravn River and Cockburn Lake. The remaining 31 bridges do not cross navigable waters. Rather, the majority of the bridges along the Steensby Railway alignment cross braided streams as opposed to rivers or lakes.

69. The remainder of the water crossings along the Steensby Railway will be corrugated steel pipe culverts.[129] Detailed plans and profiles for the culverts are listed in **SD-14 and SD-20.**

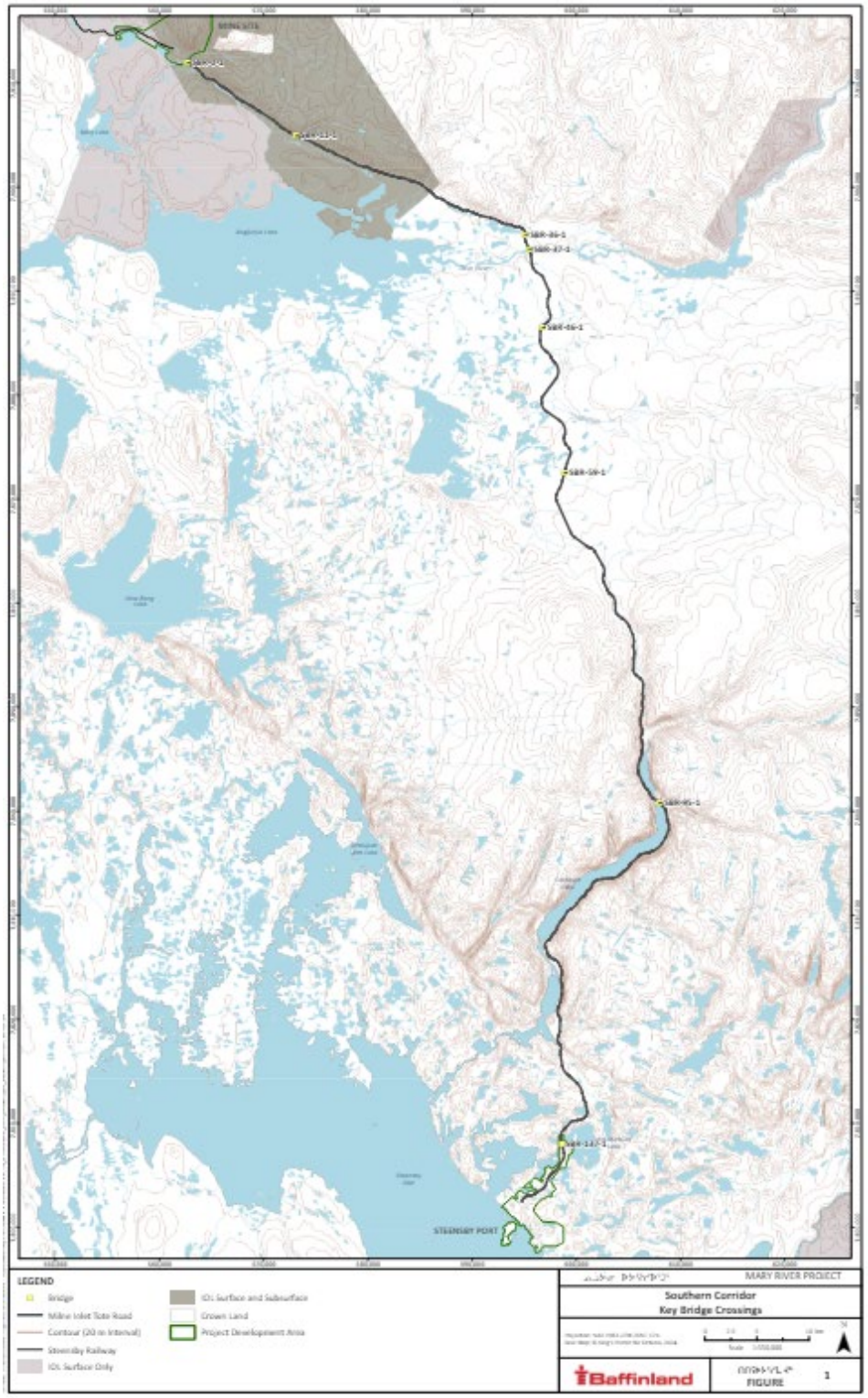
[126] The Steensby Railway will pass through the Ravn River watershed from the Mary River Mine Site at KP 0 to approximately KP 73, through the Cockburn River watershed from approximately KP 73 to KP 131, and through the Ikpikitturjuaq River watershed from approximately KP 131 to KP 149. The boundaries of these watersheds in relation to the proposed location of the Steensby Railway are shown in Figure 1.2 of the FAA Application, at SD-38.

[127] Knight Piesold Consulting, 2023. Steensby Water Crossing List, at SD-12.

[128] *Canadian Navigable Waters Act*, R.S.C., 1985, c. N-22. In 2014 Transport Canada under the Navigable Waters Protection Program issued approvals for the alterations of the eight "major works", these approvals have been provided at SD-39.

[129] As detailed in this Background to the Application Brief at **Part 8**, the bridges will be constructed using pre-assembled steel spans that are either 30 meters or 15 meters in length, and supported by pilings that will be one meter in diameter, socketed and grouted into the bedrock. The culverts will range from 0.9 meters to 4.3 meters in diameter each. The culverts will be designed and constructed in accordance with the *American Railway Engineering and Maintenance-of-Way Association Guidelines* (AREMA, 2023). The railway design criteria for the Project, including the bridges and culverts, is provided in (Systra, 2023) in Section 6, SD-18. Drawings for bridges and culverts are provided at SD-13 and SD-14, respectively**.**

Figure 6: Southern Corridor Key Bridge Crossings



70. The water crossings along the Steensby Railway will interact with an estimated 119 fish-bearing rivers and streams, and encroach at 26 fish-bearing lakes and ponds. There are only two fish species—namely, Arctic Char (*Salvelinus alpinus*) and Ninespine Stickleback (*Pungitius pungitius*)—present in the waterbodies within proximity of the Steensby Railway.[130]

71. Baffinland has applied to the DFO to obtain all remaining authorizations for the Steensby Railway water crossings as required under the *Fisheries Act*.[131] Further details regarding the Steensby Railway's interaction with fish-bearing waterbodies, the potential impacts on local fish species, and the mitigation measures that will be undertaken by Baffinland in its construction and operation of the Steensby Railway are available as supporting documents in this Application.[132]

72. The alignment for the Steensby Railway has been designed to minimize intrusion into water bodies and reduce multiple crossings of the same watercourse.[133] The design of the bridges and culverts has focused on control of the rates of water flow in the vicinity of, and through, all crossings in order to control erosion and debris flow and to prevent ponding and damming effects.

III.2B.ii. Tunnels

73. As identified in **paragraph 62(c)** above, two railway tunnels will be bored into the side of the mountain along the east shore of Cockburn Lake:

(a) the first tunnel (**Tunnel #1**) will be located between KP 106.6 and KP 107.6. Tunnel #1 will measure approximately 1,000 meters in length and 7.8 meters high; and

(b) the second tunnel (**Tunnel #2**) will be located between KP 112.0 and KP 112.3. Tunnel #2 will be approximately 300 meters in length and 5.5 meters high.

74. The locations of Tunnel #1 and Tunnel #2 along the Steensby Railway alignment are depicted in **Figure 7**, below. Further details on the tunnels, including profile drawings and plans, are available in this Background to the Application Brief at **Part 5** and **6,** and at SD-18.[134]

75. Tunnel #1 and Tunnel #2 are necessary at these locations to avoid cutting back the entire slope of the mountain. The tunnel design is based upon the American Railway Engineering and Maintenance-of-Way Association guidelines.[135]

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[130] Arctic Char are generally more abundant and widespread in streams crossed by the Steensby Railway, whereas the Ninespine Stickleback are primarily restricted to ponds, lakes and the lower reaches of those streams. Inuit have only ever identified Arctic char as a fish species they harvest, however, this is largely limited to anadromous Arctic char, which exist in few water bodies the Steensby Railway crosses in proximity to the coast.

[131] *Fisheries Act*, R.S.C., 1985, c. F-14.

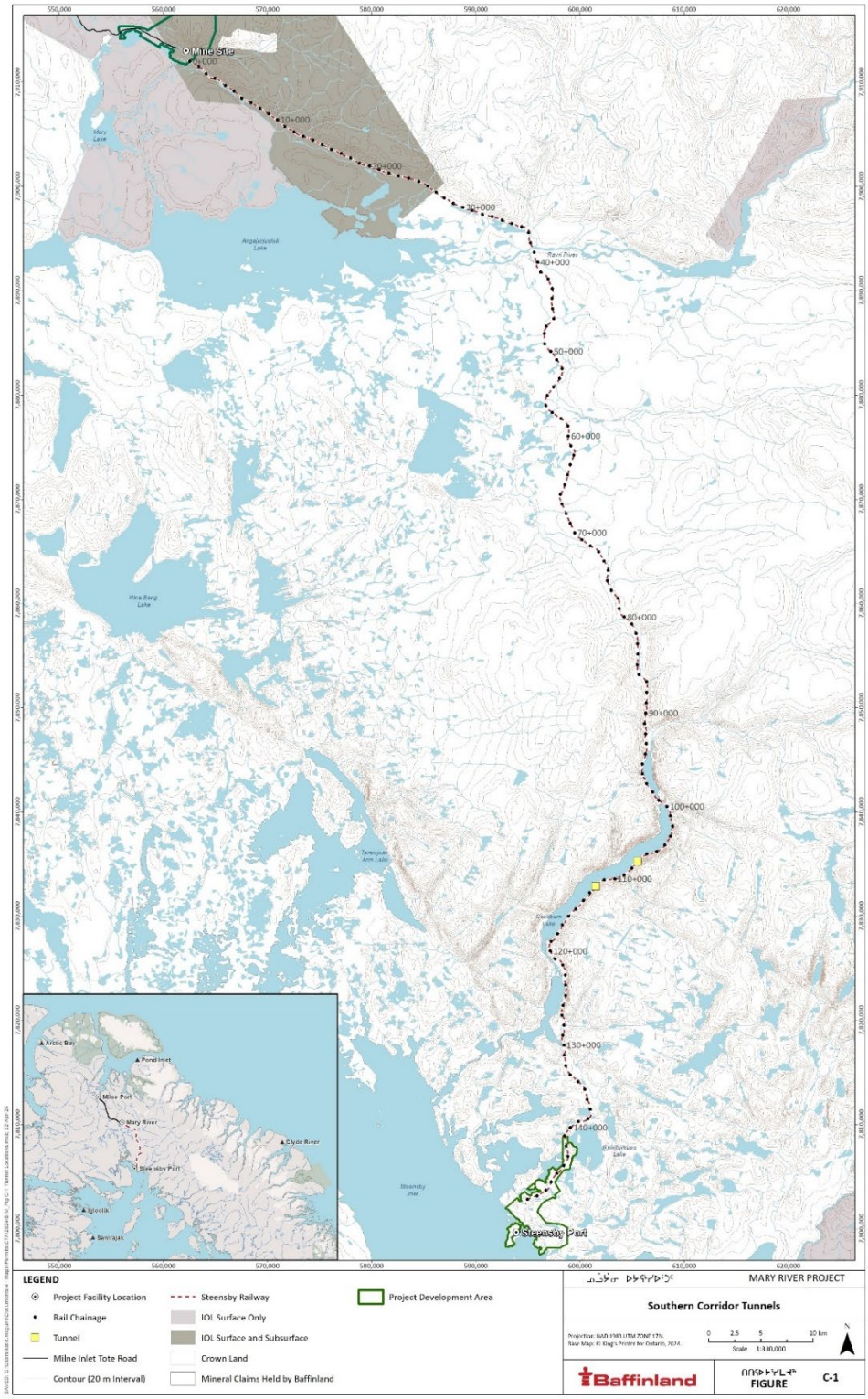
[132] Knight Piésold Ltd., 2024. Application for an Authorization Under the Fisheries Act for the Steensby Component Interactions with Freshwater Fish and Fish Habitat (DFO File Referral No. 23-HCAA-01144) (the "**FAA Application**"), prepared for Baffinland Iron Mines Corporation, in SD-38.

[133] Volume 3 of the 2012 FEIS, Section 2.5.2 'Design Considerations', SD-41.22.

[134] Systra, 2023. Baffinland Iron Mines Project – Mainline Alignment Plan and Profile Drawings. pp. 35-37, at SD-18.

[135] American Railway Engineering and Maintenance-of-Way Association Guidelines, 2023 (**AREMA 2023**).

Figure 7: Southern Corridor Tunnels



III.2B.iii. Caribou and Snowmobile/ATV Crossings

76. The Steensby Railway will require modifications at certain locations to accommodate seasonal crossings for caribou and land users (such as hunters) on snowmobile/ATV within the surrounding area.

77. During engagements with Inuit and the communities, Baffinland has identified existing caribou trails in the area surrounding the Steensby Railway and will maintain those trails by constructing portions of the rail embankment with gentler slopes and smoother fill material. Baffinland has developed a caribou crossing design, which softens the embankment side slopes and provides surface treatment to make the crossings accessible to caribou. More specifically:

    (a) The Steensby Railway embankment is generally designed to minimize its height and footprint on the land, and with slopes and fill materials that should not present a barrier to the movement of wildlife.

    (b) Given the heightened importance of caribou to Inuit and the relative uncertainty in how caribou may react to new linear infrastructure, Baffinland has proposed additional railway embankment design criteria, including:

        i. the fill material used in the embankment along key access and broad access corridors (as identified by aerial surveys and IQ) will be of an aggregate size that further prevents possible caribou leg entrapment; and

        ii. the slopes of the embankment along those key access and broad access corridors (as identified by aerial surveys and IQ) will be built at a gentler slope to further facilitate caribou movement across the Railway.

78. Further information about the design of the caribou key access and broad access crossing areas and the participation of Inuit in this work is available in the Supporting Documents to this Application.[136]

79. During engagements with Inuit, Baffinland has also developed a design for snowmobile/ATV crossings for use by local hunters at locations specifically identified by Inuit where seasonal travel routes can overlap the Steensby Railway alignment. The crossings will use the same size fill material as that required for caribou, and even gentler slopes to approach the rail line, with wooden timbers between the track. Further information about the design of the snowmobile/ATV crossings and the participation of Inuit in this work is available in the Supporting Documents to this Application.[137]

[136] Details of engagement specific to crossings can be found in FEIS Volume 6, Section 5.2.2 and Figure 6-5.3 at SD-41.452; the *Mary River Phase 2 Proposal Rail Alignment Summary Report,* at SD-76, and the Land Use Mapbook, at SD-71; typical cross section designs for the snowmobile and caribou crossings can be found in SD-64.

[137] Ibid.

80. The preliminary locations of the caribou and snowmobile/ATV crossings have been identified[138] and the final locations will be finalized in collaboration with the communities during the construction of the Steensby Railway, prior to the construction of the crossings.[139]

81. In response to certain concerns raised by the communities, Baffinland has also developed an "*Additional Level Crossing Construction Decision Matrix*" to be followed in the event that a new level crossing location is desired or identified by hunters and land users after the Steensby Railway is in operation.[140] This decision matrix was initially developed through a land user workshop in 2019 and will be updated and maintained through the life of the Mary River Project, in collaboration with Inuit and the communities.

III.2C. Proximity of the Steensby Railway to Localities

82. As discussed at **paragraph 58(a)** above, there are no localities which are "proximate" to (meaning adjacent to or located within the area of) the Steensby Railway specifically, or to the Mary River Project more generally. There are, however, five communities of note at the following distances from the Steensby Railway:

(a) Arctic Bay, which is located on northern Baffin Island approximately 337km northwest of the midpoint of the Steensby Railway;

(b) Clyde River, which is located on northeastern Baffin Island approximately 356km from the midpoint of the Steensby Railway;

(c) Igloolik, which is located on a small island in the Foxe Basin off of the northeast corner of the Melville Peninsula, approximately 155km from the Steensby Port and 214km from the midpoint of the Steensby Railway; and

(d) Pond Inlet (also known by its Inuktitut place name Mittimatalik), which is located on northern Baffin Island approximately 160km northwest of the Mine Site and 204km from the midpoint of the Steensby Railway;

(e) Sanirajak (formerly known as Hall Beach), which is located on the Melville Peninsula south of Igloolik approximately 192km from the Steensby Port and 264km southwest of the midpoint of the Steensby Railway,

(collectively, the **North Baffin Localities**).[141]

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[138] Ibid.

[139] Baffinland, *Mary River Phase 2 Proposal Rail Alignment Summary Report,* (2019) at Appendix J, Additional Level Crossing Construction Decision Matrix, SD-76.

[140] Stakeholder Engagement Report, SD-69**.**

[141] For convenience and ease of reference by the Agency, Baffinland has used the defined term **North Baffin Localities** to refer to these communities. However, Baffinland notes that the North Baffin Localities generally refer to themselves as "communities" or "hamlets". Inuit have also indicated that they generally dislike being referred to as "stakeholders" in relation to the Project, given their heightened status as landowners and rights holders per the Nunavut Agreement.

83. A summary description of the location, population and characteristics of the North Baffin Localities is set out in **Table 1**, below. Further detailed information about each of the North Baffin Localities is available in **Part 8** (and in particular, in the Stakeholder Engagement Report).[142]

Table 1: Summary Description of Localities in the North Baffin Region[143]

Locality	Population	Distance from Railway Midpoint	Ethnic Distribution	Language
Arctic Bay	994 (2021)	237 km	Inuit (95%)	Inuktitut, English
Clyde River	1,181 (2021)	356 km	Inuit (95%)	Inuktitut, English
Igloolik	2,049 (2021)	214 km	Inuit (95%)	Inuktitut, English
Pond Inlet	1,555 (2021)	204 km	Inuit (95%)	Inuktitut, English
Sanirajak	891 (2021)	264 km	Inuit (92%)	Inuktitut, English

84. As further detailed in **Part 7** of this Background to the Application Brief, the North Baffin Localities were identified by NIRB during its environmental assessment for the Mary River Project, through the NIRB guidelines and scoping process.[144] These communities are further confirmed by QIA as potentially affected communities under the Mary River IIBA.

85. There are two additional communities—namely, Kimmirut and Kinngait—which are located on Baffin Island along the Southern Shipping Route, a component of the greater Southern Transportation Corridor, but which are not in proximity to any portion of the Steensby Railway. Kimmirut and Kinngait are located 972km and 749km respectively from the midpoint of the Steensby Railway and are also included in the Mary River IIBA with a trigger to be considered 'point of hire' communities once commercial shipping commences. These communities were and continue to be consulted as part of the engagement on the wider Mary River Project, on the basis of their proximity to the Southern Shipping Route, as set out in Part 8 of this Background to the Application Brief below. However, these communities are not discussed further in this Application given their great distance from the Steensby Railway, and limited cultural use of the area in which it will be situated.

[142] Stakeholder Engagement Report, at SD-69.

[143] Ibid.

[144] NIRB, 2009. Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (NIRB File No. 08MN053), SD-40.

Part 3: Alternative Alignments

III.3A. Overview of Alternative Locations Considered by Baffinland

86. The following section provides a description of the alternative alignments that were considered for the Steensby Railway during the course of the NIRB environmental impact assessment. As described in the 2012 FEIS, the alternatives considered by Baffinland were of two types:

    (a) "Tier 1 Alternatives" which would have shaped the overall approach to, and the viability of, the Mary River Project; and

    (b) "Tier 2 Alternatives" which would impact more discrete aspects or segments of the Steensby Railway.

87. A complete summary of these alternatives to the Steensby Railway is available in Volume 3, Section 6.0 of Baffinland's 2012 FEIS.[145]

III.3A.i. Tier 1 Alternatives - Alternative Railway Alignment(s)

88. In developing the Mary River Project, Baffinland initially identified two potential alignments for the Steensby Railway:

    (a) The first option considered by Baffinland—which was referred to in the 2012 FEIS as the "**Steensby Base Route**"—was an alignment in which the Steensby Railway would originate at the iron ore loading station at the Mary River Mine and run in a generally south direction along the west side of Angijurjuk Lake, then the east side of Nina Bang Lake, and then the eastern foreshore of the Tariujaq Arm. The railway would then extend in a southeast direction crossing over the Cockburn River below its outlet from Cockburn Lake, before arriving on the eastern shore of Steensby Inlet.

    (b) The second or "alternative" option considered by Baffinland—which was referred to in the 2012 FEIS as the "Steensby Alternate Route" or the "Eastern Route"—is the route for the Steensby Railway which is the subject of this Application. As described in **Part 2**, it generally follows the east side of Angijurjuk Lake and then runs in a generally south direction before crossing over to the east side of Cockburn Lake.

89. For the purposes of this **Part 3**, the planned alignment of the Steensby Railway as detailed in **Part 2** will be referred to as the "**Eastern Route**" and the Steensby Base Route as described in paragraph 3(a) above will be referred to as the "**Western Route**".

[145] Baffinland, 2012 FEIS, Volume 3, Section 6.0, at SD-41.22.

90. As described in the 2012 FEIS, Baffinland undertook feasibility studies for the Eastern Route and the Western Route.[146] They were evaluated by Baffinland based on various technical, economic, environmental, community and other criteria including, amongst other things:

(a) whether the alignment for either the Eastern Route and/or the Western Route would meet the technical requirements necessary to safely construct and operate a railway. For example, Baffinland considered whether the maximum grade of the alignment was within the maximum parameters for a railway (i.e. the grade must not exceed 1% or 1.5m over a 1 km distance) and whether there was sufficient straight running track versus curved track;

(b) whether the ground and soil conditions (e.g. wet soil, saline soil, taliks,[147] permafrost,[148] etc.) along the alignment of the Eastern Route and/or the Western Route were suitable for a railway;

(c) the density of lakes, rivers, streams and fish-bearing watercourses along each of the Eastern Route and/or the Western Route, and the extent to which encroachment of those watercourses and other sensitive environmental features could be minimized while meeting the geometric requirements for a safe railway alignment;[149]

(d) whether either alignment had a higher risk of safety hazards including, for example, risk of rockfalls;

(e) whether the alignment for either the Eastern Route and/or the Western Route would disturb or otherwise impact any areas which are particularly environmentally or socio-economically sensitive including, for example, areas with large or sensitive wildlife populations, wildlife migratory routes, areas rich in archaeological resources, and/or Inuit land use and/or cultural sites;

(f) the significant rail infrastructure required along each of the Eastern Route and/or the Western Route including bridges, culverts, crossings, and tunnels, etc; and

(g) the overall length of the alignment for the Eastern Route and the Western Route, as a longer railway in the North Baffin Region would have proportionate impacts on Inuit land uses, wildlife habitats, sensory disturbances to wildlife, and would necessarily result in increased safety risks, environmental risks, and infrastructure costs and maintenance requirements.

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[146] Appendix 3E Railway Study – Evaluation. Baffinland, 2012. *Final Environmental Impact Statement for the Mary River Project*, at SD-41.410.

[147] A "talik" is a layer or body of unfrozen ground that occurs in permafrost due to an anomaly in thermal, hydrologic, or hydrochemical conditions.

[148] "Permafrost" is defined as ground (soil or rock and included ice or organic material) that remains at or below 0°C for at least two consecutive years.

[149] Railway lines cannot include tight curves because the rigid bodies of cars and locomotives can only negotiate a tight curve at very low speeds, and tight curves result in increased rail wear and decreased train speed. To the extent that a winding "S" shaped route is required in order to avoid watercourses and other natural features, a section of truly straight running track will also be required between the two portions of the curve in order to ensure sufficient transition space between straight and curved track. In choosing the railway alignment, Baffinland considered the extent to which the routes considered could accommodate these requirements and also avoid encroaching on watercourses, etc.

91. Taking into account the above-noted criteria, Baffinland selected the Eastern Route as the planned location for the Steensby Railway**.** Baffinland determined that the Eastern Route was the preferable location for the Steensby Railway, and that the Western Route was not suitable for the Steensby Railway, for the following reasons:

(a) The ground and soil conditions on the northern portion of the Western Route—particularly in the area west of Angijurjuk Lake and south of the Ravn River crossing at the outlet of Angijurjuk Lake—are extremely poor and not suitable for construction and operation of a freight railway. The northern portion of the Western Route would closely skirt three large areas of tundra polygons which present continuously wet soil conditions in the summer, and would also run alongside large lakes where there would be a high risk of taliks, increasing the risk of movement/instability and, in turn, adding engineering complexity and operational safety risks. Although the soil conditions on the Eastern Route around Angijurjuk Lake are not ideal, the conditions on the east side of Angijurjuk Lake are better than those on the Western Route.

(b) On the southern portion of the Western Route, the railway alignment would be confined between the steep walls of a prominent escarpment and the northeast coast of the Tariujaq Arm. The ground conditions in this area would include frozen saline soils, which are not suitable for construction and operation of a railway because such conditions increase the risk of instability. The Western Route would also travel along talus slopes[150] and escarpment[151], which present a significant rockfall hazard.

(c) The segment of the Western Route which travels along the cliff base of the Tariujaq Arm contains:

i. archaeological sites and resources which would be significantly disturbed by the railway alignment;

ii. abundant water cover which serves as a habitat for geese and other migratory birds that congregate there during the spring season when other areas are snow-covered; and

iii. confined corridor(s) which are known to be used by herds of caribou traveling in a northwest-southeast direction.

(d) Further south along the Western Route, the railway would also need to cross the Cockburn River downstream of the Cockburn Lake. This crossing location would require a long bridge viaduct, which would be difficult to construct and intrusive on the surrounding environment due to the presence of ice rich soils and an undetermined depth to the bedrock. The crossing at Cockburn River would also be wider and have less stable soil conditions than the crossing at Cockburn Lake in the Eastern Route.

[150] Talus is the pile of rocks that accumulates at the base of a cliff, chute, or slope.

[151] An escarpment is a geographical feature that is characterized by a long cliff or a steep slope.

(e) Overall, the soil and geotechnical conditions along the Eastern Route are superior to the Western Route. The Eastern Route avoids the areas with the poorest ground conditions, is the least exposed to glacial ice and solifluxion,[152] and would maximize the proportion of the railway that could be built on rock or shallow soils with no additional topsoil.

(f) The Western Route routes through areas with significantly higher density of lakes and fish-bearing watercourses compared to the Eastern Route. As a result, the Eastern Route requires fewer water crossings.

(g) The lakes and fish-bearing watercourses on the northern portion of the Western Route also see a high level of summer use by the North Baffin localities. Overall, the Eastern Route would have the fewest expected interactions with both land-users and wildlife.

III.3A.ii. Tier 2 Alternatives – Alternative Route Segments

92. After selecting the Eastern Route as the location for the Steensby Railway, Baffinland then evaluated whether there were any alternative route segments within the Eastern Route that may be preferable alternatives. To this effect, Baffinland identified three alternative route segments, as depicted in **Figure 8**, below. Those route segments were as follows:

(a) **Segment D-B** would depart from the Eastern Route at approximately KP 70 and extend in a general western direction to connect with the Western Route at the point that it approaches the Tariujaq Arm. The railway would then follow the southern segment of the Western Route to the Steensby Inlet. Segment D-B would avoid the climb towards the Cockburn watershed and the water crossing at Cockburn Lake which are required for the Eastern Route.

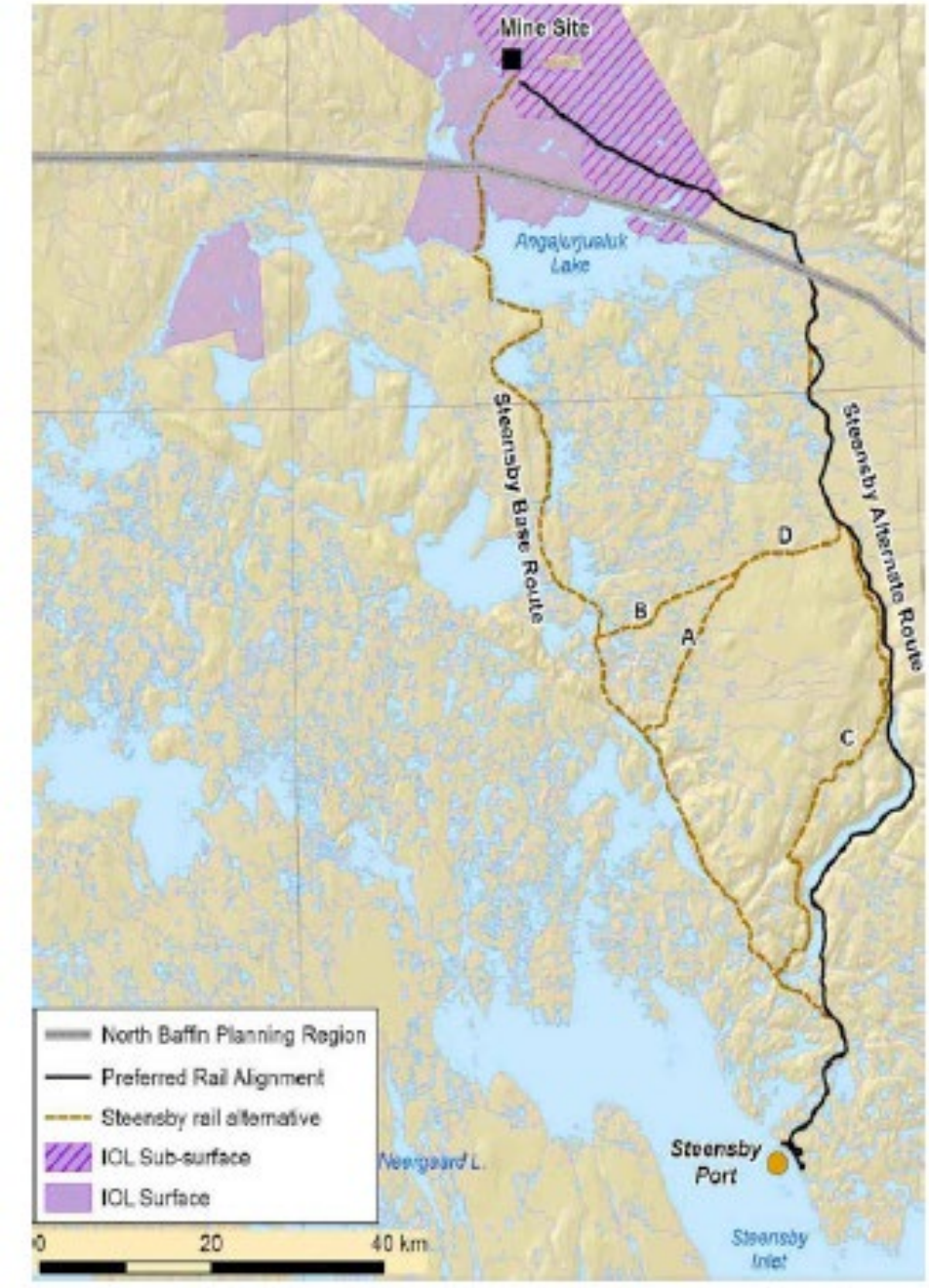
(b) **Segment D-A**, which would also depart from the Eastern Route at KP 70 but would then extend in a southwestern direction to connect with the Western Route further south down the Tariujaq Arm. Segment D-A is a shorter variant of Segment D-B.

(c) **Segment C** would diverge from the Eastern Route at the north end of Cockburn Lake and pass north of the mountain ridges which surround the northern half of Cockburn Lake. It would then extend south down the western bank of Cockburn Lake and cross the Cockburn River at its narrowest point where it would join with the Western Route.

93. Baffinland first evaluated these alternative route segments by considering whether any of these segments provided any obvious advantages as compared to the other alternative segments, or as compared to the Eastern Route.

[152] Solifluxion is the gradual movement of wet soil or other material down a slope, especially where frozen subsoil acts as a barrier to the percolation of water.

Figure 8: Alternative Railway Route Options



94. The Segment D-B route was determined to be the least advantageous because it was nearly 10 km longer than the Segment D-A route, and provided no notable advantages compared to the Segment D-A route. Segments D-A and D-B present the following challenges:

    (a) Segments D-A and D-B both travel southeast between the escarpment and Tarijuaq Arm, and therefore would have the same challenges as described in **paragraph 91(c) and 91(d)** They also both share the Western Route section along the poor ground conditions of the Tarijuaq Arm, as described in **paragraph 91(b)**.

    (b) Segment D-B is more direct than Segment D-A and would stay high across the plateau and avoid lakes while descending to join the Western Route. However, it would join the Western Route in a region with difficult soil and hydrological conditions and expose the railway alignment to an area subject to possible solifluxion.

    (d) Segment D-A joins the Western Route in an area which does not have as challenging soil and hydrological conditions, but the segment traverses more difficult topography around hills and steep escarpments before joining with the Western Route. This topography would result in more operational difficulties for the railway due to the short-radii that would be required to negotiate the difficult topography.

95. Accordingly, Baffinland concluded that neither Segment D-A nor Segment D-B were suitable alternatives to the Eastern Route due to the challenging geotechnical conditions within each segment and in the southern portion of the Western Route to which they would join.

96. Baffinland also determined that Segment C was not a preferred alternative to the Eastern Route. While Segment C would provide the advantage of not requiring construction of Tunnel #1 and Tunnel #2, that advantage would be outweighed by the significant disadvantages and operational challenges that would arise from the routing of Segment C, including:

    (a) Segment C has steeper grades than the Eastern Route and would require many short-radii curves which would, in turn, make railway operations more difficult; and

    (b) Segment C would require the railway to cross the Cockburn River, as described at **paragraph 6(d)** above, which would require a long bridge viaduct that would be difficult to construct and intrusive on the surrounding environment due to the presence of ice rich soils and an undetermined depth to the bedrock.

97. A summary comparison of the advantages and disadvantages of the Eastern Route, Western Route, and the alternative Segments D-A, D-B and C are set out below in **Table 2**.

Table 2: Comparison of Railway Routing Alternatives to Steensby Port (Table 3.6-4 from the 2012 FEIS)

Route	Length (km)	Capital Cost	Advantage	Disadvantage
Eastern Route (preferred)	148.3	Base	• Shortest (only slightly longer than Western Route) • Lowest cost • Least bridgework • Least exposed to glacial ice and solifluxion; greatest amount of construction on rock/shallow soils	• Most exposed to rockfalls • Adjacent to Cockburn Lake (fisheries and raptor nests)
Western Route (original)	146.6	Base + 2.5 %	• Shortest • Cost competitive with preferred alignment	• Poorest ground conditions • High archaeological potential • Expected interactions with wildlife (birds, caribou)
D-A	153.3	Base + 8.5 %	• Moderate length and slightly higher than main alternatives • Avoids a portion (but not all) of poor ground along Western Route	• Poorest ground conditions • Includes difficult Cockburn River crossing • High archaeological potential • Expected interactions with wildlife (birds, caribou)
D-B	167.0	Base + 11 %	• Moderate length and slightly higher than main alternatives • Avoids a portion (but not all) of poor ground along Western Route	• Poorest ground conditions • Includes difficult Cockburn River crossing • High archaeological potential • Expected interactions with wildlife (birds, caribou)
C	151.7	Base + 38 %	• Least exposed to taliks • Fewest interactions with raptor nests • Lower archaeological potential	• Highest cost • Significant fill volumes • Short radii turns (operational issues)

98. Baffinland thoroughly evaluated and considered the criteria outlined above and ultimately selected the Eastern Route as the preferred route for the Steensby Railway. Baffinland chose the Eastern Route based on the following:

(a) the Eastern Route will be the least disruptive to the environment, to local wildlife, and to Inuit land uses;

(b) the Eastern Route will be the least disruptive to archaeological sites. Only one culturally significant site, a wolf trap, has been identified in the vicinity of the Eastern Route.[153] The Eastern Route has been specifically designed to avoid and protect this site during construction, and to minimize any potential impacts on the site during railway operations. As with all interactions with archeological sites, any work will be done in compliance with the *Nunavut Archaeological and Palaeontological Sites Regulations,*[154] which are administered under the jurisdiction of the Government of Nunavut;

(c) the geotechnical conditions along the Eastern Route are the most favourable for railway construction and operation;

(d) the Eastern Route, on the whole, would be the most operationally efficient route from the Mary River Mine to the Steensby Port; and

(e) the Eastern Route will also be the most cost-effective to construct and to operate due to the geotechnical conditions along the route and its shorter length.

99. As noted above, while no localities are "proximate", due to identified social/cultural ties of Inuit to the area, the Western Route, Eastern Route, and alternative Segments D-A, D-B and C were all canvassed in public engagements, and the feedback shared during the public engagements was integrated into and considered by Baffinland in its assessment of the alternative railway alignments. Further information with respect to this public engagement and the feedback received is detailed in this Background to the Application Brief at **Part 7** and **Part 8**.

III.3B. Other Alternatives Considered

III.3B.i. Alternative Port Locations and Connecting Routes

100. During the course of NIRB's assessment of the Mary River Project and the related public engagements, Baffinland was asked by local communities to examine certain alternative locations to the Steensby Port on the east and north coasts of Baffin Island, and on the Nuvuit Peninsula. Specifically, Baffinland was asked to examine the following:

(a) possible railway routes to an alternative port location along the east coast of Baffin Island, between Pond Inlet and Clyde River (the **East Alternatives**);

[153] Baffinland, 2012. Final Environmental Impact Statement for the Mary River Project, at SD-41.

[154] Nunavut Archaeological and Palaeontological Sites Regulations, SOR/2001-220.

(b) an alternative railway route to Admiralty Inlet, to the northwest of the Mine Site and an alternative route to a possible port location on the north coast of Moffat Inlet (the **North Alternatives**); and

(c) an alternative southern route to a port location at Cape Jensen on the Nuvuit Peninsular, at the eastern entrance to Steensby Inlet (the **South Alternative** and collectively, the **Alternative Locations**).

101. The above identified alternatives were evaluated by Hatch in a technical decision memorandum which provided an analysis of the East Alternatives, North Alternatives and South Alternative, a cost estimate for each, and a final conclusion with respect to their respective viability.[155] The details of this report inform the summary in the paragraphs that follow.

102. To be a potentially viable port location, the port sites for the Alternative Locations would have required the following characteristics: (i) sufficient water depth for ship docking and for transit to and from the port, (ii) sufficient shoreline area and docks to accommodate cape size ore carriers with ice-breaking capabilities,[156] (iii) sufficient land area to allow for ore stockpiling and loading facilities, and (iv) the ability to build a railway line for transportation of ore from the Mary River Mine site to the Alternative Location(s).

103. Baffinland evaluated and considered the Alternative Locations by, amongst other things, completing a comprehensive desk-top study[157] of the viability of the following alternative port locations and connecting railways:

East Alternatives

(a) Baffinland identified seven (7) potential east coast port sites along the coast of Baffin Bay for the purpose of evaluating potential alternative railway alignments: (i) Sites A and B at the foot of Quernbiter Fiord, and (ii) sites C to G along Cambridge Fiord as far north as the Rannoch Arm. Site G—at almost 800 meters of elevation—is completely inaccessible with no possible site near sea level and, therefore, was not evaluated further. Site F—at 500 meters of elevation—is equally inaccessible, and so an alternative location "Site F'" in Omega Bay was selected as an alternative port site to the original Site F.

(b) The potential railway route from the Mary River Mine to all of the remaining East Alternatives (i.e. Sites A to F') share a common segment of approximately 148 kilometers which follows the Eastern Route to a crossing of the Ravn River where it continues up the valley on the south bank of the Ravn River. From the south bank of the Ravn River, the railway routes branch off to the sites of each of the six East Alternatives. The railway routes to these six East Alternatives range in total length from 191.5km to 242km. The East Alternatives' port sites and railway routes are depicted in **Figure 9**, below.

[155] Hatch, "*Evaluation of Alternative Port Sites and Connecting Railway Routes*", appended to the 2012 FEIS, Volume 3 at SD-11.

[156] Cape size ore carriers have a capacity of between 160,000 and 190,000 DWT and are approximately 330 meters in length, 50 meters in width and 20 meters in depth.

[157] Evaluation of Alternative Port Sites and Connecting Railway Routes, TDM-159952-5200-00-48, Rev 2, December 2, 2010 (FEIS, Appendix 3E), at SD-11.

Figure 9: Routes to East Coast Ports[158]

(c) All of the East Alternatives' port sites have significant disadvantages in comparison with the Steensby Port. They require railway routing through narrow valleys prone to deep snow drifts, the narrow Cambridge and Quernbiter fiords pose navigational safety issues for vessels, and they are more expensive. If an east coast site were to be selected, the best option would appear to be Site F' as it has: (i) the shortest sea route through a narrow fiord, (ii) the shortest section of railway exposed to snow drift problems, (iii) manageable stockpile and ship loading issues, and (iv) is only 5% more expensive than the cheapest east coast route. A summary comparison of the East Alternatives is set out in **Table 3**, below.

[158] Figure 3.3 from Appendix 3E of 2012 FEIS, at SD-11.

Table 3: Comparison of Alternative Routes East[159]

Port Site	Length (km)	Cost ($B)	Comments
A	192	1.25	• Least expensive route • Quernbiter Fiord is the same width as southern Milne Inlet and 25 km long; navigation safety issues will be worse than those at Milne Inlet • The last 30 km is in a very narrow valley, possibly prone to severe snow drifts
B	195	1.28	• Quernbiter Fiord is the same width as southern Milne Inlet and 25 km long; navigation safety issues will be worse than those at Milne Inlet • The last 30 km is in a very narrow valley, possibly prone to severe snow drifts
C	200	1.33	• Approximately 15 km is in a very narrow valley, possibly prone to severe snow drifts • Cambridge Fiord is the same width as southern Milne Inlet and 47 km long; navigation safety issues will be worse than those at Milne Inlet
D (North)	208	1.35	• 30 km is in a very narrow valley, possibly prone to severe snow drifts • May be exposed to glacial activity from the ice cap above Rannoch Arm • Cambridge Fiord is the same width as southern Milne Inlet and 27 km long; navigation safety issues will be worse than those at Milne Inlet
D (South)	229	1.47	• 15 km is in a very narrow valley, possibly prone to severe snow drifts • Cambridge Fiord is the same width as southern Milne Inlet and 27 km long; navigation safety issues will be worse than those at Milne Inlet
E	226	1.49	• At its lowest point the port site is over 160m above sea level, stockpiling and material handing for ship loading will be challenging. • Approximately 15 km is in a very narrow valley, possibly prone to severe snow drifts • Cambridge Fiord is the same width as southern Milne Inlet and 30 km long; navigation safety issues will be worse than those at Milne Inlet
F	200	1.31	• 17 km is in a very narrow valley, possibly prone to severe snow drifts • Cambridge Fiord is the same width as southern Milne Inlet and 23 km long; navigation safety issues will be worse than those at Milne Inlet • There may not be adequate depth close to the site and a kilometre or more of conveyors may be required between stockpile and ship loading.

[159] Table 3.2 from Appendix 3E of 2012 FEIS, at SD-11.

North Alternatives

(d) Two (2) potential north coast port sites were initially identified on 1:250,000 scale national topographic maps, namely, Site A-A above the existing Nanisivik Port on Strathcona Sound and Site B-B on the north coast of Moffat Inlet between David's Island and Bartlett Inlet.

(e) The potential railway routes to both of the north port sites would extend northwest from the Mary River Mine and then turn west to cross a tributary of the Ravn River approximately 15 kilometers south of Katiktok Lake. The route would then drop a little to the south west, skirt the headwaters of the Gifford River and then turn northwest to enter the valley of the East Magda River which it follows, holding to the north side of the river valley. The North Alternatives' port sites and railway routes are depicted in **Figure 10**, below.

Figure 10: Routes to North Coast Port Sites[160]

[160] Figure 4.2 from Appendix 3E of the FEIS at SD-11.

(f) Neither of the North Alternatives would provide a competitive economic alternative to the Eastern Route to Steensby Port. Both alternatives are also twice as long as the Eastern Route, which would proportionately increase the environmental impacts. Furthermore, there are 15 kilometers of both of the North Alternatives' routes that are located in a very narrow valley, which may be prone to severe snow drift and would represent high operational and safety risks. A summary comparison of the North Alternatives is set out in **Table 4**, below.

Table 4: Comparison of Alternative Routes of North Port Sites[161]

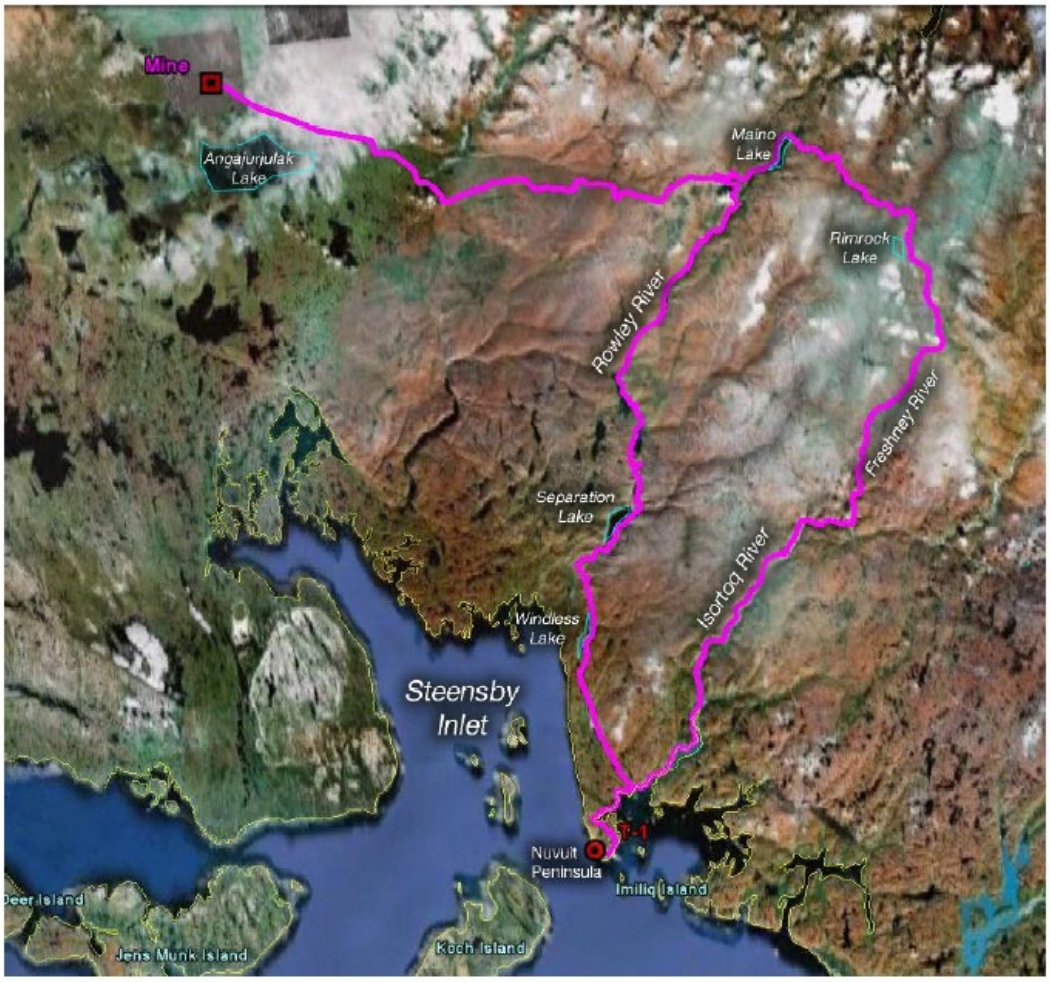
Port Site	Length (km)	Cost ($B)	Comments
A-A	366	2.34	• More than double the cost of the Steensby route • More than twice as long as the Steensby route; will have a significant impact on the fleet size and operating costs of the railway • There are 15 km in a very narrow valley, possibly prone to severe snow drifts
B-B	314	2.05	• More than double the cost of the Steensby route • More than twice as long as the Steensby route; will have a significant impact on the fleet size and operating costs of the railway • There are 15 km in a very narrow valley, possibly prone to severe snow drifts

South Alternative

(g) During the review of Baffinland's Draft Environmental Impact Statement in 2011, some Inuit proposed that the port location be moved from Steensby Inlet to the Nuvuit Peninsula, which is south of the Steensby Port. The railway route connecting the Mary River Mine to the port site in the Nuvuit Peninsula would cross out of the Ravn River watershed to the east of the Mary River Mine and then approach the Nuvuit Peninsula through either the Rowley River Valley or the Isortoq River valley. The South Alternative port site and railway route is depicted in **Figure 11**, below.

[161] Table 4.2 from Appendix 3E of the FEIS, SD-11.

Figure 11: General Location map of Initial Routes to Nuvuit[162]



[162] Figure 1.1 from Appendix 3E of the FEIS, SD-11; Canarail, 2011, Cockburn Lake – Nuvuit Coastal Rail Link Alignment Pre-Feasibility Design), at SD-9.

(h) In response to the feedback received during review of the Draft Environmental Impact Statement, Baffinland and QIA took the following actions:

i. in early 2011, Baffinland held a series of meetings with community members in Igloolik. Based on the outcome of these meetings, Baffinland engaged Canarail to carry out a dedicated high-level evaluation of the potential port site identified by QIA on the Nuvuit Peninsula, and the proposed route(s) to that site (the **Canarail Report**); [163]

ii. the QIA initiated an independent review of the Canarail Report funded by Baffinland;

iii. in September 2011, Baffinland hosted a site visit to tour and compare the available alternatives (including the "Eastern Route" for the Steensby Railway, as well as the South Alternative to the Nuvuit Peninsula); and

iv. the QIA requested that their financial advisors evaluate the implications of various alternatives on the Mary River Project's rate of return (see Section 6.1.4 of SD-9).

(i) Key findings of the Canarail Report are presented in **Table 5**, below.

Table 5: Key Findings of Cockburn Lake – Nuvuit Coastal Rail Link Feasibility Report[164]

Railway Component	Conclusion of Feasibility Report
Additional length of railway	104 km
Incremental capital cost for construction of railway	Direct capital = up to $864 million Total cost = 1,700 million (including EPCM and contingencies)
Additional cost of rolling stock (locomotive, rail cars)	3 locomotives and 141 cars at an estimated cost of $21.6 million (excluding freight & delivery charges)
Additional fuel consumption	6.44 ML per year (estimated at $4.5 million/year)
Increase in Baffinland personnel	Transportation Department = 44 employees Rolling Stock personnel= 26 employees Maintenance of Way personnel = 42 employees Estimated associated salaries and expenses = $9.5 million per year
Requirement for second Maintenance of Way shop	Satellite facility at mid point along the railway line Direct cost = $15 million Total constructed costs = $30 million

[163] Canarail, 2011. Cockburn Lake – Nuvuit Coastal Rail Link Alignment Pre-Feasibility Design, SD-9.

[164] Table 3-6.3 from FEIS Volume 3, SD-41.22.

(j) In addition to the Canarail Report, Baffinland also funded a third-party report, commissioned by QIA and carried out by HDR Engineering, to review the South Alternative to Nuvuit Peninsula and to form a professional opinion on the technical and operational feasibility of constructing a railway along the proposed route based on the project's design criteria and the standard practices of heavy haul railroads operating in North America (the **HDR Feasibility Report**).[165]

(k) The HDR Feasibility Report concluded that the longer rail route and larger fleet required for the South Alternative would have increased railway operating risks as compared to the Steensby Railway and Steensby Port (including the number of operating train sets, the operating distance and the number of regular mainline train meets). The South Alternative also would have had a larger terrestrial footprint than the Steensby Railway, with the associated environmental impacts, during both construction and operation.

104. Based on its evaluation of the Alternative Locations described above, Baffinland concluded that the alternative port sites were not feasible or acceptable alternatives to the Steensby Port site because:

(a) The locations of the East Alternatives and the North Alternatives were not technically feasible and would have resulted in unacceptable environmental and safety concerns, primarily due to ice conditions and ship navigability.[166]

(b) The South Alternative port site would require a connecting railway that would be 104km longer than the Steensby Railway. This would, in turn, increase the operating risks, environmental impacts, and socio-economic impacts of the railway to unacceptable levels. The construction and operating costs for a potential railway to the South Alternative port site would have also been prohibitive to the viability of the Mary River Project.[167]

105. Further details with respect to the criteria considered by Baffinland in assessing the Alternative Locations, and Baffinland's rationale for choosing the Steensby Port location (and, therefore, the Steensby Railway) over the Alternative Locations are set out in the enclosed Supporting Documents at SD-9 to SD-11.[168]

[165] HDR, 2011. Cockburn Lake – Nuvuit Coastal Rail Link Pre-Feasibility Evaluation Report, SD-10.

[166] Baffinland 2012. FEIS Volume 3, Section 6, at SD-41.22.

[167] Appendix 3E Railway Study – Evaluation. Baffinland, 2012. *Final Environmental Impact Statement for the Mary River Project*, at SD-11; Pre-Feasibility Studies, SD-9, SD-10.

[168] Ibid.

III.3B.ii. Trucking is Not an Alternative to the Steensby Railway

106. As described in **Part 2**, Baffinland has significant operational experience with trucking iron ore generally, and with trucking in the arctic conditions of the North Baffin region specifically. Based on this experience, Baffinland has first-hand knowledge of the operational challenges and limitations associated with transporting high volumes of iron ore by truck in comparison to Rail, which include:

(a) Baffinland must maintain a large fleet of more than 65 trucks in order to truck 6.0 MTPA of iron ore to the Milne Port, which are costly and have a limited operational life requiring eventual replacement;

(b) the high volume of trucks on the Tote Road combined with the frigid Arctic conditions in the North Baffin region result in significant road and truck maintenance and fueling requirements;

(c) there are increased safety concerns associated with high-volume trucking due to, for example, the greater risk of encounters between trucks, wildlife and land users along the Road; and

(d) the overall costs of trucking are higher than the costs of transporting by rail, per metric tonne of ore transported.

107. The Steensby Railway, amongst other things: (i) will eliminate ore hauling trucks on the Tote Road, (ii) will reduce the level of overall interaction that the Mary River Project has with land users and wildlife generally, and (iii) is more environmentally protective and economically efficient compared to high-volume trucking.

III.3B.iii. The Preferred Alignment Presented in this Section 98 Application is Reflected in the Steesnby Regulatory Authorizations and Inuit Agreements Issued to Date

108. The alignment presented in this Section 98 Application is located within the transportation corridor for the purpose of the Steensby Railway which was recently established by Amendment No. 1 of the North Baffin Regional Land Use Plan (**NBRLUP**).[169] Before issuing Amendment No. 1 the NPC evaluated community acceptability regarding the location of the transportation corridor, in accordance with its mandate under the Nunavut Agreement and NuPPAA and the requirements of the NBRLUP. NPC also weighted the outcomes of the NIRB environmental assessment in its decision making. At the end of this process, Canada, the Government of Nunavut and NTI all approved Amendment No. 1, which was issued by NPC in March 2024.

109. The Minister of CIRNAC has relied on the NIRB environmental assessment of the Mary River Project, to issue three additional key approvals needed to proceed with the Steensby Railway and which considered its location, in whole or in part:

(a) Project Certificate No. 005, which was issued by NIRB in 2012;

[169] Approval for the Amendment No. 1 of the North Baffin Regional Land Use Plan (Appendix R), SD-34. Note only a portion of the Steensby Railway is located within the boundaries of the NBRLUP.

(b) the Type A Water Licence issued by the NWB in 2013, which includes the Steensby Railway location within its general scope, as well as the specific coordinates of construction camps and planned water source locations; and

(c) the Steensby Land OIC granted by Cabinet in 2013, which approves the lease of approximately 95,000 acres of territorial land to Baffinland for the purposes of developing the Steensby Components.

110. The Steensby Railway is included in the Mary River IIBA co-signed with the QIA, and the terms of the Commercial Lease with QIA includes areas for the portions of the Steensby Railway located on Inuit Owned Land.

111. A visual representation of Amendment No. 1 to the NBRLUP, the Type A Water Licence and exhibits from the NIRB Recommendation Report are all consistent and show the location of the Steensby Railway (see this Background to the Application Brief at **Part 7** starting at page 124). Placing the Steensby Railway in an area outside the established railway transportation corridor would trigger the need for additional amendments to the NBRLUP. Similarly, the alignment was accepted by the Minister and NIRB with the issuance of the Project Certificate in 2012. Accordingly, any significant modification to the Steensby Railway location would trigger the need for significant amendments to the Project Certificate, additional environmental assessment by NIRB, and potentially significant additional regulatory steps under the Type A Water Licence and *Territorial Lands Act*.[170]

112. In summary, the validation of the alignment by NPC, NIRB, NWB, Nunavut Tunngavik Inc., Canada and Nunavut (via the issuance of authorizations for the Project) and QIA (via the entering into of agreements for the Project) which include consideration of location should give the Agency added confidence.

[170] Per section 12.8.2 of the Nunavut Agreement and section 112 of NuPPAA.

Part 4: Maps and Plans

Table 6: List of Maps and Plans Included in the Application

Supporting Document	Document Title
Railway Maps and Plans	
SD-9	Canarail, 2011. Cockburn Lake – Nuvuit Coastal Rail Link Alignment Pre-Feasibility Design. Prepared for Baffinland Iron Mines
SD-10	HDR, 2011. Cockburn Lake – Nuvuit Coastal Rail Link Pre-Feasibility Evaluation Report. Prepared for the Qikiqtani Inuit Association
SD-11	Evaluation of Alternative Port Sites and Connecting Railway Routes
SD-15	Railway Alignment Plan and Profile
SD-24	Railway Layout Construction Phase Figure
SD-25	Draft Railway Emergency Response Plan BAF-PH1-830-P16-0021
SD-26	Draft Railway Operation and Maintenance Management Plan BAF-PH1-8300-0022
SD-33	Mary River Railway Corridor – On Inuit Lands – Map Booklet
Infrastructure Maps and Plans	
SD-12	Steensby Railway Water Crossing List
SD-13	Steensby Railway Crossings Drawings – Bridges
SD-14	Steensby Railway Crossings Drawings – Culverts
SD-16	Steensby Railway Bridges Superstructure Layouts
SD-17	Steensby Railway Bridges General Arrangements
SD-18	Steensby Railway Mainline Alignment and Earthworks Cross Sections
SD-19	Steensby Railway Typical Cross Sections
SD-20	Steensby Railway Culverts Typical Cross Section
SD-22	Railway Brief Design: Tender Phase
SD-23	Permanent Tunnel Ventilation at Steensby Project (Technical Note)
SD-64	Steensby Railway Typical Cross Section Snowmobile and Caribou Crossing
Localities Maps and Plans	
SD-70	TSD 05 Mary River Inuit Knowledge Study Mapbook
SD-71	Land Use Mapbook

Part 5: Railway Operations and Services

III.5A. Overview of Railway Operations and Services

113. Once constructed, the Steensby Railway will provide dedicated freight rail services between the Mary River Mine and the Steensby Port, transporting loaded and empty iron ore rail cars from the Mary River Mine site to the Steensby Port and back. As part of the Approved Project, the Steensby Railway will increase shipping capacity for iron ore produced at the Mary River Mine, via the Southern Transportation Route. The Steensby Railway will also supply the majority of freight (supplies, materials and equipment) required at the Mary River Mine Site delivered by sealift to Steensby Port each year.

114. The freight rail services provided by the Steensby Railway are essential to the future of the Mary River Project. The Project Certificate granted for the Mary River Project expressly contemplated and approved the Steensby Railway infrastructure, which is a critical component to developing the Approved Project.

115. As detailed in **Part 1, Section III.1C** of this document and **Part 2, Section III.2A** of this Background to the Application Brief, QIA and Baffinland have negotiated an IIBA directly linked to the topics of most interest identified by the North Baffin Localities,[171] and the operation of the Mary River Mine at its full economic potential is required in order for Inuit to receive and retain the full benefits expected from the Mary River Project under the Mary River IIBA.

116. The Steensby Railway's operations will largely be comprised of the following:

(a) the 149-kilometer main line between the Mary River Mine and the Steensby Port, including three passing sidings;

(b) operation of yard tracks at the Steensby Port which will support unloading of the iron ore trains, loading and switching of freight trains carrying supplies for the Mary River Mine operation, and accessing the railway maintenance facilities and repair yard;

(c) operation of a railway maintenance facility (including a rolling stock and locomotive maintenance shops) and associated yard tracks within the Steensby Port terminal area, which will also be used for storage of ballast rail cars and other related railway equipment; and

(d) operation of a train loadout area at the Mary River Mine site including a departure loop track.

[171] And Kinngait (formerly Cape Dorset) and Kimmirut, based on proximity to shipping along the Southern route.

117. While the rail traffic on the Steensby Railway will be predominantly comprised of loaded and empty iron ore rail cars, it will also be used to transport some general dry freight traffic between the Steensby Port and the Mary River Mine. The Steensby Railway will not transport passengers or fuel during either construction or operations. Further, explosives will not be transported during the construction period along the rail line, however, general dry freight traffic for the mining operation once the construction period is complete could possibly in future include commodities identified as dangerous goods (i.e. ammonium nitrate). If this were to occur, what substances will be carried through operations may be subject to an amendment to the Certificate of Fitness and a Railway Operators Certificate, and subject to other applicable regulations, including the *Dangerous Goods Act*.

118. The Steensby Railway's main line will be operated and maintained by a qualified railway operator contracted by Baffinland, who will also provide train crews and complete track and rolling stock inspection, railway maintenance, signal management, and wayside train monitoring.

III.5B. Infrastructure and Ground Alterations

119. The following is a detailed summary of the proposed infrastructure and ground alterations that will be required in connection with the Steensby Railway. Further detailed information regarding the infrastructure and ground alterations required for the Steensby Railway is set out in the enclosed supporting documents.[172]

120. Baffinland has designed and developed the infrastructure for the Steensby Railway to ensure that it meets the geotechnical requirements for railway operations in arctic conditions, and also to account for the anticipated effects of climate change in the region (e.g. warming and thawing of permafrost). These geotechnical designs are detailed at SD-65**.**[173]

121. Updated geotechnical surveys were carried out in 2023 to identify ice-rich areas along the Steensby Railway alignment, to address future thaw and settlement issues in the final railway design, and to inform the final railway alignment presented in this Application, and are available at SD-67.[174]

[172] Baffinland, 2023. Railway Construction Summary, SD-21.

[173] *Systra Canada, "*Extreme Cold Weather and Climate Change for Steensby Railway Project" (May 1, 2024), SD-65.

[174] Hatch, 2023. 2023 Geotechnical Investigation Report – Steensby Rail Alignment. 299p., at SD-67.

III.5B.i. Infrastructure in Support of Operations

III.5B.i.a. Communication Systems, Signal Systems and Related Facilities

122. Baffinland's railway operations on the Steensby Railway will use a variety of telecommunications and signalling systems in order to ensure safe and efficient railway operations. A detailed description of these systems is set out in SD-22 at Sections 10 and 11.[175]

Train Control Systems

123. Movement of the trains on the Steensby Railway will be controlled by rail traffic controllers using an occupancy control system (**OCS**) that conforms to Transport Canada's *Canadian Rail Operating Rules.*[176] These operations will be supported by a rail signalling system that includes, amongst others, the following components: (i) computer-based interlocking, (ii) remote-controlled switch machines, (iii) axle counters for train detection, (iv) wayside detectors and signal systems, (v) hot box detectors, (vi) switch position indicators, and remote-controlled/automated switch blowers.

124. The train control system will use dedicated optical fibre backbone for voice and data communications between rail traffic controllers and the various signalling systems. Backup communications will be enabled through radio repeater and microwave towers. Radio distributed power will link the locomotives at either end of the train.

125. The primary rail traffic control centre will be located in Southern Canada, and a back-up control room will be located at the Steensby Port in case of a communications failure with the primary rail traffic control centre.

126. The Steensby Railway will also incorporate the following safety monitoring and signalling systems:

(a) rock fall and land slide detectors;

(b) level crossing warning systems (in the yards at the Steensby Port and Mary River Mine);

(c) hot box, hot wheel, wheel impact, and dragging equipment detectors to monitor passing trains for defects;

(d) power supply points which will provide low and high speed wind alarms, low battery alarms, low fuel alarms, and diesel generator alarms; and

(e) environmental detectors for snowfall and temperature.

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[175] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Sections 10 [*Signalling*] and 11 [*Telecommunications*], at SD-22.

[176] Transport Canada, "*Canadian Rail Operating Rules: Occupancy Control System (OCS) Rules*" (2022), available online here: <https://tc.canada.ca/en/rail-transportation/rules/2022-2023/canadian-rail-operating-rules/occupancy-control-system-ocs-rules>

Rolling Stock Management System

127. The Steensby Railway will also use a rolling stock management system that includes an automatic equipment identification (**AEI**) system and a detector management system. AEI readers will be installed on the track at the location of the wayside detectors and at the entry to the maintenance shop at the Steensby Port, and will track the movement of AEI tagged railcars.

128. The rolling stock management system will provide the rail dispatcher with detector information for the train condition, alarm status, and notification of any failures. It will also permit Baffinland to track and easily locate any railcar, and maintain statistics about the distance each railcar travels for maintenance purposes.

Related Facilities

129. The physical infrastructure that will be required along the Steensby Railway to support these signalling and communications systems will include the following:

(a) a signalling equipment room and back-up rail traffic control centre located at the Steensby Port which will house the backup systems for the main data centre;

(b) bungalows installed at the Mary River Mine, the Steensby Port and at each of the sidings along the railway alignment to house control equipment and power generators;

(c) communication towers positioned along the railway, next to the bungalows which will provide power generation for the towers; and

(d) modular power supply points, including a battery bank and diesel generator.

III.5B.i.b. Bridges, Tunnels and Other Infrastructure

130. As discussed in this Background to the Application Brief at **Part 2** at **paragraphs 68 to 72**, the Steensby Railway alignment will require 42 bridges and at least 258 culverts (note only 119 of all water crossings are considered fish bearing or potentially fish bearing). The locations of the bridges and culverts along the Steensby Railway are depicted in SD-13 and SD-14. Further detailed specifications for the bridges and culverts, including engineering drawings, are available in SD-22 at **Section 8**.[177]

131. As detailed in this Background to the Application Brief at **Part 2** at **paragraphs 73 to 75**, there will be two tunnels required in connection with the Steensby Railway, both of which will be located on the east bank of Cockburn Lake. The first will be 1,000 metres in length and the second will be 300 metres in length. Further detailed information and specifications for Tunnel #1 and Tunnel #2, including with respect to tunnel ventilation, are available at SD-22 at Section 15[178] and SD-23.[179]

[177] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 8, at SD-22.

[178] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 15, SD-22.

[179] Systra Canada, 2024.Permanent Tunnel Ventilation at Steensby Project (Technical Note), SD-23.

III.5B.i.c.Compressors and Testing Equipment

132. As described in **paragraph 187** below, the rolling stock maintenance facility located at the Steensby Port will house compressors used for railcar brake testing and other locomotive/railcar maintenance and testing operations.

III.5B.i.d. Stormwater Management Systems

133. Baffinland maintains several surface water management ponds that collect storm water across the Project. As storm water is generally collected in ponds that also collects contact water from the mining, crushing and stockpiling operations, the water is treated and tested before release to the environment at final discharge points (as designated by the Type A Water Licence).[180]

134. In order to accommodate the increased iron-ore crushing operations at the Mary River Mine and the rail-loading operations for the Steensby Railway, the existing storm water management facilities at the Mary River Mine site will be modified to receive water from the new indoor crushing facility and load-out area pad. Additional surface water management ponds will be developed to collect excess water from the new disturbed areas. The storm water collected in the new surface water management ponds will continue to be treated and tested before release to the environment at the final discharge points (as designated by the Type A Water License).

135. The plans that are most relevant to the items described at **paragraph 133 and 135** are the Fresh Water Supply, Sewage and Wastewater Management Plan, Surface Water and Aquatic Ecosystems Management Plan and Environmental Protection Plan, all of which are provided to the Agency with this application and will be updated for railway construction and operation.[181] During the construction of the Steensby Railway, the quarries will include various ditches, diversions and ponds (as required), which will be detailed in quarry plans submitted to the NWB.[182]

III.5B.i.e. Spill and Drip Collection Systems for Fuelling and Oiling Stations

136. The Steensby Railway operations will include a spill collection system which consists of a 30-meter-long containment pit covering both tracks and the island fueling station at the Steensby Port. Further details on the spill collection systems that will be utilized in connection with the Steensby Railway are detailed in SD-25 and SD-26.[183]

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[180] Type 'A' Water Licence - 2AM-MRY1325, SD-32.

[181] See Mary River Project Environmental Management Plans, SD-27, specifically, Fresh Water Supply, Sewage and Wastewater Management Plan; Surface Water and Aquatic Ecosystems Management Plan; Environmental Protection Plan.

[182] The Quarry Management Plans will be submitted to the Nunavut Water Board in accordance with the Type A Water Licence prior to their development.

[183] Baffinland, 2024. Draft Railway Emergency Response Plan BAF-PH1-830-P16-0021, SD-25 and Baffinland, 2024. Draft Railway Operation and Maintenance Management Plan BAF-PH1-8300-0022, SD-26. The plans that are most relevant to the items

III.5B.i.f. Track Configuration

137. The track configuration for the Steensby Railway will include approximately 149 kilometers of single track main line and approximately six kilometers of yard tracks. The yard tracks at Steensby Port will include an unloading loop, arrival track, departure track, fuel and freight service track, shop track, maintenance-of-way track, and storage track for ore cars. The configuration of the Steensby Railway main line and yard tracks are detailed in SD-22.[184]

138. The Steensby Railway main line will also include three sidings that will be used as passing tracks for oncoming trains moving on the single track railway line. Each siding will be a minimum length of 1,627 meters and include a back track of approximately 230 meters to allow the setting-off of bad order cars and track maintenance equipment without obstructing train operations. The passing sidings will be located at the locations marked in **Figure 12** below (note the sidings are marked in green in the Figure, which denote the boundaries of the sidings).

139. A number of factors were considered in selecting the length and location of the passing sidings including, amongst other things, train lengths, train running times, optimal meet locations with a view to avoiding curves in the track, high embankments, gradients above 0.1%, deep cuts, railway bridges, other fish bearing or potentially fish bearing crossings, and known archaeological sites.

140. In addition to the passing sidings, the railway will also have a ballast siding and a maintenance of way siding. Hi-rail maintenance vehicles, which are equipped with rubber-tired wheels in order to drive off the track without requiring a turnout, will also be able to use refuges at regular intervals of approximately 10 kilometers.

III.5B.i.g. Switches, Frogs and Other Cross-Overs

141. The Steensby Railway will include 16 turnouts located within the yards at the Mary River Mine and the Steensby Port, and at various points along the main line.

142. The design and specifications of the turnouts used along the Steensby Railway, including the switches and frogs, for both the main line and yard tracks will conform to the most recent edition of AREMA Plans and Specifications[185] and are provided in SD-22 at Section 9.[186]

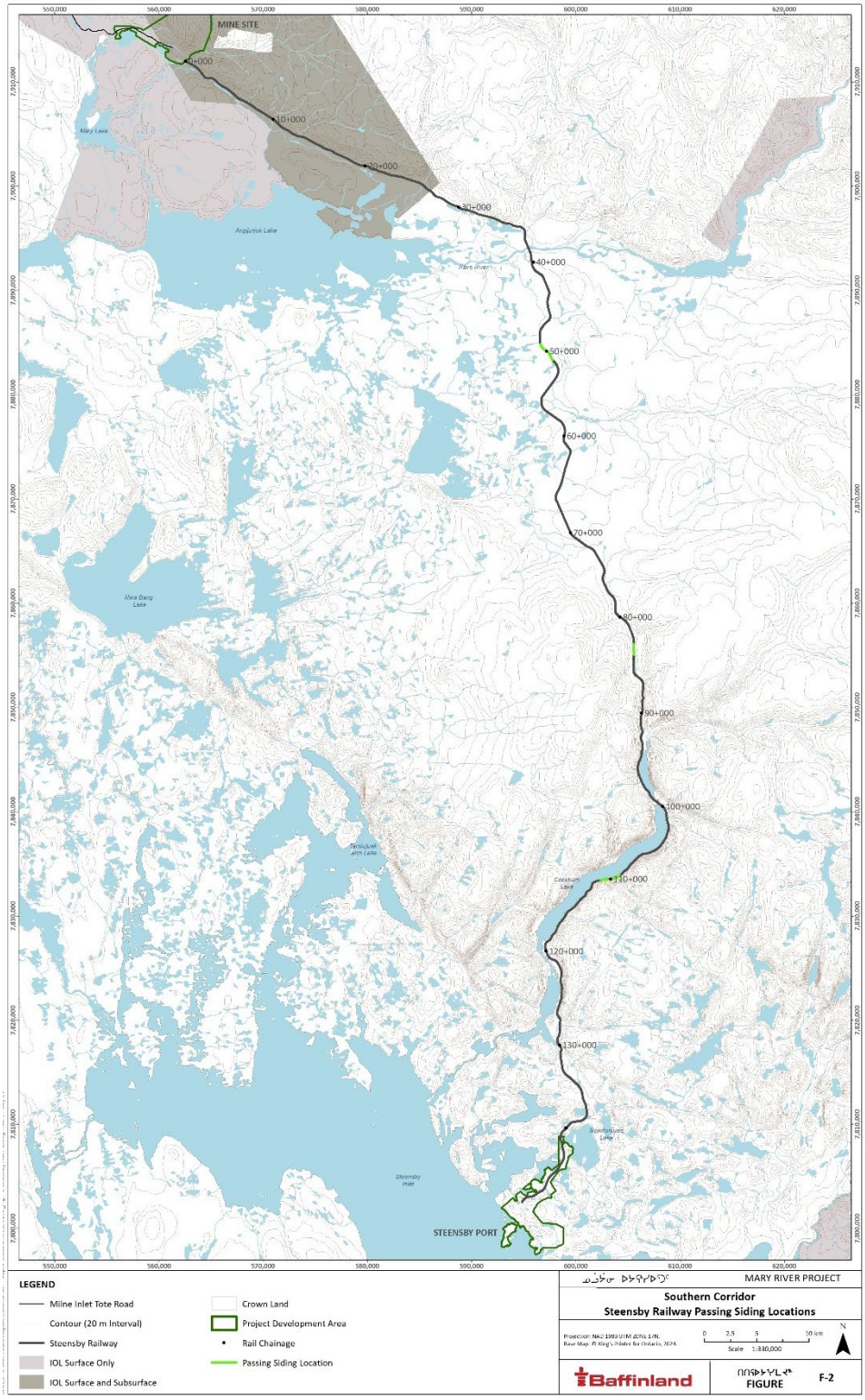
described at para 21 and 22 are the Fresh Water Supply, Sewage and Wastewater Management Plan, Surface Water and Aquatic Ecosystems Management Plan and Environmental Protection Plan, all of which are provided to the Agency with this application and will be updated for railway construction and operation.

[184] *Systra Canada,* "Railway Design Brief: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 5, SD-22.

[185] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 9, SD-22.

[186] Ibid.

Figure 12: Planned Passing Siding Locations along the Steensby Rail



III.5B.i.h. Track Materials

143. The track superstructure that will comprise the Steensby Railway will include running rails, cross ties, stone aggregate (ballast), and fastening systems. The specifications of the track materials and structure that will be used for the Steensby Railway, including the ballast, ties, rail, tie plates, and other required track materials for both the main line and yard tracks, are provided in SD-22 at Section 9.[187]

III.5B.i.i. Embankments, Aqueducts, Roads, Conduits, Drains, Piers and Arches

144. The embankments for the Steensby Railway will be comprised of fill and ballast or sub-ballast materials. The embankments have been designed for permafrost conditions and additional allowances have been made to account for climate change effects, including an assumed increased thickness of the active layer. Further details with respect to the design criteria for the railway embankments are provided in SD-22 **at Section 6.**[188]

145. As set out in this Background to the Application Brief at **Part 6**, **paragraphs 218 to 219** below, Baffinland will construct winter access roads for the purposes of constructing the Steensby Railway. However, any temporary access roads built for railway construction purposes will be removed upon completion of railway construction. Once operational, access to the Steensby Railway main line will be via rail-mounted vehicles and equipment or, in the event of an emergency, via helicopter. The only access roads that will remain following construction will be those that extend between the railway and the communication stations, which will be placed at intervals of approximately 10km for the length of the Steensby Railway. Hi-rail maintenance cars will access the communication stations and their access roads via refuges as outlined in **paragraph 219**.

146. The Steensby Railway will not require any aqueducts, conduits, drains or arches. The multi-span bridges will have piers within the channel of the water body being crossed, with no arches.

[187] Ibid.

[188] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 6, **Tab F.3**

III.5B.i.j. Noise and Vibration Mitigation Infrastructure and Measures

147. Baffinland completed a noise and vibration assessment in 2012 on the basis of the Agency guidance document, *Railway Noise Measurement and Reporting Methodology* (August 2011).[189] The assessment considered the potential impact of noise and vibration, during both railway construction and railway operations, on the following:

(a) humans within proximity to the Steensby Railway alignment. As detailed in this Background to the Application Brief at **Part 2, Section III.2C** above, the North Baffin Localities are more than 150 kilometers away from the Steensby Railway. As a result, the only human populations which may be impacted by noise and vibration from the Steensby Railway are workers of the Mary River Mine Project and hunters and other Inuit practicing cultural activities moving through the area of the Steensby Railway on a temporary and infrequent basis (i.e. no long term exposure);

(b) fish-bearing watercourses and wildlife in proximity to the Steensby Railway alignment; and

(c) the workers accommodations located at the Mary River Mine (during the operations phase) and at the Construction Compounds (as defined in this Background to the Application Brief at **Part 6, paragraph 205** below) during the construction phase.

148. By way of summary, the methodology employed in the noise and vibration assessment was to approximate the short-term noise impacts from train passage by selecting a location along the centre-line of the Steensby Railway alignment where the topography slopes up and away from the track on either side.[190] This type of point was selected because noise and vibration from the railway would likely be highest at such a point.

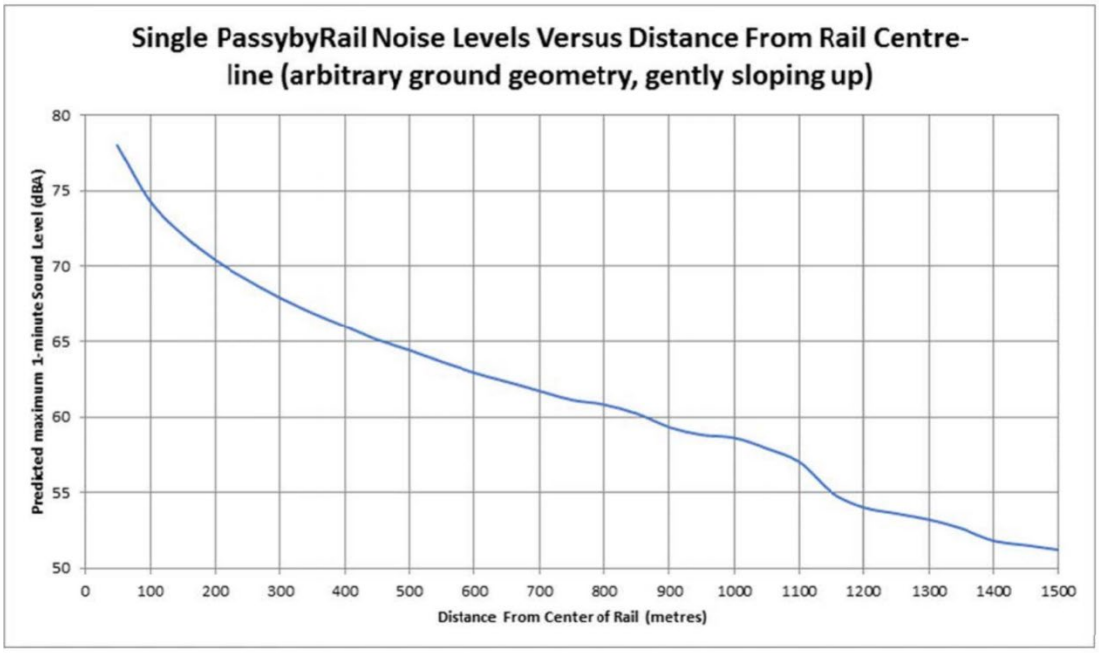
149. The modelling results for train passage predicted short maximum 1-minute Leq impacts of 78 dBA at 50 metres and 52 dBA at 1500 metres from the centre of the rail line as depicted in **Figure 13**, below. For the purposes of comparison, Baffinland's assessment notes that 50 dBA is the expected noise level in a quiet suburb while 60 dBA is similar to office noise or playing background music.[191]

[189] Baffinland 2012, Railway Noise Measurement and Reporting Methodology, Volume 5 of the FEIS, SD-41.444; guidance document is available online at the following link, https://otc-cta.gc.ca/eng/railway_noise_measurement

[190] The methodology for the noise assessment is set out at Vol. 5, Section 3.3.1 of the 2012 FEIS, SD-41.444. The effects assessment identifies potential changes or effects to existing noise conditions that may result from project activities. A standard assessment approach was used to determine the potential effects of the Project. This approach is outlined in Table 5-3.5 of the 2012 FEIS and included the following tasks: (a) identify and quantify noise emission sources (for Mary River, and Steensby Inlet); (b) use baseline ambient monitoring results to establish existing background levels; (c) use noise models to predict levels from worst-case operations; (d) compare the predicted noise modelling results to the ambient levels and to the guideline limits; and (e) identify the incremental changes and assess the significance of the Project.

[191] Baffinland 2012, Railway Noise Measurement and Reporting Methodology, Volume 5 of the FEIS, SD-41.444.

Figure 13: Single Pass Rail Noise Levels vs Distance From Rail Centreline



150. Baffinland's noise and vibration assessment also considered the potential noise and vibration effects during the construction of the Steensby Railway.[192] Based on that assessment, construction noise levels, inclusive of blasting, are expected to be moderate to loud, depending on proximity, and there is potential for construction noise to extend out to 1,500 meters from the construction area. However, these noise levels will be temporary, short in duration and infrequent.

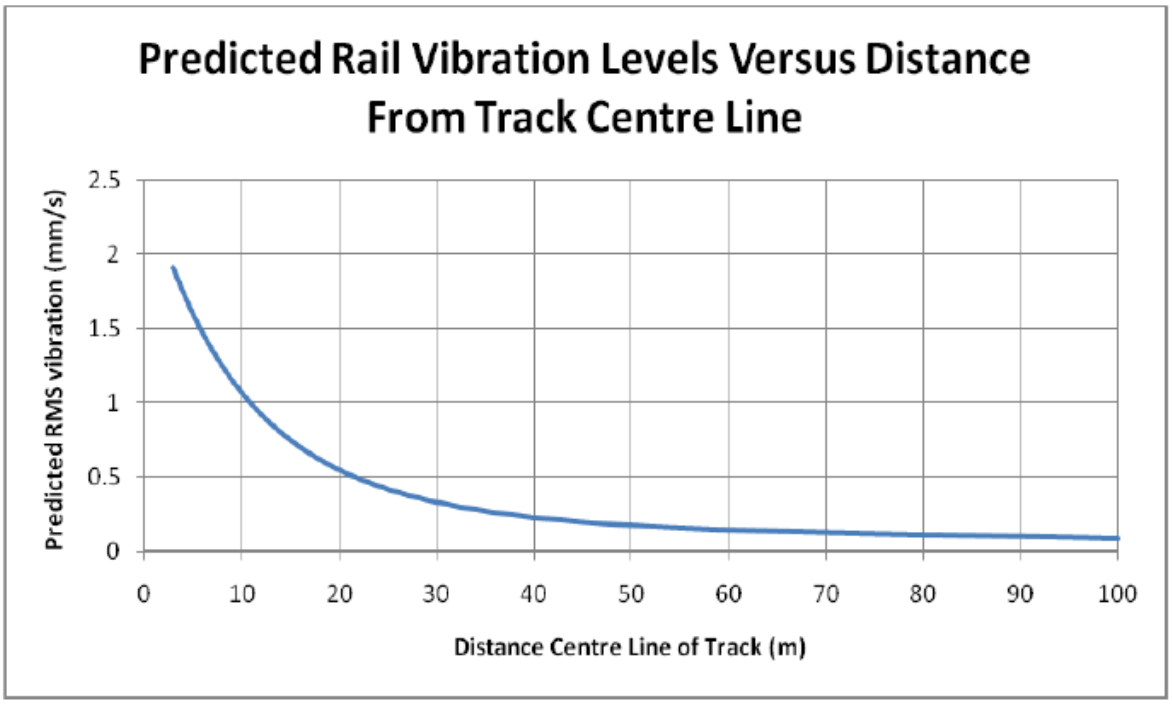
151. A detailed vibration modelling assessment was not conducted for the construction phase due to its intermittent and temporary nature. Rather, potential effects were assessed qualitatively based on previous experience.

152. Construction activities along the rail corridor have the potential to generate perceptible vibration levels that extend outwards from blasting activities. The duration will be short-term, the frequency will be occasional, and the effect will be reversible. Potential vibration effects from blasting on freshwater fish in watercourses along the railway are addressed in the 2012 FEIS, Volume 7 at Section 4 and were determined to be not significant. Elevated vibration levels may occur near construction activity; however, significant effects are not anticipated.

153. Operating trains can produce vibration; however, this activity will be intermittent and temporary, so significant effects are not anticipated. Predicted RMS vibration levels versus distance from the track are shown in **Figure 14**. Vibration levels were calculated using the United States Federal Transit Administration Vibration Screening Model (FTA, 2006).

[192] Volume 5, Section 3.3.2.4 and 3.4.2.3 of the 2012 FEIS, SD-41.444.

Figure 14: Predicted Rail Vibration Level Versus Distance from Track Centre Line



154. Residual effects from construction and operations for vibration are expected to be minimal. The extent of effects is limited to areas directly surrounding the Mine Site and Steensby Port. Vibration effects are considered to be reversible.

155. Based on the above assessment results, Baffinland has determined that no additional infrastructure or ground alterations will be necessary in order to abate noise and vibration as a result of the construction and/or operation of the Steensby Railway. This determination is based on the following:

(a) While there is potential for construction and operational noise from the Steensby Railway to extend outwards for a distance of up to 1.5 kilometers from the railway alignment, this level of noise is not expected to cause notable disturbance to animals or humans at distances of 1,500 m and farther from the rail line.

(b) The Steensby Railway will generate noise which may affect nearby humans and wildlife transiting through the area. However, predicated average hourly sound levels from movement of the train along the railway are expected to be minor and localized due to the intermittent and temporary nature of this activity.

(c) Yard operations at the Mary River Mine and the Steensby Port will result in noise from wheel squeal, shunting and train building. However, this noise will be limited because the Steensby Railway's trains will be primarily unit trains which will not require shunting activities.

(d) During operations, the Steensby Railway may produce significant vibration in direct vicinity to the railway. However, these effects will be intermittent and temporary in nature. Due to the remote location of the railway and the distance between the Railway and the North Baffin localities, significant effects are not anticipated.

(e) Railway loading, unloading and transit operations at the Mary River Mine have the potential for vibration effects. However, Baffinland's assessment indicated that the vibration from these activities are expected to be minor.

(f) Blasting during construction of the Steensby Railway has the potential to generate vibration levels that extend outwards. However, there are no vibration sensitive environmental receptors in the areas of the blasting.

(g) There will be some vibration from other construction activities. However, this will be short-term. The frequency of the effects will be occasional and the effects themselves will be reversible.

156. Although a significant amount of noise and vibration is not expected to occur in connection with either the construction or operation of the Steensby Railway, Baffinland will nevertheless implement the following mitigation measures to further mitigate any such noise and vibration:

(a) to limit potential effects from blasting on freshwater fish in watercourses during the construction of the Steensby Railway, measures will be taken to maintain blasting below the Department of Fisheries and Oceans' guideline of 100 kPa;

(b) to limit potential effects on worker accommodations for the Mary River Project, Baffinland may, if required, relocate or reorient the accommodation(s), install berms or noise barriers near the accommodation(s), and/or upgrade windows and air conditioning systems within the accommodation(s);[193]

(c) to limit noise and vibration from passing trains during the operation of the Steensby Railway, ballasted track will be used in construction of the railway in order to absorb vibration. The construction of stable embankments is also expected to dampen vibration during operations; and

(d) during operations, Baffinland will implement regular maintenance of all engines and equipment (e.g. rail grinding, wheel trying and track lining) in order to limit noise and vibration along the main line and in the yards.

157. The original assessment of noise and vibration impacts from the Steensby Railway was recently reviewed by RWDI Consulting Engineers, who confirmed that effects predictions for the Steensby Railway presented in the 2012 FEIS remain valid.[194]

[193] Volume 5, 2012 FEIS, SD-41.444.

[194] RWDI Consulting Engineers, "Steensby Port Noise, Baffinland Iron Mine, RWDI Reference No. 2400388" (May 6, 2024) Memo to Elisabeth Luther, Senior Manager, Regulatory Affairs, Baffinland Iron Mines. SD-66.

158. Further specifics with respect to Baffinland's assessment of the noise and vibration impacts of the Steensby Railway, and the mitigation measures that will be implemented to mitigate those impacts, are provided in SD-41.444, SD-63,[195] and SD-22.[196]

III.5B.i.k. Caribou and Snowmobile/ATV Crossings

159. Nine snowmobile/ATV crossings have been identified through land use studies along the Steensby Railway at the locations marked in **Figure 15**, below. However, the final number and locations of the crossings will be selected through close engagement with local hunters and trappers organizations and other land users prior to the completion of construction.

160. The purpose of the snowmobile/ATV crossings is to permit hunters and other local land users to safely cross the Steensby Railway without damaging their equipment. These crossings will not be connected to or otherwise form part of any roads or trails. Nevertheless, each of the snowmobile/ATV crossings will be constructed in accordance with the *Grade Crossing Regulations*, SOR/2014-275 and all applicable Transport Canada requirements. The design details for the snowmobile/ATV crossings are provided in SD-64[197].

161. In addition to snowmobile/ATV crossings, Baffinland has also identified three key crossing locations and two broad crossing locations along the Steensby Railway where caribou are known to cross the railway. These areas were determined based on the concentration of caribou trails identified through aerial surveys and land use studies, which land users confirmed (based on IQ/Inuit knowledge) will be used again by caribou as the population recovers and increases.[198] The design details for the railway caribou crossings is provided in SD-64.[199].

162. While currently Baffinland has identified five key and broad caribou crossing areas, these areas and/or the number of individual crossing locations within them may change in the future due to identified animal movement patterns.

163. Baffinland will establish comprehensive wildlife monitoring programs along the Steensby Railway and will continue to liaise with Inuit to ensure that caribou can cross the railway safely. If and when there is a need to change the locations of caribou crossings or increase the number, Baffinland will consider these changes as long as they are technically feasible, safe for caribou and supported by the communities.

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[195] Volume 5, 2012 FEIS, SD-41.444**;** Commitment Implementation Tables, SD-63.

[196] *Supra*, note 121. SD-22.

[197] Systra, 2024. Caribou and Snowmobile Level Crossings along Steensby Railway. May 17, 2024. 6 pages, SD-64.

[198] 2012 FEIS, Volume 6, Section 5.2 page 138 "According to IQ, and trail orientation and abundance, movement will predominantly be east-west and will occur within the southern half of the RSA.", SD-41.452.

[199] Systra, 2024. Caribou and Snowmobile Level Crossings along Steensby Railway. May 17, 2024. 6 pages. SD-64.

Figure 15: Planned Land User Crossing along the Steensby Railway

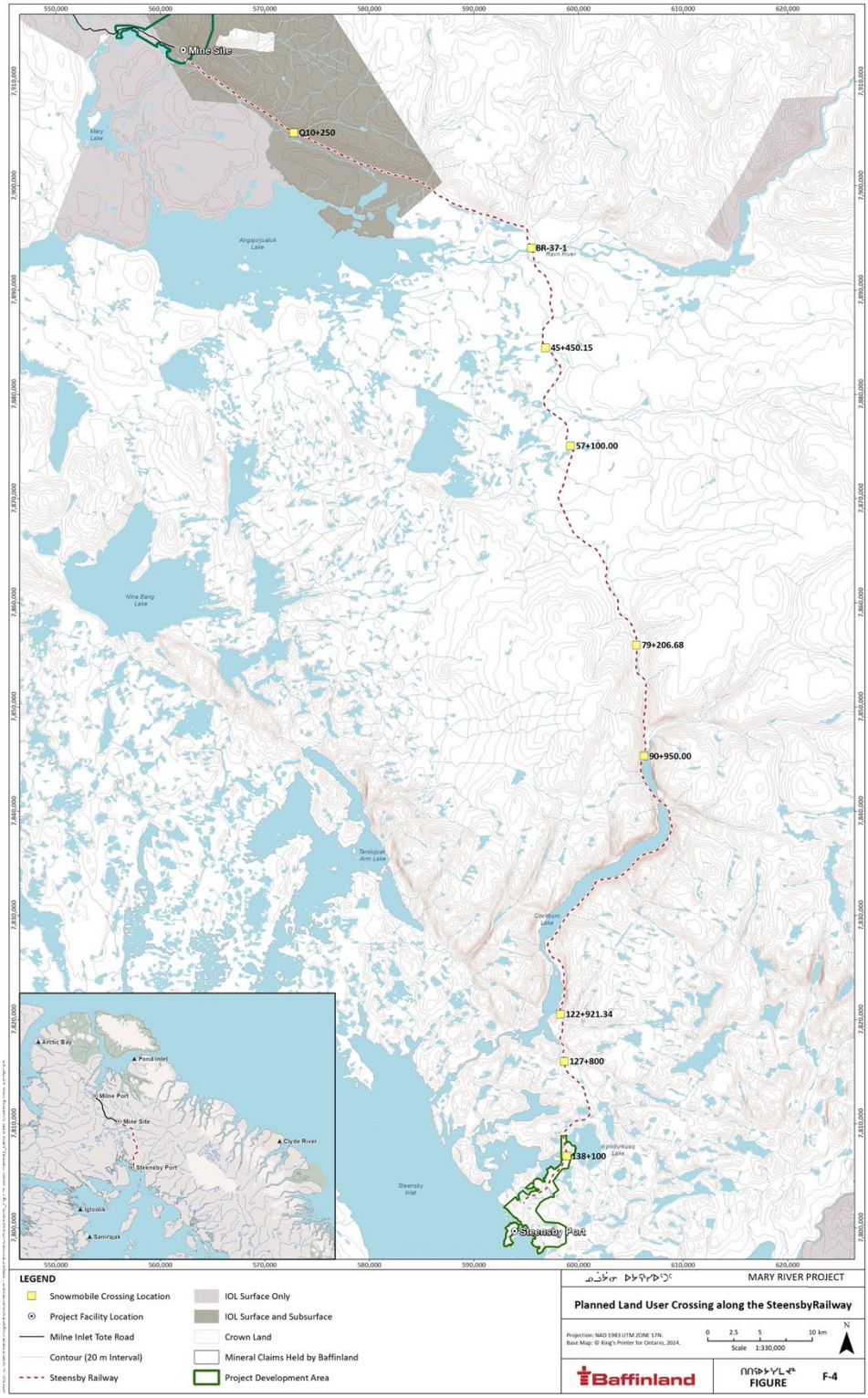
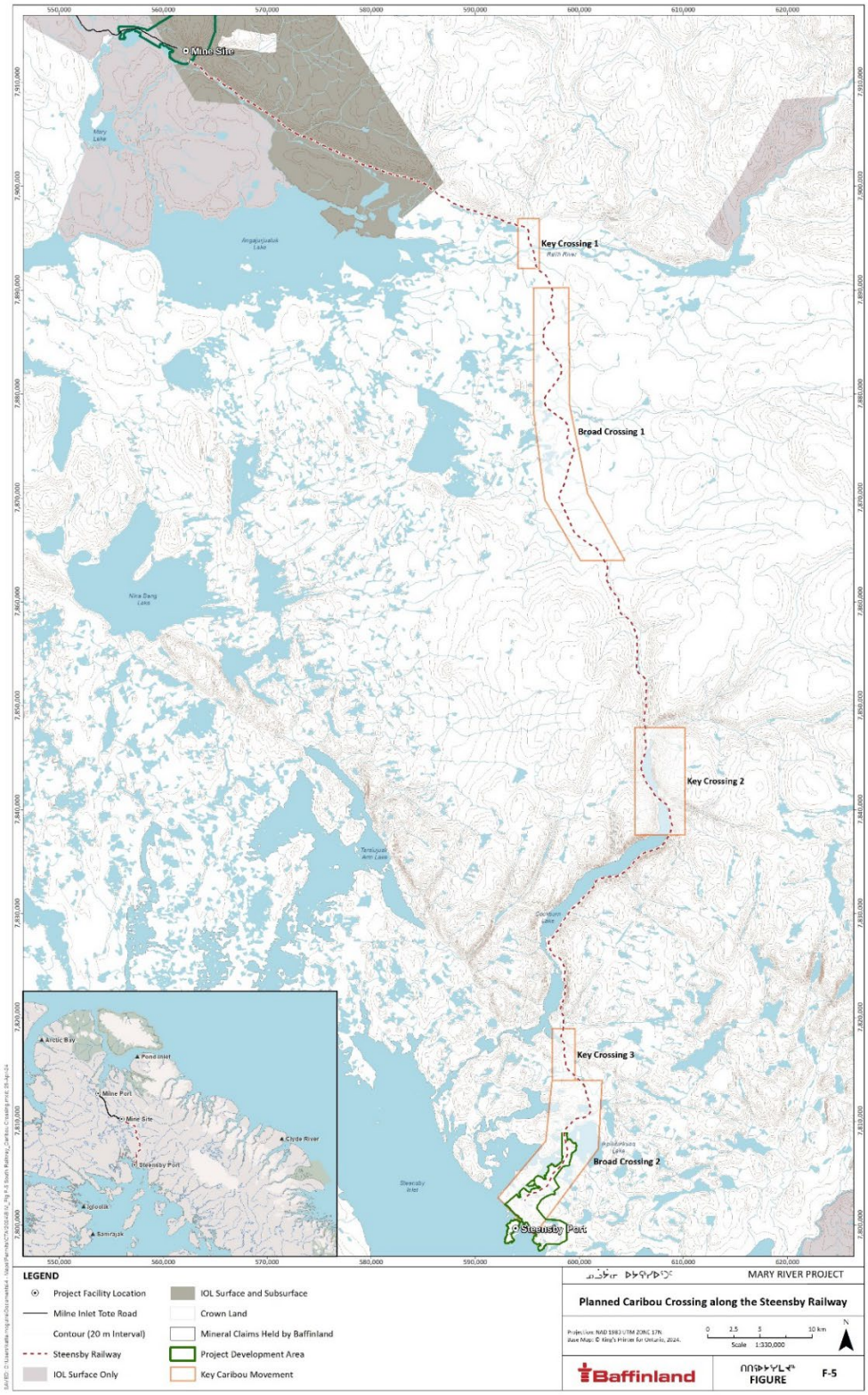


Figure 16: Planned Caribou Crossing along the Steensby Railway



164. Further details with respect to the specifications for the snowmobile/ ATV crossings and the caribou crossings are provided in SD-22.[200]

III.5B.i.l. Other Infrastructure

165. The following categories of infrastructure will not be required in connection with the Steensby Railway:

(a) infrastructure necessary to allow the construction of a railway line across another railway line;

(b) infrastructure necessary to allow the construction of a railway line across a public road that passes across, over or under a railway line; and

(c) infrastructure necessary to allow the construction of a railway line across a utility line that passes over or under a railway line.

III.5B.ii. Modification to Lands, Waterbodies and Existing Utilities (i.e. Ground Alterations)

III.5B.ii.a. Cuts, Fills, Ponds, Channels, and Watercourses

166. The modifications to land that will be required to construct the Steensby Railway are described in **Part 6** of this Background to the Application Brief, and include cuts and fill along the railway embankment, removal of permafrost and bedrock, and construction of the two tunnels located along Cockburn Lake.[201]

167. As described in **Part 2** of this Background to the Application Brief, the Steensby Railway will traverse watercourses within three major watersheds—namely, the Ravn River watershed, the Cockburn River watershed, and the Ikpikitturjuaq River watershed—and a smaller, unnamed watershed in and around the Steensby Inlet area. In order to traverse these watersheds, the Steensby Railway will require more than 300 water crossings, including bridges and culverts. These water crossings will interact with an estimated 119 fish-bearing rivers and streams, and encroach at 26 fish-bearing lakes and ponds. Further information with respect to these modifications and interactions are detailed in SD-38.[202]

[200] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 9.11.1 [*Snowmobile Crossings & Refuges (Setoffs)*] and Section 9.11.2 [Animal Crossings and Guards], SD-22.

[201] Application for an Authorization Under the Fisheries Act for the Steensby Component Interactions with Freshwater Fish and Fish Habitat (DFO File Referral No. 23-HCAA-01144), Section 5.1.5, SD-38.

[202] Application for an Authorization Under the Fisheries Act for the Steensby Component Interactions with Freshwater Fish and Fish Habitat (DFO File Referral No. 23-HCAA-01144), Section 5.1.1.4, SD-38.

III.5B.ii.b. Roads, Drains, Conduits, Berms and Utilities

168. The Steensby Railway will not require alternations to any existing roads, drains, berms, conduits, channels, or utility lines. The Steensby Railway also will not adjoin or intersect with any canals or man-made watercourses. As noted above, the Steensby Railway is located in an area with no current development except for the existing Mary River Project infrastructure – the entirety of the alignment outside of the existing Mine Site is on bare, undeveloped land.

III.5C. Operational Activities

169. The following is a description of the operations that will be undertaken by the Steensby Railway during the first year of operations and when operating at full capacity. Further detailed information about the operational activities of the Steensby Railway is available in SD-22.[203]

III.5C.i. Main Line Operations

170. The main line operations of the Steensby Railway will provide freight rail service between the Mary River Mine and the Steensby Port. The traffic on the Steensby Railway will predominantly consist of unit trains dedicated to iron ore transport, with some mixed general freight traffic transporting equipment and materials[204] required for the mining operation at the Mary River Mine.

171. The main line operations will include operation of four to five 110-car unit trains with two locomotives (one at each end of the train set). Specifically:

(a) The Steensby Railway main line operations will utilize specifically modified AC44 GE Tier-4 heavy-haul locomotives.[205] The locomotives will be powered with AC diesel generators and equipped with US EPA Tier 4 compliant diesel engines in accordance with the *Locomotive Emissions Regulations*, SOR/2017-121. In order to adapt the locomotives to the arctic environment, the locomotive engines will run continuously (including during the loading and unloading process) and will be equipped with specially adapted electronic control systems, supplementary fuel heaters, and other systems to protect the crew, engine and other systems from arctic temperatures and snow ingress.

(b) Baffinland will maintain a fleet of 462 gondola rail cars for use in the Steensby Railway's main line operations, each of which will carry approximately 105 metric tonnes of iron ore. A fully loaded train with 110 train cars will weigh up to 13,347 tonnes fully loaded and 2,890 tonnes empty with a net weight (ore) of 10,457 tonnes.

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[203] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 4, SD-22.

[204] For example, this would include spare parts for mine equipment, general provisions, and containers. This does not include transportation of passengers, fuel, or explosives during either construction or operation.

[205] The AC44 GE Tier-4 type locomotives are approximately 23 meters in length and approximately 196 tonnes in weight.

172. Furthermore, as a single-track railway line, the main line operations on the Steensby Railway will require three sidings that will be utilized as passing tracks for oncoming trains, as described in **paragraphs 137 to 138** above. The empty return train will stop in one of the passing sidings to wait for the next loaded train to pass on the main line or will be authorized to continue directly to the Mine River Mine if the next train has already passed or if another train is still being loaded at the Mine River Mine. The same principle will be applied to the loaded train heading to Steensby Port.

173. The Steensby Railway will see average train volumes of 6.5 round trips daily once railway operations reach full capacity (or 13 one-way transits). The overall length of each train will be between 999 meters and 1,094 meters.[206] The maximum operating speed for trains on the Steensby Railway will be 60 km/h, subject to temporary slow orders during the summer thaw period or when concentrations of migrating caribou may be in the area, as determined through Government of Nunavut, Baffinland and Inuit led monitoring and surveillance programs (e.g. real time radio telemetry tracking of collared caribou; visual observations from train operators, hi-rail monitors or height of land stations; thermal camera traps, etc.) .[207]

174. For ease of reference, the key main line operating specifications for the Steensby Railway are summarized in **Table 7**, below. Further information with respect to the Steensby Railway's main line operations is available in SD-22.[208]

Table 7: Main Line Operating Specifications for the Steensby Railway

Operational Item	First Year	Full Capacity
Number of Train Sets	4-5	4-5
Type of Locomotives	ES44AC EPA Tier-4 Type	ES44AC EPA Tier-4 Type
Number of Locomotives	10 total (2 per train)	10 total (2 per train)
Type of Rail Cars[209]	Gondola	Gondola
Rail Car Fleet Size	462 cars	462 cars
Rail Cars per Train	110 cars	100 cars
Train Length	1,094m	999m
Train Weight (Loaded)	13,347 metric tonnes	13,107 metric tonnes
Train Weight (Empty)	2,890 metric tonnes	2,660 metric tonnes
Daily Train Volumes	6.5 Round Trips	6.5 Round Trips
Maximum Operating Speed	60 km/hr	60 km/hr

[206] During the first year of operations, iron ore trains operating on the Steensby Railway will have 100 rail cars, for a total of length of 1,094 meters. Once the Steensby Railway reaches full capacity, the number of rail cars per train will decrease to 100, for a total train length of 999 meters. Further information is available at SD-22.

[207] The trains will travel at a maximum speed of 60km/h, and be subject to temporary slow orders over specific sections of the line during the summer thaw period, to account for the impact of the thaw on certain types of thaw-sensitive soils.

[208] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023), SD-22.

[209] Baffinland anticipates that it will also use ballast cars and/or flat cars for the purposes of its general freight traffic. However, the number of cars that will be acquired has not yet been confirmed.

175. The Steensby Railway will not require any public crossings or utility crossings. The only crossings which the railway may require will be crossings of private infrastructure owned by Baffinland and located at the Mary River Mine or the Steensby Port. Specifically, there will be one crossing at Steensby Port for access the landfill and landfarm. There will also be one maintenance of way crossing at each of the Mine Site and the Steensby Port, accessible only by railway maintenance personnel. As such, the mainline operations will not result in any blocked road crossings. For greater certainty, there are no public or private roads connecting communities anywhere in Nunavut, and no public or private roads connecting the communities to any part of the Mary River Project. There are also no connections between the Mary River Project and public utilities.

III.5C.ii. Railway Yard Operations

176. The main line operations of the Steensby Railway will be supported by railway terminal and repair yard facilities at the Mary River Mine and at the Steensby Port. Specifically:

(a) a railway terminal at the Mary River Mine which will include a train load-out silo for loading of iron ore, a track maintenance storage facility, and yard tracks for: (i) the loading and inspecting of ore trains, (ii) the unloading and switching of the general freight train, and (iii) providing access to the track maintenance storage facility (the **Mine Terminal**);

(b) a railway terminal at the Steensby Port which will include an ore-car unloading system,[210] a track maintenance storage facility, a train fueling and service station with two fuel stands, and yard tracks for: (i) unloading, inspecting and servicing the iron ore trains, (ii) storage of spare rolling stock, bad order cars, and maintenance of way equipment, and (iii) providing access to the railway maintenance facility and the Repair Yard, as defined below (the **Port Terminal**);[211] and

(c) a rolling stock and locomotive maintenance yard and related maintenance facilities at the Port Terminal (the **Repair Yard**). The facilities and infrastructure which will make up the Repair Yard include yard tracks, a maintenance workshop for rolling stock, storage facilities for track maintenance and repair operations, and management offices. The railway maintenance and repair yard operations which will take place within the Repair Yard are further described in **paragraphs 181 to 191**, below.

[210] The ore-car unloading system will utilize a rotary car dumper, which will be used to unload ore from the railcars at Steensby Port. Baffinland considered alternative unloading systems including a bottom-dump, helix dumper and conventional side-dump system. However, the rotary car dumper was the preferred option due to its proven use in cold climates, reduced freezing of the iron ore in the car, lesser maintenance requirements, and increased off-loading capabilities.

[211] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 14.6.1, SD-22.

177. Yard activities within the Repair Yard will be limited to the switching and/or turning of locomotives and railcars in and out of the rolling stock maintenance workshop and moving rolling stock around the Repair Yard, as required. These switching activities will be performed by a mechanized car mover, but may also be performed using locomotives if the mechanized car mover is occupied or out of service. Repair Yard switching will normally be performed between the hours of 6:00 am and 10:00 pm, but may be extended beyond those hours, if required.

178. Detailed information with respect to the Mine Terminal, Port Terminal, and Repair Yard including the yard track configurations, the buildings and other facilities within the yards, and the yard activities to be undertaken are available in SD-22[212] and SD-41.2.[213]

179. The Mine Terminal and the Port Terminal will be operated and maintained by Baffinland, whereas the Repair Yard will be operated and maintained by a qualified railway operator contracted by Baffinland (who will also operate the Steensby Railway main line).

180. As stated in this Background to the Application Brief at **Part 7, paragraph 293** below, Baffinland has committed to phasing out trucking and shipping of its iron ore along the Northern Transportation Corridor once the Steensby Railway reaches commercial transportation rates. Accordingly, once Steensby Railway is in operation there will be no iron ore haulage trucking to and from the Mary River Mine, including the Mine Terminal. In accordance with the 2012 FEIS, some infrequent trucking of general fright will occur via the Milne Tote Road from Milne Port to the Mary River Mine site throughout the life of the Mary River Project.

III.5C.iii. Railway Maintenance

181. The inspection and maintenance of the Steensby Railway and Baffinland's rolling stock will be completed by a qualified railway operator contracted by Baffinland, according to a rigorous schedule. As is detailed in the following paragraphs, this will include ongoing inspection and maintenance of the railway embankments, tracks, train control and communication equipment, wayside condition monitoring equipment, locomotives, and railcars.

182. The inspection and maintenance of the Steensby Railway will be completed in accordance with all applicable legal requirements and industry standards including, but not limited to, the requirements under the *Railway Safety Act* and its regulations.[214]

[212] Systra 2023 at 12 and 14, SD-22.

[213] Volume 3, Section. 2.5.2 and Fig. 3-2.9 of the 2012 FEIS, SD-41.22.

[214] Railway Safety Act, R.S.C., 1985, c. 32 (4th Supp.), including the Locomotive Emissions Regulations, SOR/2017-121, Prevention and Control of Fires on Line Works Regulations, SOR/2016-317, Railway Safety Applicant Standards Regulations, C.R.C., c. 1171, Railway Safety Management System Regulations, 2015, SOR/2015-26, Service Equipment Cars Regulations, SOR/86-922 and Transport Canada, "Rules Respecting Track Safety" (May 31, 2023), available online: <https://tc.canada.ca/en/rail-transportation/rules/2021-2022/rules-respecting-track-safety>.

183. Further specifics with respect to the railway maintenance and repair yard operations in connection with the Steensby Railway are set out in SD-22.[215]

III.5C.iii.a. Track Maintenance

184. The Steensby Railway embankments, tracks, train control and communication equipment, and wayside condition monitoring equipment will be subject to regularly scheduled inspections and maintenance including, but not limited to:

(a) regular track inspections and spot replacement of defective components and renewal of infrastructure;

(b) programmed maintenance over specific track segments, such as rail grinding and the replacement of worn or defective components on a designated track section; and

(c) general visual inspections, detailed safety inspections, and ultrasonic scanning for rail flaws and measurements of the track geometry.

185. As there will be no service road access along the length of the Steensby Railway corridor during the operations phase, inspection and maintenance activities will primarily use hi-rail trucks,[216] which will be stored at strategic refuge locations located approximately every 10 kms of the railway alignment.

186. Further specifics with respect to the proposed type, frequency, volume, duration, and scheduling of track maintenance activities are set out in SD-22.

III.5C.iii.b. Rolling Stock Maintenance

187. The maintenance and testing of Baffinland's rolling stock will primarily be performed at the Repair Yard at the Steensby Port, where most of the facilities and equipment required for maintenance and inspection of the rolling stock will be available. These facilities and equipment will include:

(a) the rolling stock maintenance workshop, which provides space for both locomotive and car repair, a car brake testing bay, and separate compressor rooms to house the compressors used in the brake testing bay and the remainder of the workshop;

(b) rail-mounted cranes to permit loading and offloading of materials for repair and maintenance;

(c) storage space for spare locomotives and rail cars;

(d) storage space for spare parts and components; and

(e) a run-off water collection treatment facility for the effluent generated inside the workshop area.

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[215] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 14, SD-22.

[216] Other maintenance equipment will include, for example, track surfacing equipment such as tampers and ballast regulators, rail flaw detectors and geometry measurement equipment, rail grinding equipment, and snow removal equipment.

188. The maintenance workshops and facilities within the Repair Yard will operate year-round. Maintenance work will normally be performed between the hours of 6:00 am and 10:00 pm, but may be extended beyond those hours if required.

189. In order to ensure their continued safety and optimal performance, Baffinland's locomotives will be subject to regular visual inspection at each crew change, as well as scheduled maintenance and testing activities on a 90-day, 180-day or 360-day schedule, as set out in **Table 8**, below. If any of these inspections identify an issue with any component of the locomotive, remedial action will be taken immediately to rectify and repair locomotives.

Table 8: Locomotive Maintenance and Testing Schedule

Period	Maintenance and Testing Activities
90-day Schedule	• Running Gear Inspection • Testing of Air Compressors • Cleaning Batteries • Replacing Lubricating Oil and Fuel Filters • Examining trucks (bogies)
180-day Schedule	• Inspection of crankcase components • Cleaning and inspection of radiator fan blades and fuel headers.
360-day Schedule	• Cleaning of the compressor intercooler • Testing of operation alarms and safety devices • Inspecting cooling systems, lubricating alternator and radiator fan bearings • Draining and refilling traction motor gear cases

190. Rail cars will be subject to the following maintenance and testing activities at the Repair Yard facilities:

(a) all rail cars in Baffinland's fleet will undergo routine detailed inspections and regularly scheduled brake testing and maintenance, including the replacement of brake hoses;

(b) all rail cars will also be subject to regularly scheduled inspection and maintenance of wheels and couplers at regular intervals based on distance travelled;

(c) the rail cars will also be visually inspected three times on each round-trip journey between the Mary River Mine and the Steensby Port—one visual inspection will occur after loading is complete at the Mine Terminal, and a second visual inspection will occur on the service track at the Mine Terminal, before the train enters the mainline track. The rail cars will also be visually inspected at the Departure Track at the Port Terminal before the train enters the mainline track;

(d) the rail cars will undergo a standing inspection every sixth round-trip; and

(e) emergency brake continuity tests will be regularly performed by the train crew and maintenance crews, during which a railcar mechanic together with the locomotive assistant will complete a drive-by inspection of the train to confirm that all brakes have been applied and, subsequently, released.

191. Further specifics with respect to the proposed type, frequency, volume, duration, and scheduling of rolling stock and locomotive maintenance and testing activities are set out in SD-22.[217]

[217] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at, SD-22.

Part 6: Railway Construction Activities

III.6A. Overview of the Railway Construction Phases

192. The following is a summary description of Baffinland's proposed line construction activities for the Steensby Railway's infrastructure. A comprehensive overview of Baffinland's proposed line construction activities is available in SD-21.

193. The construction of the Steensby Railway is scheduled to occur over a three-to-four-year period (depending on weather conditions and logistics) starting with construction of the required temporary construction facilities and works followed by the earthworks, water crossings, tunnel works and, finally, rail superstructure. More specifically, the construction of the Steensby Railway will consist of the following key phases.

III.6A.i. Construction of the Temporary Construction Facilities

194. In order to support the construction of the Steensby Railway, Baffinland will first construct the temporary facilities and works required for the construction. These temporary works and facilities are detailed in Section B, below.

III.6A.ii. Earthworks Construction Phase

195. Baffinland will then construct the earthworks required for the railway embankment, which will include the following activities:

(a) excavation and cutting through of soil and rock[218] along the railway alignment and for Tunnel #1 and Tunnel #2. Excavation will be completed using drilling and blasting. The excavated materials will be utilized as backfill for the railway alignment, and any excavated material not suitable for backfill will be disposed of at designated disposal sites including placement in windrows along the downstream side of the rail embankment where appropriate; and

(b) construction of the railway embankment (including the sub-grade and sub-ballast that will support the track superstructure).

196. Further detailed information about the earthworks construction methodologies and activities are available in SD-21.[219]

[218] One of the fundamental design criteria for the Steensby Railway is to reduce cuts in ice-rich soils to avoid inducing thermal changes that may cause thaw settlement. Some cuts will be required in Ice Poor Soils and approximately 9.4 km of the railway alignment will involve rock cuts. Further information is available in the Railway Construction Summary at SD-21.

[219] Railway Construction Summary, SD-21.

197. Construction of the bridges and culverts will proceed concurrently with the earthworks construction phase to permit the permanent bridge structures to be utilized during later construction phases:

(a) The construction of the bridges along the Steensby Railway alignment will include the following construction activities: installation of the piling required for the support of bridge steel structures; installation of the pile caps and spans, and completion of any other steel installations; filling of the abutments to finished grade (as and when required); and installation of wood decking and rail panels.[220]

(b) Construction of the culverts will include the following construction activities: surveying of each culvert location to determine intake and outflow elevations; installation of pumps to divert free running water from the culvert installation area, if required; installation of erosion and sediment control structures (e.g. silt fencing, etc.); excavation of trenches into the sub-grade; placement of granular material into the bedding zone; placement of the culvert into the embedment; and backfilling of the embedment using aggregate material.

198. Further detailed information about the construction methodologies and activities for the bridges and culverts are available in SD-22.[221]

III.6A.iii. Track Superstructure Construction Phase

199. Upon completion of the earthworks construction phase, construction of the track superstructure will then occur. The construction of the track infrastructure will include the following construction activities: laying out, positioning and welding the railway track and railway ties along the railway embankment; setting and fastening of the running rails and railway ties along the railway embankment; flooding the running rails and ties along the railway embankment using stone aggregate (ballast); and final alignment, compaction and stabilization through track tamping.

III.6A.iv. Construction of Railway Related Facilities

200. Finally, Baffinland will construct the railway related facilities located at the Mary River Mine and the Steensby Port, including the maintenance workshops, equipment facilities and management offices described above.

201. As part of the larger Mary River Project, Baffinland will also construct port infrastructure at the Steensby Port and additional mining infrastructure at the Mary River Mine. The port and mining infrastructure is part of the larger Mary River Project and is not part of the Steensby Railway. It is, therefore, not within the scope of this Application.

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[220] The bridges have been designed to be modular using pre-assembled steel spans of 30, 15 or 12 meters in length. This standardization will minimize variance and simplify pre-assembly and construction activities. The modular bridge spans will be pre-assembled and delivered to either the Steensby Port or the Milne Port, and then transported via the winter access road to the site of the laydown at each bridge location.

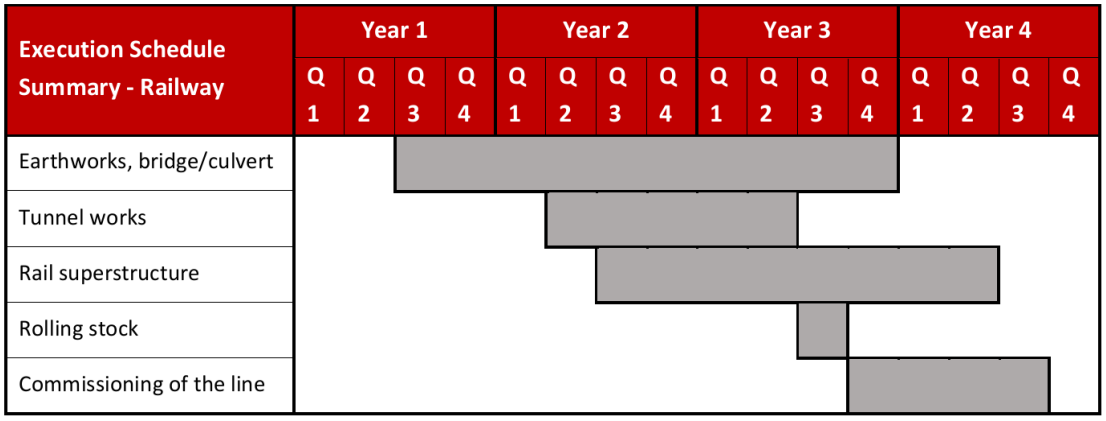
[221] Railway Construction Summary, SD-22.

III.6A.v. Construction Sequencing and Schedule

202. Construction of the Steensby Railway will not commence until such time that Baffinland obtains all necessary authorizations from the Agency and Transport Canada.[222] Once construction of the Steensby Railway is permitted to commence, Baffinland intends to begin construction at the Mary River Mine and at the Steensby Port, concurrently. Construction will then generally progress south from the Mary River Mine and north from the Steensby Port towards the mid-point of the railway.

203. Baffinland's proposed schedule for the construction and commissioning of the Steensby Railway, including construction of the required temporary facilities (as described in **paragraphs 205 to 214**, below) and related infrastructure at the Mary River Mine and Steensby Port, is set out in **Figure 17** below. Further information with respect to the proposed construction sequencing and management is available in **SD-21 and SD-29**.[223]

Figure 17: Execution Schedule Summary – Steensby Railway



204. Baffinland is planning to receive delivery of its rolling stock in Q3 of Year 3 of the construction of the Steensby Railway, and to commission the Steensby Railway commencing in Q4 of Year 3 to permit the rolling stock to travel from the yard at the Steensby Port to the South Cockburn Camp (described at paragraph 205, below) at KP 120 of the Steensby Railway, for testing purposes.

III.6B. Temporary Facilities and Construction Compounds

205. Construction of the Steensby Railway will be supported by seven temporary compounds (the **Construction Compounds**) which will include worker accommodations and/or facilities (for example, water storage, sewage treatment, waste management and communications facilities), equipment storage, equipment maintenance facilities, fuel storage, emergency response trailers, and a temporary air strip for worker transportation.

206. The Construction Compounds will be located at various points along the railway right of way, as set out in **Table 9** below, in order to minimize travel between work fronts and maximize construction efficiencies.

[222] Construction is also dependent on financing and a construction decision by the Company.

[223] Steensby Construction Execution Schedule, SD-29.

Table 9: Construction Compounds

Compound	Location	Facility	Accommodation Capacity	Fuel Storage Liters
Ravn River Camp	KP 30	Temporary Camp	200	200,000
Mid-Rail Camp	KP 55	Temporary Camp	320	5,000,000
KP 81.6 Maintenance Depot	KP 81.6	Maintenance Depot	N/A	6,000,000
N. Cockburn Camp	KP 105	Temporary Camp	250	9,500,000
S. Cockburn Camp	KP 120	Temporary Camp	360	9,000,000
KP 130 Maintenance Depot	KP 130	Maintenance Depot	N/A	600,000
Steensby Construction Camp	-	Temporary Camp	150	N/A

207. The Construction Compounds will be accessible via the winter access road described in **paragraphs 218 to 219**, below. The Construction Compounds will also be serviced with small aircraft (Twin Otter type) until the winter road is completed.

III.6B.i. Facilities for Constructions Crews

208. Each of the Construction Compounds will include facilities for the construction crews including modular accommodation units, washroom facilities, and camp facilities such as kitchen facilities, food storage, dining facilities, and recreational facilities. The facilities for the construction crews will also include modular construction and Engineering, Procurement and Construction Management offices at each of the Construction Compounds.

209. Further information with respect to the crew facilities at the Construction Compound is available in SD-21.[224]

III.6B.ii. Waste Management Facilities

210. Each of the Construction Compounds (except the Maintenance Depots at KP 81.6 and KP 130)[225] will also include the following waste management facilities:[226]

(a) a sewage treatment plant including a disposal field; and

(b) an incinerator which will be used to dispose of non-hazardous and combustible waste generated at the Construction Compound.

[224] Railway Construction Summary, SD-21.

[225] Waste from the Maintenance Depots will be hauled to the nearest Construction Compound for treatment or disposal.

[226] Note that no sewage treatment plant and incinerator are planned for the maintenance depot at KP81.6 and KP130 in the project execution plan. Waste will be hauled to the closest compound with waste management facility.

211. Any non-combustible construction waste generated at the Construction Compounds (including recyclables and inert materials) will be collected and stored in containers, and then transported to either the Steensby Port or the Mary River Mine for recycling or delivery to landfill,[227] as the case may be.

212. Any hazardous waste generated at the Construction Compounds will be collected and stored in appropriate on-site storage containers. The hazardous waste will then be transferred to the hazardous waste storage facility at the Mary River Mine or at Steensby Port via winter road (not rail), before being shipped off-site for disposal at a licensed facility. Handling, storage and transportation of all hazardous waste will be conducted in accordance with the *Transportation of Dangerous Goods Regulations*, SOR/2001-286.

213. Further information with respect to Baffinland's waste management plan for the construction of the Steensby Railway is available in SD-22.[228]

III.6B.iii. Other Facilities

214. The Construction Compounds will also include the storage, staging and other facilities detailed in SD-21.[229] These will include, for example, fuel storage, explosives storage, non-potable water storage, diesel generators, water treatment facilities, maintenance facilities, emergency equipment storage, and laydowns. All storage will follow all applicable laws (for example, NWSRTA, the *Explosives Act*, R.S.C. 1985, c. E-17, and its regulations and the territorial Explosives Use Regulations).

III.6C. Storage, Staging and Disposal Facilities

215. In addition to the equipment and construction material storage within the Construction Compounds, the construction activities for the Steensby Railway will also include an estimated 76 temporary laydown areas along the railway right of way to temporarily store construction and other non-hazardous materials, including:

(a) one laydown area at the location of each bridge, each 50 m x 50 m in size, for a total estimate of 42 laydown areas;

(b) one laydown area at the portal of each of the two tunnels, each 50 m x 50 m in size, for a total estimate of two laydown areas;

(c) one laydown area for rail welding activities located at each of the Mary River Mine and the Steensby Port, each 762 m x 46 m in size, for a total estimate of two laydown areas; and

[227] As part of the larger Mary River Project, the Steensby Port will include a landfill for disposal of waste during the construction and operation phases of the Steensby Railway. Landfills are approved components of the Mary River Project under the Project Certificate and Type A Water Licence.

[228] Railway Construction Summary, SD-21.

[229] Ibid.

(d) one laydown area for storage of track superstructure components (including, for example, rail, track materials and ballast) placed approximately every five kilometres along the railway, each 50 m x 50 m in size, for a total estimate of approximately 30 laydown areas.

216. The laydown areas will be constructed using blasted rock with granular topping sourced from the quarries described in **paragraphs 220-222**, below.

217. As set out in **paragraph 195(a)**, above, excavated material from the earthworks will be utilized as fill for the construction of the railway embankment. Excavated materials which are not suitable for reuse in the railway embankment will be disposed of or contained through the following facilities:

(a) unsuitable material from cuts along the railway alignment will be placed in shaped berms or used to fill lower lying areas along the railway alignment;[230] and

(b) in order to prevent runoff of sediment laden water into nearby watercourses, soil spoils will be disposed of at a location that is more than 31 meters from any surface water body as determined and approved by a qualified and designated engineer.

III.6D. Temporary Works

III.6D.i. Winter Access Road

218. During the first year of the Steensby Railway construction, Baffinland will construct a winter access road beginning at the Mine River Mine south to KP 90, and from the Steensby Port north to KP 100. During the second year of the Steensby Railway construction, Baffinland will construct a second contingency winter road from KP 30 to KP 90. Additional winter roads will be required at the end of construction to decommission the temporary railway construction camps.

219. The winter roads will be utilized during the construction phase of the Steensby Railway to move facilities, equipment, personnel, fuel, and explosives to each of the Construction Compounds along the rail alignment. The winter roads will be decommissioned following completion of railway construction. Winter road decommissioning activities include restoring natural drainage where needed, recovery of materials along alignment (if placement is needed to increase traction on ice), and removal of snow fencing or other temporary equipment.

[230] Further information with respect to the cuts and fills along the railway alignment is presented in SD-24.

III.6D.ii. Quarries

220. Baffinland will utilize approximately 19 quarries along the Steensby Railway alignment in order to source rock fill and aggregate for the construction of the Steensby Railway (the "**Quarries"**). The location of each of these quarries has been approved under the Project Certificate, and are shown in SD-24

221. The Quarries will provide an estimated 7,000,000 m^3 of rock fill for construction of the railway embankment, and an additional 400,000 m3 of rock ballast for the construction of the railway track. These figures exclude any fill material excavated and reused during the earthworks construction.

222. During the construction of the Steensby Railway, the quarries will include various ditches, diversions and ponds (as required), which are detailed in their respective "Quarry Plans" at SD-24.

III.6D.iii. Dykes, Berms, Pumps, and Shoring

223. The Steensby Railway construction may include construction of gravel berms as an erosion and sediment control measure. Pumps may also be used to withdraw water for winter road construction, for dust suppression, and to divert water at culvert installation areas if minor water control is required. The construction of the Steensby Railway will not require dykes or shoring.

III.6E. Security Facilities

224. The Mary River Project area is a remote location with few visitors. Baffinland has a system in place to manage visitors to the Mary River Mine site, including orientations to ensure safety to both visiting individuals and workers. Land users that access the site for food and gas are asked to follow established sign-in procedures in accordance with the Hunter and Visitor Site Access Procedure.[231] These site security systems will be extended to the Steensby Railway areas, and the Hunter and Visitor Site Access Procedure will be updated and community to localities in advance of railway construction.[232]

225. Generally, construction fencing is not used to secure areas of the Mary River Project due to its location in a remote and unpopulated area, and because wildlife may become entangled in fencing. For example, fencing will not be installed along the Steensby Railway as it is intended for caribou and other wildlife to be able to cross the railway in as many areas as possible, in order to address the localities interests in avoiding disruption to wildlife migration patterns.

[231] Hunter and Visitor Site Access Procedure, BAF-PH1-PRO-0002, SD-79.

[232] Ibid.

III.6F. Pile Driving

226. Piling activities will take place at the location of each of the bridges identified above. The pilings are each one meter in diameter and will be rock socketed and grouted into the bed rock.

227. In order to minimize work within the watercourses, Baffinland's construction team will utilize five piling crews to install piles at the bridge locations. Piling will primarily take place during the winter season when the watercourses are frozen over, in order to minimize in water work, starting first with the multi-span bridges.

228. Further information with respect to piling activities for the construction of the Steensby Railway is available in SD-22.[233]

III.6G. Blasting Activities

229. Drilling and blasting operations will be required for: (i) excavation of the quarries, and (ii) for cutting along various areas of the railway embankment, including for Tunnel #1 and Tunnel #2.

230. The effects of blasting will be managed and addressed through appropriate blasting plans to be completed prior to construction, in accordance with all federal requirements and approvals including the Project Certificate.

231. The explosives used for the construction of the Steensby Railway will be produced by the existing emulsion plant at the Mary River Mine and an emulsion plant that will be established at the Steensby Port. The emulsion plants will produce packaged emulsion for the railway embankment construction.

232. There will be six explosive storage locations along the rail alignment, at the locations set out in **Table 10**, below.

Table 10: Explosive Storage Locations

Description of Facility	Location Along Rail Alignment
Steensby	Steensby Port
Ravn Compound	KP 30
Mid Rail Compound	KP 55
KP 89.5 Compound	KP 89
North Cockburn Compound	KP 105
South Cockburn Compound New	KP 120
KP 130 Compound	KP 130

[233] *Systra Canada,* "Railway Brief Design: Tender Phase, Prepared for Baffinland Iron Mines Corporation" (September 27, 2023) at Section 8.6, SD-22.

III.6H. Other Construction Activities

233. Due to the remote location of the Steensby Railway, the construction of the Steensby Railway will not require traffic diversion/ management plans or truck haul routes.

III.6I. Baffinland's Health, Safety and Environment Management Framework

234. The construction of the Steensby Railway will be subject to Baffinland's "Health, Safety and Environment Management Framework" (the **HSE Management Framework**). The HSE Management Framework sets out the policies, practices and procedures applicable to all Baffinland employees, contractors and sub-contractors in order to prevent occupational injury or illness and mitigate potential environmental impacts.

235. The list of policies, plans and procedures included in the HSE Management Framework is provided in **Table 11**. The relevant policies and plans can be found at SD-27 to this Application.[234]

Table 11: List of Policies, Plans and Procedures included in the HSE Management Framework

Historic Reference No.	Current (New) Reference No.	Current Revision	Policy / Plan / Standard / Procedure /Guideline	Current Revision Date
Polices				
BAF-PH1-800-POL-0001	BIM-5000-POL-0001	2	Health, Safety and Environment Policy	April 20, 2022
BAF-PH1-810-POL-0001	BIM-5300-POL-0001	1	Weapons on Site Policy	January 18, 2019
BAF-PH1-810-POL-0002	BIM-5100-POL-0001	2	Jewelry Policy	July 6, 2022
BAF-PH1-810-POL-0003	BIM-5000-POL-0002	1	Mandatory Glove Wearing Policy	July 6, 2022
BAF-PH1-820-POL-0003	-	2	Emergency Response Team Compensation Policy	January 26, 2021
BAF-PH1-700-POL-0012	-	1	Substance Abuse Prevention Policy	April 1, 2017
Plans				
BAF-PH1-830-P16-0013	BIM-5200-PLA-0028	9	Oil Pollution Emergency Plan[235]	May 24, 2022
BAF-PH1-830-P16-0036	BIM-5200-PLA-0012	6	Spill Contingency Plan[236]	February 28, 2021

[234] Environmental Management Plans, SD-27.

[235] Oil Pollution Emergency Plan, Mary River Project Environment Management Plans, SD-27.7.

[236] Spill Contingency Plan, Mary River Project Environment Management Plans, SD-27.55.

Historic Reference No.	Current (New) Reference No.	Current Revision	Policy / Plan / Standard / Procedure /Guideline	Current Revision Date
BAF-PH1-830-P16-0041	BIM-5100-PLA-0003	1	Polar Bear Safety Plan[237]	March 7, 2016
Not assigned	Not assigned	0	Adaptive Management Plan[238]	May 15, 2023
Not assigned	Not assigned	0	Socio-economic Management Plan[239]	May 15, 2023
BAF-PH1-840-P16-0001	BIM-5000-PLA-0004	2	Crisis Management Plan[240]	January 22, 2019
BAF-PH1-840-P16-0002	BIM-5000-PLA-0005	5	Emergency Response Plan	December 8, 2020
BAF-PH1-830-P16-0042	BIM-5000-PLA-0006	0	Spill at Sea Response Plan (SSRP)	August 15, 2015
BAF-PH1-310-P16-0001	BIM-5100-PLA-0004	15	Milne Inlet Marine Facility Security Plan	September 1, 2022
BAF-PH1-830-P16-0006	BIM-5200-PLA-0002	3	Cultural Heritage Resource Protection Plan[241]	March 7, 2016
BAF-PH1-830-P16-0008	BIM-5200-PLA-0003	2	Environmental Protection Plan[242]	April 30, 2021
BAF-PH1-830-P16-0001	BIM-5200-PLA-0004	7	Sampling Program - QAQC Plan[243]	March 31, 2024
BAF-PH1-830-P16-0002	BIM-5200-PLA-0005	8	Air Quality and Noise Abatement Management Plan[244]	April 30, 2021
BAF-PH1-300-P16-0002	BIM-5200-PLA-0006	7	Snow Management Plan[245]	March 31, 2024

[237] Polar Bear Safety Plan, Mary River Project Environment Management Plans, SD-27.14.

[238] Adaptive Management Plan, Mary River Project Environment Management Plans, SD-27.76.

[239] Socio-Economic Management Plan, Mary River Project Environment Management Plans, SD-27.75.

[240] Crisis Management Plan, Mary River Project Environment Management Plans, SD-27.8.

[241] Cultural Heritage Resource Protection Plan, Mary River Project Environment Management Plans, SD-27.45.

[242] Environmental Protection Plan, Mary River Project Environment Management Plans, SD-27.

[243] Sampling Program – QAQC Plan, Mary River Project Environment Management Plans, SD-27.46.

[244] Air Quality and Noise Abatement Management Plan, Mary River Project Environment Management Plans, SD-27.47.

[245] Snow Management Plan, Mary River Project Environment Management Plans, SD-27.48.

Historic Reference No.	Current (New) Reference No.	Current Revision	Policy / Plan / Standard / Procedure /Guideline	Current Revision Date
BAF-PH1-830-P16-0011	BIM-5200-PLA-0007	7	Hazardous Materials and Hazardous Waste Management Plan[246]	30-Apr-2024
BAF-PH1-830-P16-0026	BIM-5200-PLA-0009	7	Surface Water and Aquatic Ecosystem Management Plan[247]	March 31, 2021
BAF-PH1-830-P16-0027	BIM-5200-PLA-0010	1	Terrestrial Environment Mitigation and Monitoring Plan[248]	March 14, 2016
BAF-PH1-830-P16-0048	BIM-5200-PLA-0011	0	Milne Inlet Tote Road Quarry Borrow Source Plan[249]	March 7, 2019
BAF-PH1-830-P16-0028	BIM-5200-PLA-0013	10	Waste Management Plan[250]	30-Apr-2024
BAF-PH1-830-P16-0050	BIM-5200-PLA-0014	1	Ballast Water Management Plan	March 31, 2019
BAF-PH1-830-P16-0058	BIM-5200-PLA-0015	3	Oil Pollution Prevention Plan (OPPP)	May 18, 2023
BAF-PH1-830-P16-0046	BIM-5200-PLA-0016	0	Marine Monitoring Plan	March 17, 2016
BAF-PH1-830-P16-0056	BIM-5200-PLA-0017	0	Diesel E2 Plan - Milne Port	February 22, 2020
BAF-PH1-830-P16-0024	BIM-5200-PLA-0018	9	Shipping and Marine Wildlife Management Plan	July 19, 2022
BAF-PH1-830-P16-0057	BIM-5200-PLA-0019	0	Diesel E2 Plan - Mary River[251]	February 22, 2020
BAF-PH1-830-P16-0038	BIM-5200-PLA-0020	1	Exploration Closure and Reclamation Plan[252]	July 2, 2014
BAF-PH1-830-P16-0037	BIM-5200-PLA-0021	0	Exploration Spill Contingency Plan[253]	June 20, 2014

[246] Hazardous Materials and Hazardous Waste Management Plan , Mary River Project Environment Management Plans, SD-27.50.

[247] Surface Water and Aquatic Ecosystem Management Plan , Mary River Project Environment Management Plans, SD-27.52.

[248] Terrestrial Environment Mitigation and Monitoring Plan , Mary River Project Environment Management Plans, SD-27.53

[249] Milne Inlet Tote Road Quarry Borrow Source Plan , Mary River Project Environment Management Plans, SD-27.54

[250] Waste Management Plan , Mary River Project Environment Management Plans, SD-27.56.

[251] Diesel E2 Plan - Mary River , Mary River Project Environment Management Plans, SD-27.61.

[252] Exploration Closure and Reclamation Plan , Mary River Project Environment Management Plans, SD-27.62.

[253] Exploration Spill Contingency Plan , Mary River Project Environment Management Plans, SD-27.63.

Historic Reference No.	Current (New) Reference No.	Current Revision	Policy / Plan / Standard / Procedure /Guideline	Current Revision Date
BAF-PH1-830-P16-0010	BIM-5200-PLA-0022	11	Fresh Water Supply, Sewage, and Wastewater Management Plan[254]	30-Apr-2024
BAF-PH1-830-P16-0039	BIM-5200-PLA-0023	2	Aquatic Effects Monitoring Plan[255]	March 31, 2024
BAF-PH1-830-P16-0004	BIM-5200-PLA-0025	0	Borrow Pit and Quarry Management Plan[256]	March 20, 2014
BAF-PH1-830-P16-0012	BIM-5200-PLA-0026	5	Interim Closure and Reclamation Plan[257]	October 30, 2018
BAF-PH1-830-P16-0023	BIM-5200-PLA-0027	7	Roads Management Plan[258]	March 31, 2019
BAF-PH1-830-P16-0029	BIM-5200-PLA-0029	4	Phase 1 Waste Rock Management Plan[259]	March 31, 2024
BAF-PH1-830-P16-0031	BIM-5200-PLA-0030	0	Life-of-Mine Waste Rock Management Plan[260]	April 30, 2014
Procedures				
BAF-PH1-320-PRO-0031	BIM-5300-SOP-0001	1	Fire Arms/ Ammunition Control Procedure	September 10, 2019
BAF-PH1-370-PRO-0001	-	0	Working on Ice Procedure	April 11, 2017
BAF-PH1-810-PRO-0001	BIM-5100-SOP-0005	7	Whiteout And Windstorm Conditions Procedure	March 29, 2024
BAF-PH1-810-PRO-0003	BIM-5300-SOP-0011	1	Drug and Alcohol Search Procedure	January 6, 2014
BAF-PH1-810-PRO-0010	BIM-5100-SOP-0021	4	Incident Investigation and Reporting Procedure	November 15, 2021
BAF-PH1-810-PRO-0004	BIM-5100-SOP-0007	0	Injury / Illness Classification	January 14, 2014

[254] Fresh Water Supply, Sewage, and Wastewater Management Plan, Mary River Project Environment Management Plans, SD-27.64

[255] Aquatic Effects Monitoring Plan , Mary River Project Environment Management Plans, SD-27.65.

[256] Borrow Pit and Quarry Management Plan, Mary River Project Environment Management Plans, SD-27.66.

[257] Interim Closure and Reclamation Plan, Mary River Project Environment Management Plans, SD-27.67.

[258] Roads Management Plan, Mary River Project Environment Management Plans, SD-27-68.

[259] Phase 1 Waste Rock Management Plan, Mary River Project Environment Management Plans, SD-27.70.

[260] Life-of-Mine Waste Rock Management Plan, Mary River Project Environment Management Plans, SD-27.71.

Historic Reference No.	Current (New) Reference No.	Current Revision	Policy / Plan / Standard / Procedure /Guideline	Current Revision Date
BAF-PH1-810-PRO-0005	BIM-5100-SOP-0006	7	Reporting Code 1 Emergencies Procedure	May 12, 2022
BAF-PH1-810-PRO-0007	BIM-5100-SOP-0037	2	Barricading Procedure	March 4, 2022
BAF-PH1-810-PRO-0008	BIM-5100-SOP-0008	2	Manual Lifting Procedure	September 15, 2019
BAF-PH1-810-PRO-0010	BIM-5100-SOP-0021	4	Incident Investigation and Reporting Procedure	November 15, 2021
BAF-PH1-810-PRO-0011	BIM-5100-SOP-0011	0	Confined Space Entry Procedure	February 10, 2014
BAF-PH1-810-PRO-0013	BIM-5100-SOP-0013	2	Security Fire Alarm Response Procedure	January 23, 2021
BAF-PH1-810-PRO-0014	BIM-5100-SOP-0012	0	All-Terrain Vehicle and Snowmobile Procedure	July 7, 2014
BAF-PH1-810-PRO-0016	BIM-5100-SOP-0014	4	Job Hazard Analysis Procedure	May 12, 2022
BAF-PH1-810-PRO-0018	BIM-5100-SOP-0018	0	Working Alone Procedure	February 26, 2015
BAF-PH1-810-PRO-0020	BIM-5100-SOP-0039	1	Hot Work - Welding, Cutting And Burning Procedure	July 7, 2022
BAF-PH1-810-PRO-0021	BIM-5100-SOP-0016	2	Fire Protection Impairment Notification Procedure	January 23, 2021
BAF-PH1-810-PRO-0022	BIM-5100-SOP-0017	2	Emergency Response Team and Management Team Call Out	January 25, 2021
BAF-PH1-810-PRO-0023	BIM-5100-SOP-0015	3	Prescription Safety Eyewear Reimbursement Procedure	August 20, 2022
BAF-PH1-810-PRO-0029	BIM-5100-SOP-0023	5	Lock Out Tag Out Isolation Procedure	January 7, 2020
BAF-PH1-810-PRO-0030	BIM-5100-SOP-0025	0	Portable Ladders Procedure	October 26, 2015
BAF-PH1-810-PRO-0032	BIM-5100-SOP-0024	2	Footwear Traction Aids Procedure	October 9, 2019
BAF-PH1-810-PRO-0034	BIM-5100-SOP-0028	0	Incident Reporting Procedure	December 22, 2015
BAF-PH1-810-PRO-0038	BIM-5100-SOP-0027	0	Workplace Injury Tracking and Follow-up Procedure	July 25, 2016

Historic Reference No.	Current (New) Reference No.	Current Revision	Policy / Plan / Standard / Procedure /Guideline	Current Revision Date
BAF-PH1-810-PRO-0039	BIM-5100-SOP-0029	0	Incident Classification Procedure	July 25, 2016
BAF-PH1-810-PRO-0040	BIM-5100-SOP-0030	1	Shipping Container Fires Procedure	January 22, 2019
BAF-PH1-810-PRO-0041	-	0	PPE Consumption Tracking Procedure	October 11, 2017
BAF-PH1-810-PRO-0043	BIM-5100-SOP-0032	1	Heavy Equipment Tire Emergency Procedure	January 22, 2019
BAF-PH1-810-PRO-0044	BIM-5100-SOP-0031	0	Scaffolding Procedure	December 2, 2019
BAF-PH1-810-PRO-0045	BIM-5100-SOP-0033	0	Tool Usage Procedure	December 10, 2019
BAF-PH1-810-PRO-0046	BIM-5100-SOP-0034	0	Light Vehicle Procedure	December 10, 2019
BAF-PH1-810-PRO-0053	-	2	COVID-19 Pandemic Procedure	June 6, 2020
Standards				
BAF-PH1-810-STD-0001	-	0	FPS6 – Vehicles and Driving	November 5, 2013
BAF-PH1-810-STD-0006	BIM-5100-STA-0003	2	Working at Heights Standard	July 19, 2016
BAF-PH1-810-STD-007	BIM-5100-STA-0002	3	Cranes and Lifting Standard	June 18, 2019
BAF-PH1-810-STD-0008	BIM-5100-STA-0004	1	Personal Protective Equipment Standard	December 11, 2019
Guidelines				
-	BIM-5100-GUI-0001	3	Responding to Tank Farm Fire Emergencies Guideline	October 31, 2023

Part 7: Environmental Assessment and Other Regulatory Approvals of Steensby Railway

237. As outlined in **Part 2** of this Background to the Application Brief, the Mary River Project, including the Steensby Railway, has been subject to several environmental assessments by NIRB, resulting in a Project Certificate[261] that includes terms and conditions that are generally applicable to the Mary River Project, with specific terms and conditions applicable to the Steensby Railway. Since the Project Certificate was issued in 2012, Baffinland has also completed comprehensive annual monitoring of the Mary River Project area, which is summarized in Baffinland's annual reports to NIRB.

238. In this **Part 7** of this Background to the Application Brief, Baffinland provides the Agency with an overview of the extensive engagement that has occurred via the regulatory processes in relation to the Mary River Project and the Steensby Railway, additional information relevant to this topic collected since 2012, and further contextual information.

III.7A. Environmental Assessment of the Steensby Railway

III.7A.i. Jurisdiction of the NIRB to Carry Out Assessments of Projects Located in the Nunavut Settlement Area

239. As set out in Article 12 of the Nunavut Agreement, NIRB is responsible for assessing the extent of the potential environmental and socio-economic effects of project proposals in order to determine whether the project should proceed, and if so, to recommend the terms and conditions that should apply to the project. [262] NIRB is made up of appointees nominated by NTI, Canada and Nunavut.[263]

240. The NIRB environmental assessment process meets or exceeds the standards established by the Impact Assessment Agency of Canada (**IAA**) and under the federal *Impact Assessment Act*. The NIRB review process is similar in nature to a panel review by the IAA (this is the process that was followed for the NIRB's assessment of the Mary River Project proposal). The primary functions of the NIRB are to:

(a) screen project proposals in order to determine whether or not a review is required;

(b) gauge and define the extent of the regional impacts of a project, with such definition to be taken into account by the Minister in making his or her determination as to the regional interest;

(c) review the ecosystemic and socio-economic impacts of project proposals;

(d) determine, on the basis of its review, whether a project proposal should proceed and, if so, under what terms and conditions; and

(e) monitor project effects and implementation of terms and conditions.[264]

[261] See SD-31.

[262] Nunavut Agreement, Article 2.2.1.

[263] Nunavut Agreement, Section 12.2.6, "Membership and Mode of Appointment"

[264] Nunavut Agreement, Section 12.2.2, "Functions"

241. In carrying out its functions, Section 12.5.5 of the Nunavut Agreement requires NIRB to consider all matters relevant to its objectives and mandate. The primary objectives of NIRB are to, at all times, (i) protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and (ii) protect the ecosystemic integrity of the Nunavut Settlement Area.[265] In doing so, NIRB is also required to take into account the well-being of residents of Canada outside of the Nunavut Settlement Area.[266]

242. As part of its process, NIRB requires proponents to prepare a comprehensive environmental impact statement (**EIS**) that forms the basis for the NIRB's assessment, based on project-specific guidelines that are developed though months of engagement with Inuit, Inuit organizations, federal and territorial authorities with jurisdiction over the proposal, and non-governmental organizations. The steps undertaken by NIRB to develop the guidelines for the Mary River Project EIS are described more fully in **Figure 18** and **Table 12** below.

243. In order to reach a recommendation on the Mary River Project, NIRB conducted a thorough review of the Mary River Project proposal—guided by its central objectives of protecting and promoting the existing and future well-being of the residents and communities of Nunavut, and of protecting Nunavut's ecosystemic integrity—as required under Section 12.5.5 of the Nunavut Agreement. NIRB issued its Recommendation Report to the Minister in September 2012 and the Project Certificate was issued to Baffinland on December 28, 2012.[267]

244. The mandate of NIRB does not include the establishment of requirements for socio-economic benefits (though the NIRB is permitted to make recommendations on such matters). However, the formal establishment of benefits to Inuit arising from the Mary River Project is required by Article 26 of the Nunavut Agreement.[268] An IIBA has been negotiated for the Mary River Project, including the Steensby Railway.[269]

245. The Project Certificate is legally binding. Under NuPPAA, the Minister of Crown Indigenous Relations and Northern Affairs Canada (**CIRNAC**) has authority to take enforcement action, including issuing orders and fines, should Baffinland fail to follow the terms and conditions of the Project Certificate. Regulatory authorities are also required to incorporate relevant terms and conditions in their operational approvals issued to proceed with the Project.

[265] Nunavut Agreement, Section 12.2.5 "Primary Objectives"

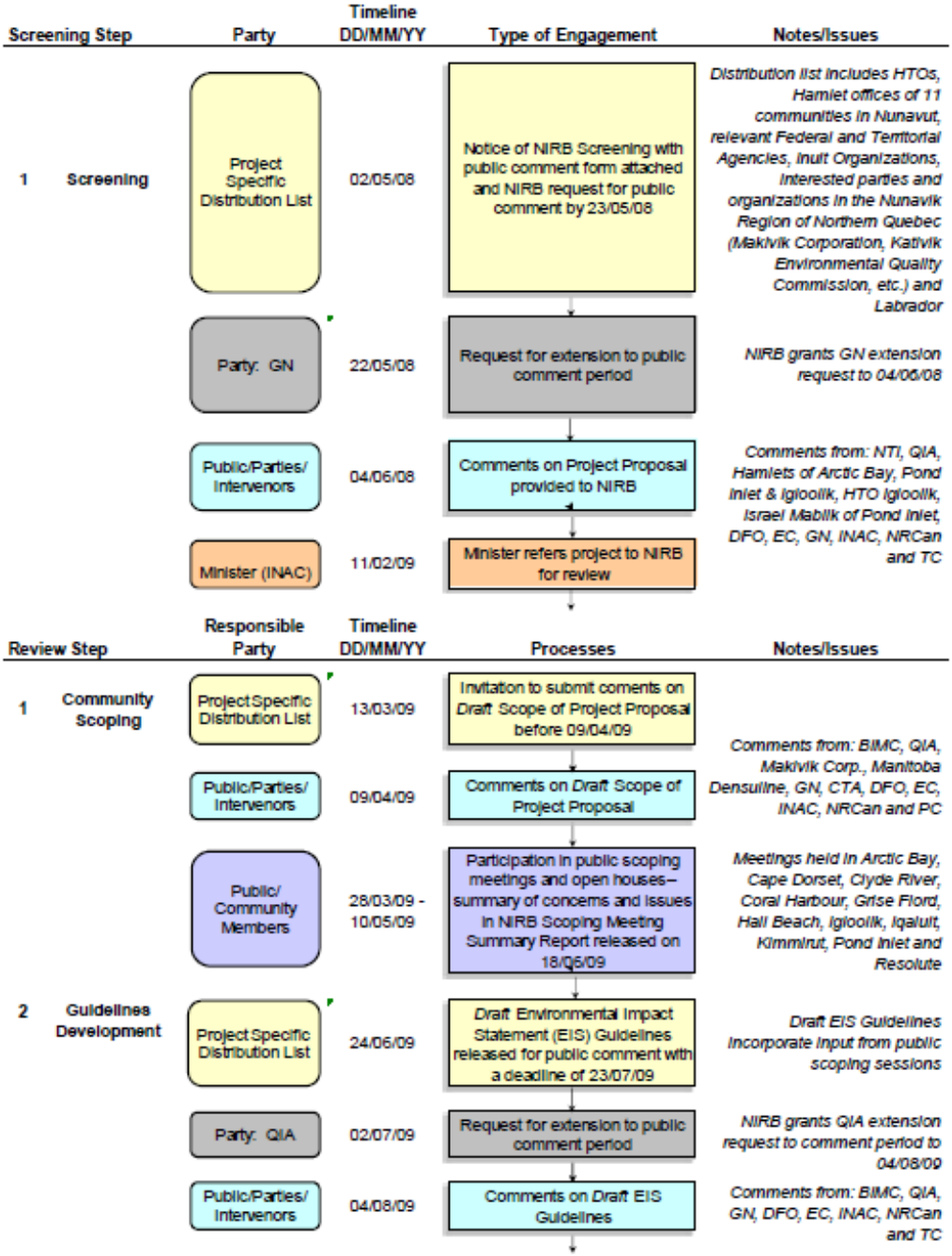
[266] Nunavut Agreement, Section 12.2.5 "Primary Objectives"

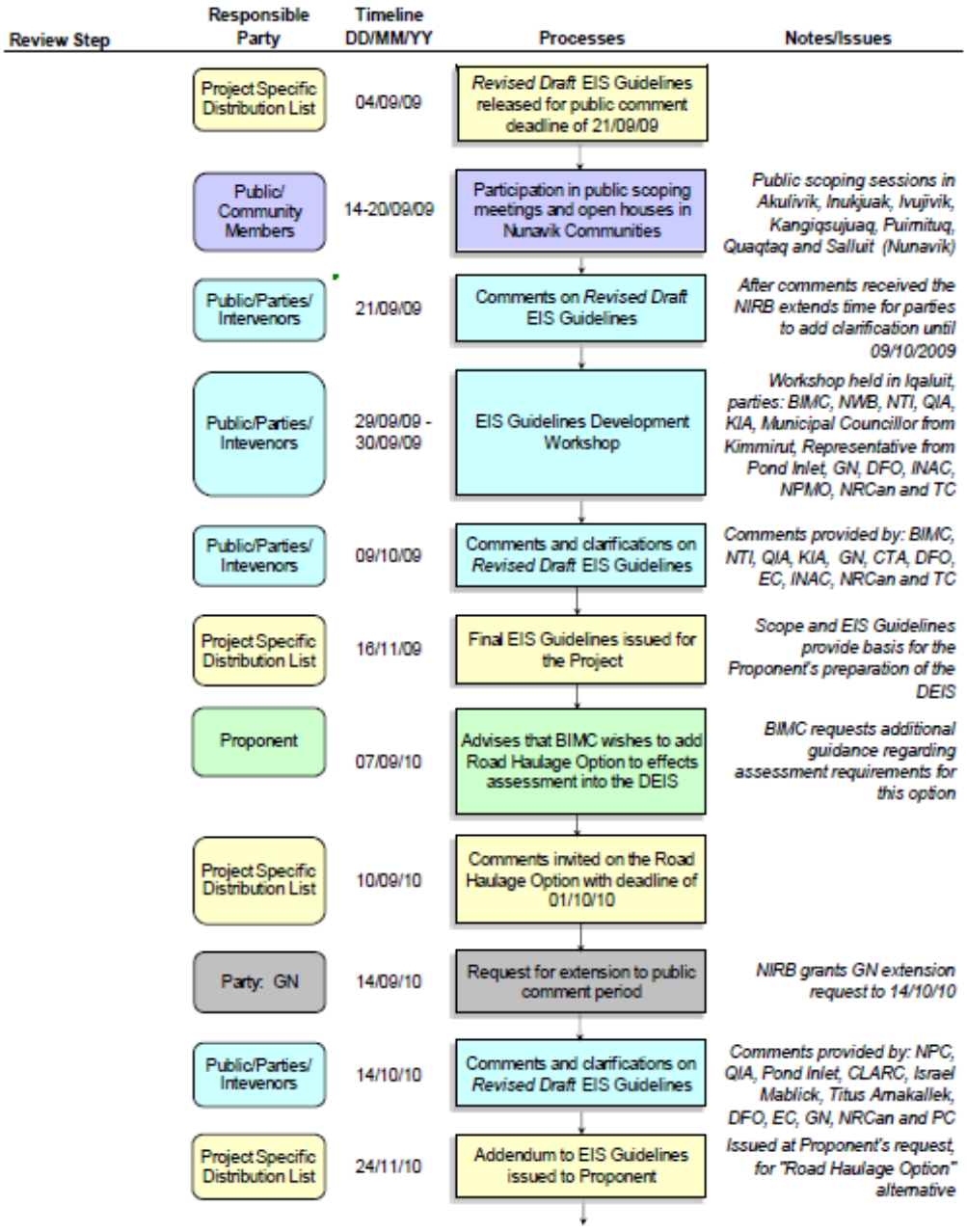
[267] See SD-31.

[268] Nunavut Agreement, Section 12.2.3

[269] IIBA, SD-72.

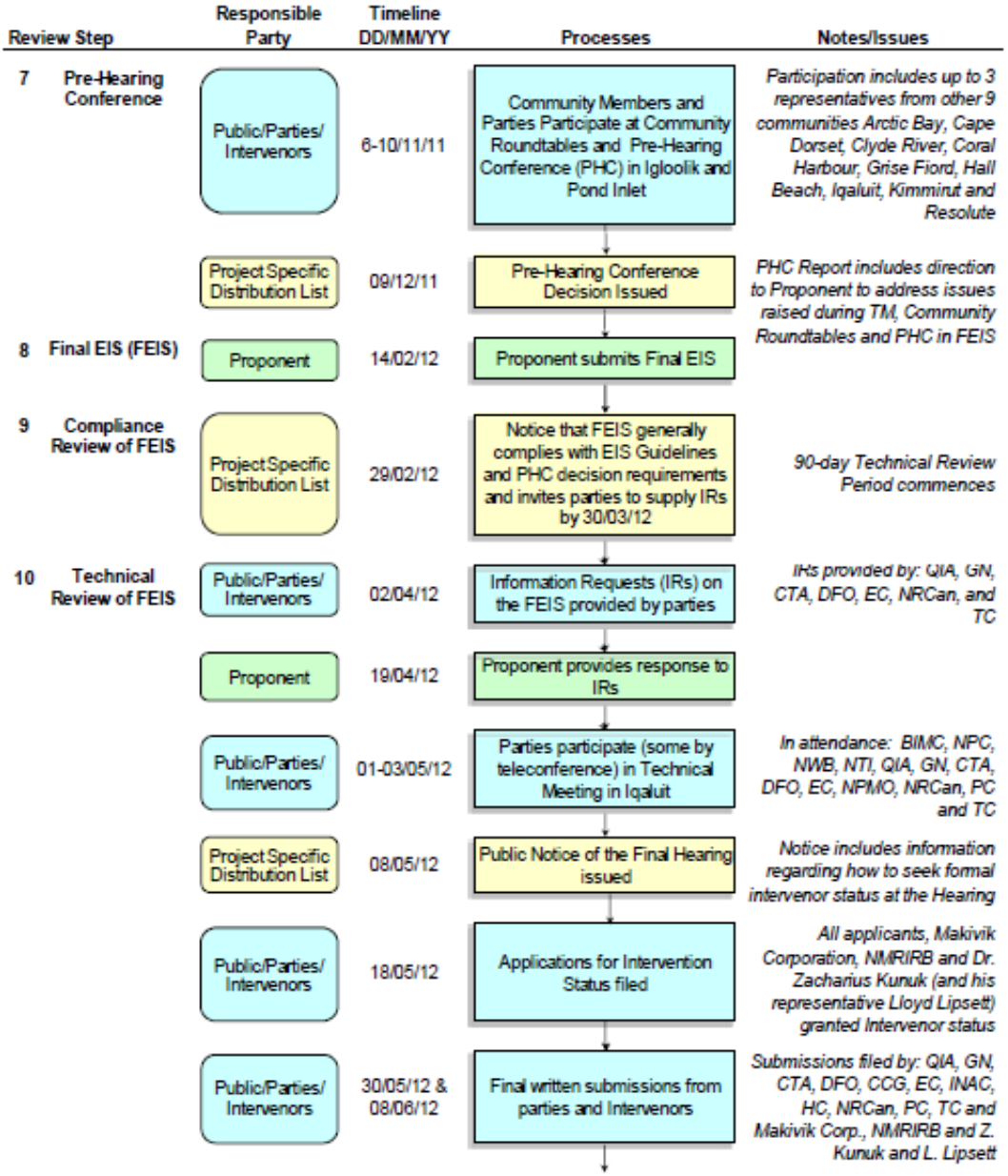
Figure 18: Public Consultation Efforts and Opportunities (Figure 4 from the NIRB Final Hearing Report)



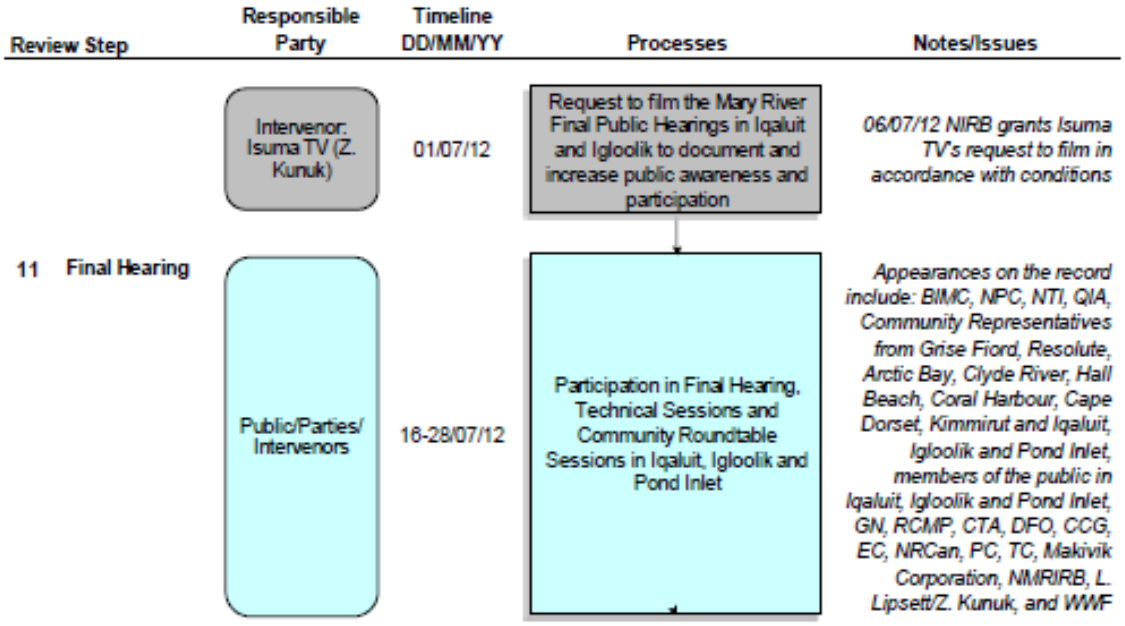

Review Step
Responsible Party
Timeline DD/MM/YY
Processes
Notes/Issues
Project Specific Distribution List
04/09/09
Revised Draft EIS Guidelines released for public comment deadline of 21/09/09
Public/ Community Members
14-20/09/09
Participation in public scoping meetings and open houses in Nunavik Communities
Public scoping sessions in Akulivik, Inukjuak, Ivujivik, Kangiqsujuaq, Puvirnituq, Quaqtaq and Salluit (Nunavik)
Public/Parties/ Intervenors
21/09/09
Comments on Revised Draft EIS Guidelines
After comments received the NIRB extends time for parties to add clarification until 09/10/2009
Public/Parties/ Intevenors
29/09/09 - 30/09/09
EIS Guidelines Development Workshop
Workshop held in Iqaluit, parties: BIMC, NWB, NTI, QIA, KIA, Municipal Councillor from Kimmirut, Representative from Pond Inlet, GN, DFO, INAC, NPMO, NRCan and TC
Public/Parties/ Intevenors
09/10/09
Comments and clarifications on Revised Draft EIS Guidelines
Comments provided by: BIMC, NTI, QIA, KIA, GN, CTA, DFO, EC, INAC, NRCan and TC
Project Specific Distribution List
16/11/09
Final EIS Guidelines issued for the Project
Scope and EIS Guidelines provide basis for the Proponent's preparation of the DEIS
Proponent
07/09/10
Advises that BIMC wishes to add Road Haulage Option to effects assessment into the DEIS
BIMC requests additional guidance regarding assessment requirements for this option
Project Specific Distribution List
10/09/10
Comments invited on the Road Haulage Option with deadline of 01/10/10
Party: GN
14/09/10
Request for extension to public comment period
NIRB grants GN extension request to 14/10/10
Public/Parties/ Intevenors
14/10/10
Comments and clarifications on Revised Draft EIS Guidelines
Comments provided by: NPC, QIA, Pond Inlet, CLARC, Israel Mablick, Titus Amakallek, DFO, EC, GN, NRCan and PC
Project Specific Distribution List
24/11/10
Addendum to EIS Guidelines issued to Proponent
Issued at Proponent's request, for "Road Haulage Option" alternative
Abbreviations for parties: Baffinland Iron Mines Corp. (BIMC), Pond Inlet Community Lands and Resources Committee (CLARC), Canadian Transportation Agency (CTA), Department of Fisheries and Oceans Canada (DFO), Environment Canada (EC), Government of Nunavut (GN), Indian and Northern Affairs Canada (INAC), Kivalliq Inuit Association (KIA), Nunavut Planning Commission (NPC), Northern Projects Management Office (NPMO), Natural Resources Canada (NRCan), Nunavut Tunngavik Incorporated (NTI), Nunavut Water Board (NWB), Qikiqtani Inuit Association (QIA) and Transport Canada (TC)

Review Step	Responsible Party	Timeline DD/MM/YY	Processes	Notes/Issues
3 Draft EIS (DEIS)	Proponent	21/01/11	Proponent develops and submits DEIS to NIRB	
4 Conformity Review of DEIS	Project Specific Distribution List	15/02/11	Notice that DEIS conforms to EIS Guidelines and request for Submission of Information Requests (IRs) by 17/03/11	*IRs request additional information from the Proponent and other parties prior to commencement of Technical Review of DEIS*
	Public/Parties/ Intervenors	17-21/03/11	Information Requests (IRs) on the DEIS provided by parties and members of the public	*IRs received from: QIA, Hamlet of Pond Inlet, Members of the Public, NMRIRB, CTA, DFO, EC, GN, HC, INAC, NRCan and PC*
5 Technical Review of DEIS	Proponent	05/07/11	Proponent develops response to IRs and submits to NIRB	*60-day Technical Review Period of DEIS commences with a deadline of 06/09/11*
	Party: QIA	21/07/11	Request for extension to technical review comment period	*NIRB grants extension from 06/09/11 to 05/10/11*
	Project Specific Distribution List and Communities	12/08/11	Notice of Technical Meeting in Iqaluit 18-20/10/11 and Pre-hearing Conference and Community Roundtables in Igloolik 06-07/11/11 and Pond Inlet 09-10/11/11	*Public notices posted throughout communities and notice provided on community radio and television*
	Public/Parties/ Intervenors	05/10/11	Technical Review comments on the DEIS received from parties	*Comments received from: QIA, the Hamlet of Igloolik, GN, CTA, DFO, EC, HC, NRCan, PC and TC*
	Proponent	14/10/11	Proponent submits response to technical review comments	
6 Technical Meeting	Public/Parties/ Intervenors	18-20/10/11	Technical Meeting (TM) held in Iqaluit	*Participants: BIMC, QIA, GN, CTA, DFO, EC, INAC, NRCan, PC and TC*
	Public/Parties/ Intervenors	24/10/11	Comments provided regarding Proponent's draft listing of commitments	*Comments provided by: QIA, GN, CTA, DFO, EC, INAC and TC*
	Proponent	04/11/11	Proponent submits finalized listing of commitments arising from TM to reflect parties' comments	

Abbreviations for parties: Baffinland Iron Mines Corp. (BIMC), Canadian Transportation Agency (CTA), Department of Fisheries and Oceans Canada (DFO), Environment Canada (EC), Government of Nunavut (GN), Health Canada (HC), Indian and Northern Affairs Canada and subsequently Aboriginal Affairs and Northern Development Canada (INAC), Nunavik Marine Region Impact Review Board (NMRIRB), Nunavut Planning Commission (NPC), Natural Resources Canada (NRCan), Nunavut Water Board (NWB), Parks Canada (PC), Qikiqtani Inuit Association (QIA) and Transport Canada (TC)



Abbreviations for parties: Baffinland Iron Mines Corp. (BIMC), Canadian Coast Guard (CCG), Canadian Transportation Agency (CTA), Department of Fisheries and Oceans Canada (DFO), Environment Canada (EC), Government of Nunavut (GN), Health Canada (HC), Indian and Northern Affairs Canada and subsequently Aboriginal Affairs and Northern Development Canada (INAC), Natural Resources Canada (NRCan), Nunavut Planning Commission (NPC), Northern Projects Management Office (NPMO), Nunavut Tunngavik Inc. (NTI), Nunavik Marine Region Impact Review Board (NMRIRB), Parks Canada (PC), Qikiqtani Inuit Association (QIA), Royal Canadian Mounted Police (RCMP), Transport Canada (TC) and World Wildlife Fund (WWF)



Abbreviations for parties: Baffinland Iron Mines Corp. (BIMC),Canadian Coast Guard (CCG), Canadian Transportation Agency (CTA), Department of Fisheries and Oceans Canada (DFO), Environment Canada (EC), Government of Nunavut (GN), Health Canada (HC), Indian and Northern Affairs Canada and subsequently Aboriginal Affairs and Northern Development Canada (INAC), Natural Resources Canada (NRCan), Nunavut Planning Commission (NPC), Northern Projects Management Office (NPMO), Nunavut Tunngavik Inc. (NTI), Nunavik Marine Region Impact Review Board (NMRIRB), Parks Canada (PC), Qikiqtani Inuit Association (QIA), Royal Canadian Mounted Police (RCMP), Transport Canada (TC) and World Wildlife Fund (WWF)

Table 12: Key Steps in the NIRB Environmental Assessment Process

Date(s)	Description
March 20, 2008	NIRB, NPC, and NWB receive the Mary River Project Proposal from Baffinland.
April 30, 2008	NPC issued a positive conformity determination for the Mary River Project Proposal.
April 30 – June 27, 2008	NIRB carries out a public screening process, resulting in the recommendation to the Minister that a full environmental assessment review be undertaken with respect to the Mary River Project. On November 2, 2009: The Minister accepted NIRB's recommendation and referred the Mary River Project to review.
March 13 – June 18, 2009	NIRB carried out a public scoping process. The NIRB prepared a preliminary scoping list for the Mary River Project and then conducted public scoping sessions in the eleven communities identified by the NIRB as potentially affected by the Mary River Project—namely, Pond Inlet, Arctic Bay, Resolute, Grise Fiord, Igloolik, Hall Beach, Coral Harbour, Cape Dorset, Kimmirut, Clyde River and Iqaluit. These public scoping sessions identified the topics that Baffinland was required to address in the 2012 FEIS.
June 24, 2009 – November 24, 2011	NIRB developed Environmental Impact Statement Guidelines for the Project (the **EIS Guidelines**)[270], based on input from the public scoping sessions. The development of the EIS Guidelines included in person workshops and opportunities for public review and comment.
January 1, 2010 – April 11, 2011	Baffinland developed a draft Environmental Impact Statement (**EIS**) based on the EIS Guidelines, which passed NIRB's conformity review and was subject to information requests and technical review comments by participants in the assessment. A technical meeting was held in person in Iqaluit, Nunavut from October 18 to 20, 2011.
November 6 – November 10, 2011	NIRB held a community roundtable and prehearing conference in each of Pond Inlet and Igloolik (the two communities closest to the Steensby Railway).
December 9, 2011 - November 14, 2012	Baffinland developed the 2012 FEIS[271] based on the feedback received from the localities and from NIRB through the NIRB process.
November 29 – July 16, 2012	Information requests on the FEIS were provided by parties to the NIRB process and a Technical Meeting is held in person in Iqaluit. Final written submissions are provided to the NIRB from parties and intervenors, including the Agency.
July 16 – July 28, 2012	Final Hearings are held in Iqaluit, Pond Inlet and Igloolik.
September 2012	NIRB issues its Recommendation Report to the Minister.
December 2012	The Minister accepts the NIRB's recommendation and approves the Project. The NIRB proceeds to issue Project Certificate No. 005 on December 28, 2012.

[270] Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (NIRB File No. 08MN053), SD-40.

[271] Final Impact Statement for the Mary River Project (2012), in SD-41.

III.7A.ii. Overview of Original NIRB Environmental Assessment Process for the Mary River Project (2008-2012)

246. The original environmental assessment was conducted by NIRB in accordance with the *Nunavut Agreement*,[272] and spanned from 2008 to its completion in 2012. The environmental assessment conducted by NIRB evaluated the entirety of the Mary River Project, including:

(a) the development of an open pit iron ore mine on northern Baffin Island (i.e., the Mary River Mine);

(b) the ports at both Milne Inlet (i.e. the Milne Port) and Steensby Inlet (i.e. the Steensby Port);

(c) the road connecting the Mary River Mine to the port at Milne Inlet (i.e. the Tote Road); and

(d) a railway connecting the Mary River Mine to the Steensby Port (i.e. the Steensby Railway).

247. The key steps in NIRB's original environmental assessment process for the Mary River Project, including the Steensby Railway, are set out in **Figure 18** and **Table 13** below.[273]

248. Further detailed information about the process undertaken by NIRB in its review of the Mary River Project is provided in **SD-43**.[274]

III.7A.iii. Participants in NIRB's Environmental Assessment

249. Over the course of NIRB's screening and review process, which spanned from 2008 to 2012, there were numerous opportunities for federal, territorial and local government representatives, designated Inuit organizations, community representatives, Elders and members of the general public to share their perspectives about the Mary River Project, including the Steensby Railway, and about the potential positive and negative effects on communities and the environment of the Nunavut Settlement Area and adjacent jurisdictions.[275]

250. Nunavummiut[276] had the information they required regarding the Mary River Project and its potential impacts, in order to meaningfully engage in and consult on the project review. Baffinland's specific engagement efforts in this regard are summarized in **SD-41.15.**[277] The engagement efforts and many opportunities for Nunavummiut to provide their comments to the NIRB during the screening and review process are outlined in **Figure 18**.[278]

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[272] NuPPAA did not come into force until 2015, and so environmental assessments before that date proceeded under the Nunavut Agreement only. After 2015, Nunavut assessments proceeded under both the Nunavut Agreement and NuPPAA.

[273] Nunavut Impact Review Board, Final Hearing Report, Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053, September 2012. See generally "Section 1 – Introduction", SD-43.

[274] NIRB Final Hearing Report, Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053 (2012), SD-43.

[275] NIRB Final Hearing Report Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053 (2012), Section 3.1.1, SD-43.

[276] Inuktitut term meaning all (Inuit and Non-Inuit) residents of Nunavut.

[277] Volume 2, Section 1.5 of 2012 FEIS, SD-41.15.

[278] *Supra*, note 175.

251. The participants in this process included those identified in **Table 13**. A more detailed description of the listed participants and details of their participation in the NIRB review process is available in the Stakeholder Engagement Report as well as in the NIRB Recommendation Report.[279]

Table 13: Participants in the Joint NIRB-NPC Review Process

Name
Nunavut Planning Commission (**NPC**)
Nunavut Tunngavik Inc. (**NTI)**
Qikiqtani Inuit Association (**QIA**)
Government of Nunavut (**GN**)
Aboriginal Affairs and Northern Development Canada (now **CIRNAC**)
Canadian Transportation Agency (**CTA**)
Environment Canada (now Environment and Climate Change Canada or **ECCC**)
Fisheries and Oceans Canada (**DFO**)
Canadian Coast Guard (**CCG**)
Health Canada (**HC**)
Natural Resources Canada (**NRCan**)
Parks Canada (**PC**)
Transport Canada (**TC**)
Makivik Corporation (**Makivik**)
Nunavik Marine Region Impact Review Board **(NMRIRB**)
Zacharias Kunuk – Nunavut Independent Television Network, Isuma Distribution International Inc. and Kigullitt Productions Inc.
The North Baffin Localities

252. Based on the outcomes of these and other consultations, NIRB identified the following key issues in relation to the construction and operation of the Steensby Railway for discussion during the Final Hearing:

(a) the alternatives analyses associated with the proposed Steensby Railway routing;

(b) the design considerations for construction and operation of the Steensby Railway under arctic conditions, including management plans for mitigation of potential impacts to caribou and terrestrial wildlife;

(c) the potential impacts from proposed mining and quarrying activities, including dust dispersion from the transport and storage of waste rock and ore, and impacts to water quality from acid rock drainage;

[279] Stakeholder Engagement Report, SD-69; NIRB Final Hearing Report Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053 (2012), Section 3.1.1,SD-43.

(d) the adequacy of proposed mitigation measures to protect archaeological resources and other heritage sites;

(e) the potential direct and indirect socio-economic impacts, including impacts to community demographics, capacity of current services to meet future needs, traditional land use and food security; and

(f) other issues as raised by parties, intervenors and the public.[280]

253. NIRB considered this input, the extensive documentation filed regarding the Mary River Project, including the information contained within the draft EIS and final 2012 FEIS[281] filed by Baffinland, as well as the substantial written comments, information requests and final written submissions filed by formal intervenors. NIRB also considered comments, evidence and advice from community representatives, members of the public and formal intervenors throughout its review process, including hearing from over 150 people who appeared on the record during the NIRB's Final Hearing.[282]

III.7A.iv. The NIRB Recommendation Report and Project Certificate Terms and Conditions/Commitments

254. At the end of the environmental assessment process, NIRB issued a positive recommendation to the Minister for approval of the Mary River Project, including the Steensby Railway (the **Recommendation Report**). In its Recommendation Report, NIRB assessed the potential ecosystemic and socio-economic effects of the Mary River Project[283] and concluded that the Mary River Project should proceed:

> *After due consideration of these factors and reflecting the Board's thorough review of this Project, the NIRB recommends to the Minister of Aboriginal Affairs and Northern Development Canada, that the Project may proceed to the regulatory phase. Further, as required under Section 12.5.6(c) of the [Nunavut Agreement], the Board has developed recommended Terms and Conditions considered necessary to prevent or mitigate the potential adverse environmental and socio-economic effects associated with the Project*.[284]

[280] Nunavut Impact Review Board, Final Hearing Report, Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053, September 2012, see page 23, SD-43.

[281] Final Environmental Impact Statement for the Mary River Project (2012), in SD-41.

[282] Nunavut Impact Review Board, Final Hearing Report, Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053, September 2012. See page xi, SD-43.

[283] Nunavut Impact Review Board, Final Hearing Report, Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053, September 2012, SD-43.

[284] Nunavut Impact Review Board, Final Hearing Report, Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053, September 2012, SD-43.

255. The proposed alignment of the Railway was provided as an exhibit at the Final Hearing; see NIRB Final Hearing File No.: 08MN053, Exhibit #3, Cover Letter and Map book From Baffinland to the Nunavut Planning Commission With Respect to the Mary River Railway Corridor On Inuit Lands, Baffinland Iron Mines Corporation, filed by Baffinland on July 16, 2012.Exhibit #3 provided an illustration of the Steensby Railway alignment on which the Project Certificate is based (**SD-33**).[285]

256. In issuing its positive Recommendation Report to the Minister, NIRB also took into consideration the commitments made by Baffinland during the NIRB review process:

> *Through the course of the Final Hearing, Baffinland Iron Mines Corporation and other parties made significant commitments in respect of the Project that they are willing to meet to ensure the Project proceeds in the best manner possible; these commitments have been compiled into a "List of Commitments" (see Appendix A) for ease of reference. Some of these commitments have formed the basis for the NIRB's recommended Terms and Conditions, while some, for various reasons, such as limits on the NIRB's jurisdiction, have not. However, the NIRB wishes to clearly state that the Board has every expectation that Baffinland Iron Mines Corporation will fulfill all commitments made during the Final Hearing, within its Final Environmental Impact Statement and supporting documentation submitted during the Review, not just those commitments that were included in Terms and Conditions prescribed by the Board in this report*.[286]

257. NIRB identified numerous measures in its Recommendation Report to mitigate adverse environmental effects in the form of recommended Terms and Conditions, which were developed in direct response to concerns, and which were generally accepted by the Minister.[287] The terms and conditions established in the Project Certificate issued to Baffinland on December 28, 2012 (as amended) are attached as **SD-31** to this Application. The Project Certificate currently includes over 189 terms and conditions applicable to the Mary River Project.

258. Further information about NIRB's positive recommendation is available in the Recommendation Report, which is at **SD-43** to this Application. Baffinland's commitments are set out in the Table of Commitments which is at **SD-2** to this Application and also identifies interests of localities associated with the commitments.

[285] Exhibit #3, Cover Letter and Map book From Baffinland to the Nunavut Planning Commission With Respect to the Mary River Railway Corridor On Inuit Lands, Baffinland Iron Mines Corporation, filed by Baffinland on July 16, 2012, SD-33.

[286] Nunavut Impact Review Board, Final Hearing Report, Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053, September 2012. See page xii, SD-43.

[287] Nunavut Impact Review Board, Final Hearing Report, Mary River Project, Baffinland Iron Mines Corporation, NIRB File No. 08MN053, September 2012, SD-43.

III.7A.v. NIRB Project Certificate Amendment Processes since 2012

259. NIRB carried out subsequent assessments of the Mary River Project in 2014 (for the Early Revenue Phase) and 2018, 2022, and 2023 (for the PIP Amendments). While those applications did not propose any modifications to the Steensby Railway, each of them considered and updated the 2012 FEIS residual effects conclusions as appropriate in their application materials to NIRB. These materials formed the basis for NIRB's environmental assessment, each of which resulted in positive decisions by the Minister and the issuance of amendments to the Project Certificate by NIRB. All these changes to the Mary River Project were fully assessed by Baffinland and NIRB, following the process established by the Nunavut Agreement and NuPPAA, before they proceeded.

260. A further assessment was carried out from 2018 to 2022 for the Phase 2 Proposal, which included a proposal for a second railway to the north of the Mary River Mine (the North Railway) to the existing Milne Port. While the Phase 2 Proposal ultimately was rejected, this assessment presented further opportunity to engage with localities on a rail line.[288]

261. See **Part 2, Section III.2A** of this Background to the Application Brief, for further details of the Early Revenue Phase, PIP Amendments, and Phase 2 Proposal.

262. The assessment of the Mary River Project completed by NIRB has been extensively documented, and a complete copy of those materials is appended to this Application at **SD-41, SD-43, and SD-45**.[289]

III.7B. Steensby-Related Information Updates Undertaken by Baffinland 2013 to Present

263. In order to support its application for the *Fisheries Act* Authorization(s), this section 98 Application, and its detailed engineering, Baffinland has prepared updated analyses, technical memos and railway engineering reports. For example, these updated analyses include, amongst others:

(a) ongoing community engagement since operations began in 2014, as detailed in the Stakeholder Engagement Report;[290]

(b) updated freshwater and marine field programs between 2021 and 2023 in areas covering the Mary River Mine site, Steensby Railway and Steensby Port;[291]

(c) hydrological watercourse studies carried out in 2023 to support site specific crossing designs, including conventional, aerial (LIDAR), drone and acoustic Doppler current profiler surveys;[292]

[288] Table of Commitments, **SD-2.**

[289] All documents related to NIRB's review of the Mary River Project can be found on the NIRB Registry under File No. 08MN053, available online here: https://www.nirb.ca/project/123910. The 2012 FEIS, NIRB Recommendation Report, and the Minister's Decision are provided in SD-41, SD-43, and SD-45.

[290] Stakeholder Engagement Report, SD-69.

[291] See Appendix F.1 of the Application for an Authorization Under the Fisheries Act for the Steensby Component Interactions with Freshwater Fish and Fish Habitat (DFO File Referral No. 23-HCAA-01144), SD-38.

[292] See Appendix E of the Application for an Authorization Under the Fisheries Act for the Steensby Component Interactions with Freshwater Fish and Fish Habitat (DFO File Referral No. 23-HCAA-01144), SD-38.

(d) satellite-based dust monitoring of the Steensby Port area from 2020-2023;[293]

(e) aerial caribou survey in March 2023 covering the regional study area from Milne Port to Steensby Port to identify the location, number and composition of caribou in relation to current and future infrastructure;[294]

(f) additional archaeological surveys carried out in 2024 to determine the presence of archaeological sites along the Steensby Railway alignment, following which some limited archeological mitigation was carried out;[295]

(g) geotechnical surveys were carried out in 2023 to identify ice-rich areas along the Steensby Railway alignment, to address future thaw and settlement issues in the final railway design, and to inform the final railway alignment presented in this Application;[296]

(h) since 2012, Baffinland and the QIA have carried out supplemental Inuit land use studies to support the ongoing development of the Mary River Project and the PIP Amendments. Those land use studies are consistent with the original studies carried out to support the 2012 FEIS, and are current to the drafting of this Application;[297]

(i) the original assessment of noise and vibration impacts from the Steensby Railway was recently reviewed and reconfirmed on May 6, 2024 by RWDI Consulting Engineers, who confirmed that effects predictions for the Steensby Railway presented in the 2012 FEIS remain valid;[298] and

(j) the infrastructure for the Steensby Railway meets the geotechnical requirements for railway operations in arctic conditions and accounts for the anticipated effects of climate change in the region (e.g. warming and thawing of permafrost), per a recent memorandum from Systra.[299]

III.7C. Monitoring of the Mary River Project under the Project Certificate (2013-2023)

264. NIRB also carries out an annual monitoring process to evaluate Baffinland's status of implementation of the Project Certificate. This annual monitoring process includes, and is subject to, a detailed public review and comment period and ends with the annual issuance of a NIRB Monitoring Report. Through this monitoring process, environmental and socioeconomic information relating to the Mary River Project is subject to continuous update and public review.

[293] Appendix G.5.1 of the 2023 NIRB Annual Report for the Mary River Project. note this is an appendix to the NIRB Annual Report), SD-60.39-60.42.

[294] SD-83.

[295] SD-81

[296] Hatch 2023. Geotechnical Investigation Report. Steensby Rail Alignment. October 2023, 299p. SD-67.

[297] Land Use Mapbook; in SD-71.

[298] Hellewell, K., 2024 "Steensby Noise, Baffinland Iron Mine, RWDI Reference No. 2400388". Memo to Elisabeth Luther, Senior Manager, Regulatory Affairs, Baffinland Iron Mines. SD-66.

[299] Systra, (May 2024) at SD-64.

265. Baffinland has undertaken comprehensive ongoing monitoring of the Mary River Project since the Project Certificate was issued in 2012, and has annually reported on the outcomes of this monitoring to NIRB.[300] The predictions included in the 2012 FEIS are referenced in annual reporting.

266. Per annual reports, scientific monitoring concludes that the scientifically measurable impacts of the Mary River Project are within the predictions set out in the 2012 FEIS. Where Inuit have indicated their lived experience differs from these conclusions and that additional steps need to be taken, Baffinland has applied principles of adaptive management to improve Mary River Project performance (as an example, see ongoing efforts to reduce visible dust coming from the Project to address community concerns) as a result of the Inuit knowledge shared.

267. The annual reports also provide an update on management plans, as applicable. What follows at **Table 14**, below, is a summary of Baffinland's monitoring, mitigation and management plans.

Table 14: Summary of Monitoring and Mitigation/Management Plans[301]

Monitoring Commitments	Description of Monitoring Programs	Applicable Monitoring and Mitigation / Management Plan(s)
Atmospheric Environment		
Climate Change		
GHG Emissions	GHG emissions are tracked and calculated from fuel combustion annually for Milne Port and the Mine Site and reported as per Environment and Climate Change Canada's GHG Emissions Reporting Program and National Pollutant Release Inventory (NPRI).	• Climate Change Strategy (SD-59.15) • Air Quality and Noise Abatement Management Plan (BAF-PH1-830-P16-0002) (SD-27.47)
Air Quality		
Ambient Air Quality	Continuous ambient air quality monitoring at Milne Port and the Mine Site monitors SO_2 and NO_2. Equipment to measure TSP and $PM_{2.5}$ was installed in late 2021 at each site and has operated since 2022. Concentrations are compared to the Nunavut Ambient Air Quality Standards (NAAQS), and the Canadian Ambient Air Quality Standards (CAAQS).	• Air Quality and Noise Abatement Management Plan (BAF-PH1-830-P16-0002) (SD-27.47)

[300] 2023 NIRB Annual Report for the Mary River Project (2024), SD-60; NIRB Annual Monitoring Reports under Project Certificate No. 005, 2022 (reports back to 2013 available on request), SD-59; NWB Annual Monitoring Reports under Type A Water Licence 2022-2023 (reports back to 2013 available on request), SD-61, SD-62.

[301] Note marine monitoring is available on request.

Monitoring Commitments	Description of Monitoring Programs	Applicable Monitoring and Mitigation / Management Plan(s)
Dust Emissions	The Dustfall Monitoring Program is performed annually with sampling stations established at the Mine Site, Milne Port, along the Milne Inlet Tote Road and at reference sites located at various distances from Project operations. In 2021, 14 new dustfall monitoring stations were added to the existing monitoring program. During 2021, 2022 and 2023 there were 53, 53 and 49 dustfall monitoring stations, respectively.	• Air Quality and Noise Abatement Management Plan (BAF-PH1-830-P16-0002) (SD-27.47) • Roads Management Plan (BAF-PH1-830-P16-0023) • Dust Management Protocol • Third-party Independent Dust Audit
Incineration Emissions	Stack testing completed on the Mine Site Incinerator and Milne Port Incinerator units was completed in 2013 upon commissioning of the units, and demonstrated compliance with the applicable emissions standards. Baffinland committed to conduct routine stack tests for dioxins, furans and mercury every five years, in accordance with comments made by NIRB following the 2018 Annual Report. Stack testing of the incinerators is conducted annually in compliance with ECCC. In 2021, Baffinland implemented a real-time monitoring system on the network, to monitor incinerator operating parameters during burns to identify abnormal operating conditions.	• Waste Management Plan (including incineration) (BAF-PH1-830-P16-0028)
Noise and Vibration		
Noise and Vibration Emissions	Baffinland conducts noise and vibration monitoring in relation to human health and safety twice per year, at each receptor location (Milne Port and Mine Site).	• Air Quality and Noise Abatement Management Plan (BAF-PH1-830-P16-0002) (SD-27.47)
Terrestrial Environment		
Vegetation		
Vegetation Health • Vegetation abundance and composition • Metal Concentrations in soil and vegetation	Vegetation health monitoring includes vegetation abundance and composition, and metal concentrations in soil and vegetation. Long-term monitoring plots were established in a habitat-type selected to represent caribou forage, and are located near Project infrastructure and in control areas. Vegetation health monitoring involves the collection of soil and vegetation tissue samples for analysis of select chemicals of potential concern (CoPC) by an accredited laboratory. Sample sites are situated at varying distances from Project infrastructure and in control areas.	• Terrestrial Environment Mitigation and Monitoring Plan (BAF-PH1-830-P16-0027) • Roads Management Plan (BAF-PH1-830-P16-0023) (SD-27.68)

Monitoring Commitments	Description of Monitoring Programs	Applicable Monitoring and Mitigation / Management Plan(s)
Invasive Species	Exotic invasive vegetation monitoring is focused on surveying previously disturbed areas within and adjacent to the Project footprint. Presence/absence sampling is used to search for exotic invasive vegetation where invasive plants could be found. exotic invasive vegetation and natural regeneration monitoring are scheduled every three to five years or triggered by observations of exotic invasive plant species	• Terrestrial Environment Mitigation and Monitoring Plan (BAF-PH1-830-P16-0027) (SD-27.53)
Terrestrial Wildlife and Wildlife Habitat		
Height of Land	Height of Land surveys are reconnaissance surveys conducted annually to determine i) if calving caribou are using sites within the PDA, ii) to provide a consistent index of wildlife use of the PDA, and iii) results are used as a trigger for further surveys if required.	• Terrestrial Environment Mitigation and Monitoring Plan (BAF-PH1-830-P16-0027) (SD-27.53)
Caribou Distribution	Using collar data (GN-led effort) to assess caribou distribution in the Regional Study area relative to the mine and infrastructure. As required (based in part on observations from Height of Land surveys, recurring caribou observations, hunter observations, expected population growth of the recovering north Baffin Island caribou herd), aerial surveys of the Regional Study Area surveys to assess caribou distribution and density. An aerial survey of the RSA was conducted in March 2023.	• Terrestrial Environment Mitigation and Monitoring Plan (BAF-PH1-830-P16-0027) (SD-27.53)
Caribou Forage	Long-term vegetation abundance monitoring was established in 2014 to measure percent plant cover and composition by plant group of available caribou forage within the RSA to track potential changes at varying distances from the edge of the PDA. Vegetation health and dustfall monitoring also contribute to evaluations of caribou forage.	• Terrestrial Environment Mitigation and Monitoring Plan (BAF-PH1-830-P16-0027) (SD-27.53)
Wolf Active Dens, Habitat, Abundance, and Distribution	Wolves were identified for follow-up monitoring as a Project Term and Condition. Wolf monitoring is not currently feasible due to low numbers (none detected within 10 km of Project Infrastructure in eight years). Wolf monitoring would include monitoring for active wolf dens within a 10 km radius from the mine site, estimating available esker habitat within the Regional Study Area/PDA, and tracking abundance and distribution.	• Terrestrial Environment Mitigation and Monitoring Plan (BAF-PH1-830-P16-0027) (SD-27.53)

Monitoring Commitments	Description of Monitoring Programs	Applicable Monitoring and Mitigation / Management Plan(s)
Birds and Bird Habitat		
Active Migratory Bird Nest Surveys	Active nest surveys are conducted when new site disturbances are required during the breeding bird season. If nests are located, no-disturbance buffers are established to protect the nests and its contents.	• Terrestrial Environment Mitigation and Monitoring Plan (BAF-PH1-830-P16-0027) (SD-27.53)
Cliff-Nesting Raptor Occupancy and Productivity Surveys	Known nest sites were surveyed annually from 2011 through 2022. As part of these surveys, crews also located new nest sites in suitable areas. Spring occupancy surveys (indicates the number of pairs that attempt to breed) and summer productivity surveys (to measure nesting success by counting the number of young that reach fledging age) are used to collect demographic information on raptor populations. . The surveys were discontinued in 2022 after analyses showed no mine-related effects.	• Terrestrial Environment Mitigation and Monitoring Plan (BAF-PH1-830-P16-0027) (SD-27.53)
Freshwater Environment		
Freshwater Quantity		
Water Withdrawal	Under the authorization of the Type 'A' Water Licence, freshwater is withdrawn to sustain three key activities at the Project: potable water supply (domestic), dust suppression, and for miscellaneous (industrial) uses. Daily volumes are documented and compared to daily limits.	• Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010) (SD-27.64)
Water and Sediment Quality		
Effluent	The Water Licence requires the reporting of monthly and annual volumes of effluents and wastes discharged by the Project, as well as discharge quality criteria applicable to the various effluents generated by the Project. Effluent quantity and quality together provide loadings data for downstream receiving environments. Periodic acute toxicity testing for end of pipe effluent discharge locations provides data on possible acute impacts to effluent exposure areas. Testing of treated effluent is required by the licence to confirm that the effluent is not acutely toxic.	• Aquatic Effects Monitoring Plan (BAF-PH1-830-P16-0039) (SD-27.65) • Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026) (SD-27.52) • Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010) (SD-27.64) • Surveillance Network Program (SD-61.42)

Monitoring Commitments	Description of Monitoring Programs	Applicable Monitoring and Mitigation / Management Plan(s)
Water Infrastructure	Routine inspections of water crossings at the Project are conducted throughout the year to ensure water crossings are not obstructed and are working as designed. Fish bearing water crossings at the Project are, at a minimum, assessed annually to ensure that surface water flows and fish passage is not being hindered or altered at Project fish bearing water crossings.	• Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026) (SD-27.52) • Roads Management Plan (BAF-PH1-830-P16-0023) (SD-27.68)
Surface Water Quality • Tote Road Monitoring Program	Baffinland continued to implement the Surveillance Network Program (SNP) outlined in Schedule I of the Type 'A' Water Licence, analyzing effluents (i.e. treated sewage, treated oily stormwater) discharged to the receiving environment and monitoring surface water quality within specific Project areas (i.e. surface water runoff downstream of Project areas).	• Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026) (SD-27.52) • Roads Management Plan (BAF-PH1-830-P16-0023) (SD-27.68)
Sediment Quality	The Core Receiving Environment Monitoring Program (CREMP) includes an evaluation of potential mine-related influences on sediment quality within aquatic environments near the Mine Site. Receiving aquatic environments near the Mine Site are monitored during several periods throughout the year and include the Camp Lake, Sheardown Lake and Mary Lake Systems, as well as Reference Lake 3 and several reference tributaries.	• Aquatic Effects Monitoring Plan (BAF-PH1-830-P16-0039) (SD-27.65)
Lake Sedimentation	The Lake Sedimentation Monitoring Program monitors dust and sediment deposition rates in Sheardown Lake NW in an effort to better understand and evaluate potential mine-related influences on biota (e.g. fish larvae hatching success). Currently, the Lake Sedimentation Monitoring Program is conducted annually and involves the deployment and retrieval of submerged sediment traps to determine sediment deposition rates, density and thickness during ice-cover and open water periods.	• Aquatic Effects Monitoring Plan (BAF-PH1-830-P16-0039) (SD-27.65)
Groundwater Quality	A groundwater monitoring program in in place involving the installation of shallow groundwater wells downgradient the landfill and hazardous waste berms areas at the Milne Site. The 2022 groundwater monitoring program sampled wells at the Landfill ad Mine Site Hazardous Waste Berm Facilities to assess down-gradient groundwater quality.	• Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026) (SD-27.52)

Monitoring Commitments	Description of Monitoring Programs	Applicable Monitoring and Mitigation / Management Plan(s)
Freshwater Biota and habitat		
Fish and Fish Habitat • Milne Inlet Freshwater Fish Health Assessment • Fish and Fish Assessments in Freshwater Lakes, Rivers and Streams	The objective is to evaluate the potential effects of the Baffinland Milne Port site operations on the health of Arctic Char from freshwater systems that flow into Milne Inlet based on various physical measures and fish tissue chemistry. A before-after study approach was determined appropriate for evaluating whether the health of Arctic Char from the Tugaat, Qurluktuk, and Ikaluit freshwater systems differ from historical data collected by DFO (before 2015) and 2021. Methodology followed is similar to methods used for environmental effects monitoring under MDMER. Baffinland conducts annual fish population assessments for Arctic char in Camp Lake, Sheardown Lake, Mary Lake and Reference Lake 3 near the Mine Site as part of the Project's CREMP. Under the CREMP, condition of Arctic char populations within monitored lakes are assessed. The Project is subject to the Metal and Diamond Mining Effluent Regulations (MDMER) under the Fisheries Act. The MDMER outline requirements for routine effluent and water quality monitoring and for biological monitoring, collectively referred to as Environmental Effects Monitoring (EEM). The EEM Program is established to determine whether mine effluent is causing an effect on the fish populations, the use of fisheries resources, and/or fish habitat (benthic invertebrate communities) in the receiving environment. It is implemented on a three year cycle and the first three studies have been completed in effluent-exposed areas of the Mary River system and appropriate reference areas.	• Aquatic Effects Monitoring Plan (BAF-PH1-830-P16-0039) (SD-27.65)

Monitoring Commitments	Description of Monitoring Programs	Applicable Monitoring and Mitigation / Management Plan(s)
Socio-economic Environment		
Population Demographics; Education and Training; Livelihood and Employment; Contracting and Business Opportunities; Human Health and Well-Being; Community Infrastructure and Public Services; Resources and Land Use; Economic Development and Self-Reliance; and Benefits, Royalty and Taxation		
Socio-economic Monitoring	The monitoring program has identified a number of indicators to evaluate residual effects of several Valued Components, or as requested through a Project Certificate term or condition. Data for these indicators are either tracked by Baffinland, government agencies, or Inuit agencies such as NTI and QIA. Some indicators are tracked through the QSEMC process and Baffinland's community engagement program.	• Socio-economic Monitoring Plan (BAF-PH1-830-P16-0051) (SD-27.75) • Community and Stakeholder Engagement Plan (BAF-PH1-830-P16-0025) (SD-69) • Human Resources Management Plan (SD-SEMP-003) (SD-41.159) • Inuit Human Resources Strategy Procedure (BAF-PH1-700-PRO-0005) • Inuit Procurement and Contracting Strategy (BAF-PH1-230-P16-0001)
Cultural Resources		
Cultural Resources Monitoring	Monitoring of cultural resources is completed though annual Archaeology Status update Reports.	• Socio-economic Monitoring Plan (BAF-PH1-830-P16-0051) (SD-27.75) • Cultural Heritage Resource Protection Plan (BAF-PH1-830-P16-0006) (SD-27.45)
Cultural Well-Being; and Governance and Leadership		
None identified	No monitoring required. No residual effects identified in the FEIS.	• Socio-economic Monitoring Plan (BAF-PH1-830-P16-0051) (SD-27.75)

III.7D. Nunavut Planning Commission Process and Approval

268. Under the Nunavut Agreement and NuPPAA, the NPC is responsible for developing land use plans and issuing conformity determinations for projects wishing to enter the regulatory process in Nunavut. In 2008, the NPC determined that an amendment to the NBRLUP was required in order for Baffinland to develop a portion of the Steensby Railway (a new transportation corridor) within the land use planning region.

269. This process specifically considered the Steensby Railway location and its suitability for the purpose of a railway corridor, taking into account community perspectives.

270. Baffinland subsequently applied to amend the NBRLUP, and joint public review of Baffinland's amendment application[302] was subsequently carried out by the NPC and NIRB from 2011 to 2012.[303]

271. Following the joint review process with NIRB, the NPC recommended in 2013 that Amendment No. 1 to the NBRLUP be approved; however, Amendment No. 1 was returned to the NPC at that time by the Ministers of CIRNAC and GN on the grounds that it was overly restrictive in its allowed uses by the Proponent of the Mary River Project. Completion of Amendment No. 1 fell in priority at that time, as the ERP triggered a NBRLUP amendment process during 2014 (culminating in approval of Amendment No. 2) and the Phase 2 Proposal also triggered a NBRLUP amendment process (culminating in approval of Amendment No. 3).

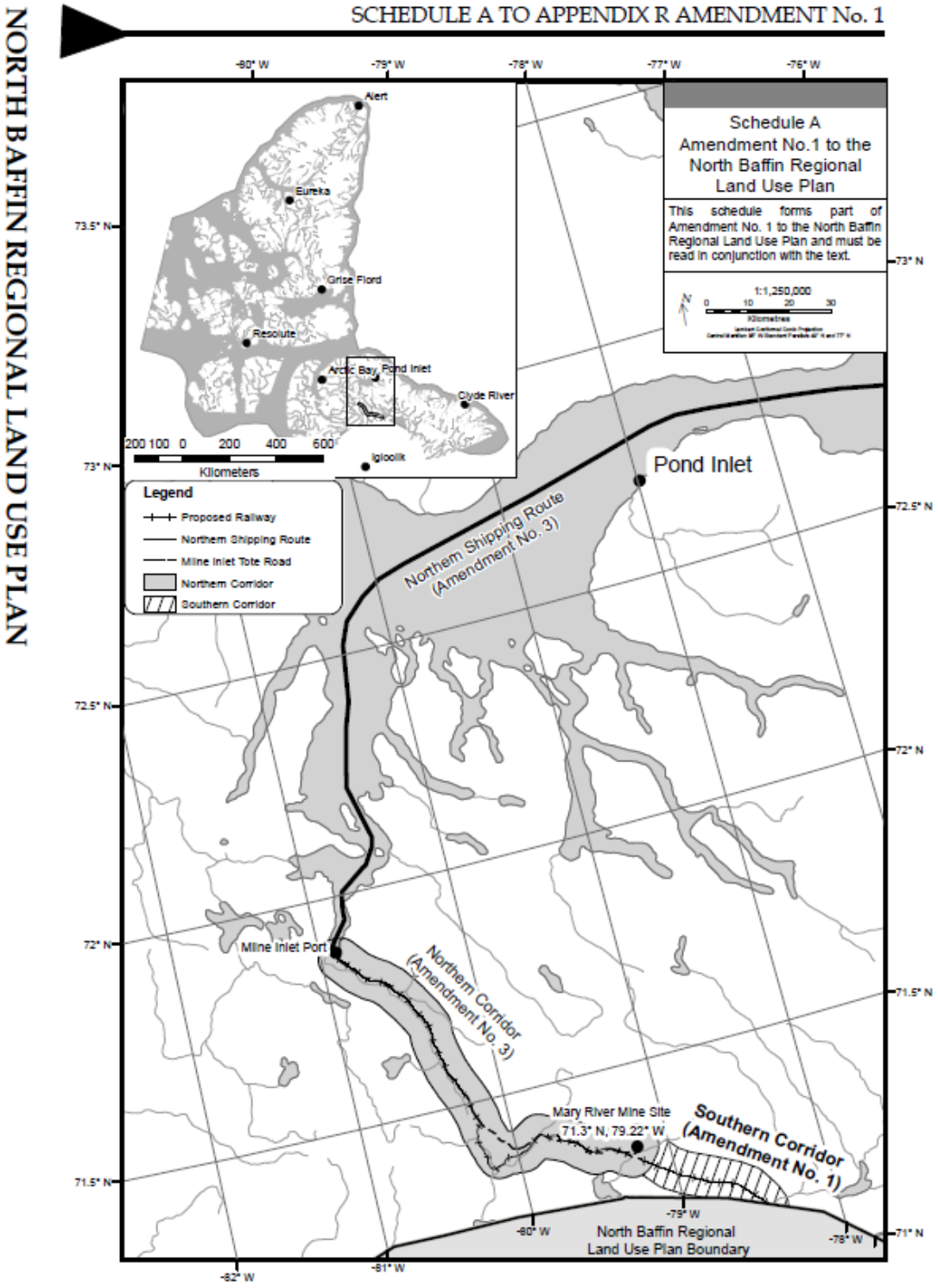
272. The Amendment No. 1 process was "recommenced" by NPC in 2018 at the request of Baffinland, given that the amendment was overdue. Amendment No. 1 required the approval of Nunavut Tunngavik Inc. the Government of Canada and the Government of Nunavut, per the Nunavut Agreement and NuPPAA, which was granted in 2024.

273. Amendment No. 1 to the NBRLUP (Appendix R) was issued by the NPC in March 2024, based primarily on the information shared during the joint public review with NIRB from 2011 to 2012, and the supporting documentation shared with NPC, including the 2012 FEIS. Appendix R is inserted for reference below, and shows the Steesby Railway alignment (**Figure 19**). Moving the alignment outside the boundaries of the designated transportation corridor would not conform to the North Baffin Regional Land Use Plan.

[302] To access all documents submitted to the NPC (to the extent that they have not also been provided to the Agency with this section 98 Application), they are available on the NPC's public registry, online at: <https://lupit.nunavut.ca/portal/registry/#!> under the "Plan Amendments" folder for Amendment No. 1.

[303] NPC Reconsideration Report on Public Review, March 14, 2023, SD-34.

Figure 19: The Location of the Transportation Corridor from Appendix F Amendment No.1 of the NBRLUP



III.7E. Nunavut Water Board Process and Approval

274. The NWB is tasked under the Nunavut Agreement and the NWNSRTA[304] with regulating the use of water and the deposit of waste in Nunavut lands and waters. Under sections 11 and 12 of the NWNSRTA, the Mary River Project requires a license for its use of water or deposit of waste. The NWB issued the Type A Water Licence for the Mary River Project (including the Steensby Railway) to Baffinland in 2014.

275. Between 2013 and 2014, prior to issuing the Type A Water Licence to Baffinland, the NWB held a full public process which included opportunities for written submissions, public meetings and a public hearing attended by community representatives. The public hearing was held in Pond Inlet and the NWB also invited five members from each of Arctic Bay, Clyde River, Hall Beach (now Sanirajak), and Igloolik —representing Elders, the local Hunters and Trappers Organization, youth, women and the Hamlet—to attend the public hearing. The QIA also participated as a key intervenor in the public process.[305]

276. At the Public Hearing, these community representatives were given specific opportunities to ask questions of Baffinland and the interveners and to provide the Board with their views, identify issues, express concerns and provide any other comments relevant to the Application. A summary of the key issues raised by community members during the Public Hearing and other community sessions are set out in the Stakeholder Engagement Report at **SD-69**.[306]

277. In addition to the hearing process for the issuance of the Type A Water Licence, the NWB also provided advice to NIRB during the environmental assessment process on matters relating to waters and waste and reclamation.

278. The NWNSRTA and the Type A Water License issued to Baffinland require Baffinland to place and maintain an irrevocable letter of credit with Canadian banks which can be applied by the Minister (or the QIA per the Commercial Lease) to reimburse costs incurred if Baffinland were to not follow a direction to remediate the Crown or Inuit-owned lands or take other actions set out in that Act. The current amount of the bond is approximately $125M, and this amount will continue to be adjusted over the life of the Mary River Project through a public process under the Type A Water Licence.

279. As per the Project Certificate and Amendment No. 1, the Type A Water Licence again validates the alignment of the Steensby Railway – see the image below (**Figure 20**) from the Type A WL fixing coordinates for water take locations for construction camps, demonstrating the high level of detail that the Project has been examined at through a public forum in relation to the proposed alignment of the Steensby Railway.

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[304] Nunavut Waters and Nunavut Surface Rights Tribunal Act, S.C. 2002, c. 10.

[305] To access all documents submitted by Baffinland to the NWB (to the extent that they have not also been provided to the Agency in this *section* 98 Application), visit the NWB public registry, online at: <https://www.nwb-oen.ca/content/public-registry>.

[306] The comments received in their entirety are provided in the transcripts for the Public Hearing available on-line from the NWB's public registry, *supra* note 207. It is noted that few comments were received specific to the railway, though some could apply generally to the construction and operation period.

Figure 20: Coordinates for Water Take Locations for Construction Camps from the Type A Water Licence

	Latitude	Longitude
Overall Project Extents	72° 05' 00" N	77° 45' 00" W
	72° 05' 00" N	81° 00' 00" W
	69° 49' 00" N	81° 00' 00" W
	69° 49' 00" N	77° 45' 00" W
Camp	**Latitude**	**Longitude**
Milne Port Camp	71° 52' 53.06" N	80° 54' 4.36" W
Mine Site Exploration Camp	71° 19' 30" N	79° 22' 40" W
Mine Site Construction Camp	71° 18' 50.39" N	79° 17' 11.35 W
Mine Site Permanent Camp	71° 18' 50.39" N	79° 17' 11.35 W
Ravn River Camp	71° 07' 49.25" N	78° 22' 2.76" W
Mid-Rail Camp	70° 58' 20" N	78° 22' 15" W
North Cockburn Camp	70° 34' 58.11" N	78° 21' 28.80" W
South Cockburn Camp	70° 27' 52.47" N	78° 22' 24.13" W
Steensby New Camp	70° 19' 1.42" N	78° 25' 48.6" W
Steensby (Existing Camp)	70° 17' 40.55" N	78° 29' 21.88" W
Steensby (46 Person Camp)	70° 19' 36.92" N	78° 29' 9.30" W

III.7F. Current Status of Other Regulatory Authorities' Involvement in the Mary River Project

280. This section provides further clarification on the status of other Regulatory Authorities' (**RA**) involvement in the Mary River Project as a whole, and with respect to the Steensby Railway more specifically.

281. Baffinland has received all regulatory approvals required in respect of its current mining operations (i.e. operation of the Mary River Mine, trucking and shipping through the Northern Transportation Corridor). These regulatory approvals are summarized in SD-30.[307]

282. Baffinland has applied for, and expects to acquire outstanding activity specific authorizations for the Steensby Railway by Q4 2024 or earlier, including the required *Fisheries Act* Authorizations and Navigation Protection Program approvals. A detailed summary of the regulatory authorizations required for the Steensby Railway, including the following information, is attached at **SD-30**: [308]

(a) a list of the specific Mary River Project components for which each RA has jurisdiction;

(b) the applicable regulatory authorizations, requirements and associated legislation for each RA; and

(c) the current status of the processes with each RA, and anticipated timelines for issuance of authorizations.

[307] See SD-30.

[308] See SD-30.

283. The location of the Steensby Railway, as proposed in this Section 98 Application, is reflected and approved in numerous regulatory authorizations which have been granted since the 2012 FEIS, including:

(a) the Project Certificate issued by NIRB;

(b) the transportation corridor established for the Steensby Railway under Amendment No. 1 to the North Baffin Regional Land Use Plan, granted by the NPC;[309]

(c) the Order-in-Council granted by the Governor in Council pursuant to subsection 11(2) of the Territorial Lands Act,[310] approving CIRNAC to lease approximately 95,000 acres of territorial land to Baffinland for the purposes of developing the Steensby Components;[311]

(d) the Land Use Permit for the Steensby Components (N2019C009) issued by CIRNAC; and

(e) the Type A Water Licence issued by the NWB, which includes the Steensby Railway within its general scope, and the Water Compensation Agreement with the QIA, which ensures Inuit are compensated for impacts on Inuit rights relating to water arising from the issuance of the Type A Water Licence.[312]

284. Baffinland has entered into all of the agreements with QIA required under the *Nunavut Agreement*, including the following:

(a) the Mary River IIBA, which is based on the Mary River Project as approved by NIRB in 2012 and subsequent Project Certificate amendments, including explicitly the Steensby Railway;[313]

(b) Mary River Commercial Lease with QIA, which includes lands for the portion of the Steensby Railway located on Inuit Owned Land; and

(c) the Water Compensation Agreement with QIA, which ensures Inuit are compensated for impacts on Inuit rights relating to water arising from the issuance of the Type A Water Licence.

[309] Amendment No. 1 to the North Baffin Regional Land Use Plan was approved by the Minister, the Government of Nunavut, and Nunavut Tunngavik Inc. in 2024, pursuant to Article 11 of the *Nunavut Agreement*, *supra* note 1 and section 10 of NuPPAA, *supra* note 21.

[310] *Territorial Lands Act*, R.S.C., 1985, c. T-7.

[311] The Steensby Land OIC was issued on September 27, 2013. Baffinland is currently in the process of negotiating the terms of the lease for the lands under the Steensby Land OIC, and anticipates that the lease will be executed in the near term. A copy of the Steensby Land OIC is available at SD-37.

[312] The Type A Water License approval was issued by the Minister, per Article 13 of the *Nunavut Agreement*, *supra* note 1, and section 56 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, S.C. 2002, c.10 (**NWNSRTA**), and includes detailed terms and conditions with respect to water use and waste including, for example, those that are applicable to the Steensby Railway construction camps and waste management. The Water Compensation Agreement is required under Article 20 of the *Nunavut Agreement, supra* note 1.

[313] Note that on its terms, the Mary River IIBA is subject to three-year reviews on specified topics and so is designed to grow and evolve based on experience with the Project.

III.7G. Nunavut Devolution Agreement and Relevance to Section 98 Application

285. The Nunavut Devolution Agreement was signed by the Government of Canada (**Canada**), Government of Nunavut (**Nunavut**) and NTI) on January 18, 2024.[314] The Nunavut Devolution Agreement does not impact or change the jurisdiction of the Agency with respect to this Section 98 Application. This section of this Background to the Application Brief provides background information on the Nunavut Devolution Agreement, to enhance the Agency's understanding on this topic given its importance to Nunavummiut (Nunavut residents) and recent attention in news media.

286. As contemplated under the Nunavut Agreement when it was signed in 1999, the Nunavut Devolution Agreement sets out the steps that will be executed by the signatories in order to legally transfer specified responsibilities from Canada to Nunavut for administration of public lands, freshwater, and environmental assessment decision making within Nunavut. Transfer of the specified responsibilities from Canada to Nunavut will be completed by April 1, 2027 (the **Transfer Date)**. In the meantime, Canada will continue to make final decisions in relation to administration of public lands, freshwater and environmental assessment.

III.7H. Cumulative Effects

287. The following provides further information, reports and supporting documentation regarding cumulative effects of the Mary River Project, as requested by Agency staff in its letter to Baffinland of December 2023.

288. As background, in his November 2023 decision approving Amendment No. 5 to the Project Certificate, the Minister of Northern Affairs recommended that NIRB take additional steps to address concerns respecting cumulative effects in relation to the Mary River Project.

289. In response, NIRB scheduled an in-person Cumulative Effects Assessment Framework Workshop (the **CEA Workshop**) in Iqaluit, Nunavut from February 19 to 20, 2024. The focus of the CEA Workshop was to identify a path forward for the development of a cumulative effects assessment framework (the **CEA Framework**) for the Mary River Project.

290. As part of the preparation for the CEA Workshop, on January 18, 2024, Baffinland submitted additional detailed memoranda and information on cumulative effects to NIRB, per NIRB's request.[315] It also made presentations to NIRB and workshop participants on this topic during the CEA Workshop in February. [316]

[314] Available online: see https://www.aptnnews.ca/wp-content/uploads/2024/01/Nunavut-Devolution-Agreement-and-Appendices60333634.1.pdf and https://www.rcaanc-cirnac.gc.ca/eng/1702495657169/1702495761711

[315] 2024 Cumulative Effects Assessment Workshop Package, SD-68.

[316] 2024 Cumulative Effects Assessment Workshop Package, SD-68.

291. With the April 2024 issuance of the NIRB's Workshop Report[317] the path forward on the topic of cumulative effects has now been identified by NIRB as follows.

(a) In accordance with the feedback provided by Inuit organizations, government participants, and various stakeholders, Baffinland has prepared an updated cumulative effects assessment for its SOP2 Amendment Application.[318] This cumulative effects assessment will be considered by NIRB in due course as part of the ongoing SOP2 Project Certificate amendment process (note the SOP2 cumulative effects assessment is not relevant to the Section 98 Application, as SOP2 does not propose any changes to the Steensby Railway or the Southern Transportation Route).

(b) The NIRB will develop an updated CEA Framework to support the development of future assessments. Once finalized, Baffinland will use the new CEA Framework to develop its future applications to NIRB (such as adding Deposits 2 and 3 to the existing Mary River Mine). For clarity, development of Deposits 2 and 3 is not part of the Section 98 Application.

(c) In parallel with the above activities, NIRB will continue to implement its ongoing obligations under the Nunavut Agreement (Article 12, Part 7) and NuPPAA (Section 135) to evaluate the monitoring program for the Mary River Mine established under Project Certificate No. 005. Per the Workshop Report, the NIRB will give special consideration to the topic of cumulative effects in relation to the established monitoring programs.[319] Should any updates to monitoring programs relevant to the Steensby Railway be made as a result of the NIRB monitoring process, Baffinland will promptly report such updates to the Agency.

292. As summarized above, NPC recently completed decision making relating to the Steensby Railway in March 2024.[320]

293. Baffinland's commitment to cease transportation of iron ore along the Northern Transportation Route once the Steensby Railway reaches commercial transportation rates will limit potential for cumulative effects. The phasing out of ore trucking and shipping through the Northern Transportation Corridor effectively returns the scope of the Mary River Project to what was presented in the 2012 FEIS and removes any potential for cumulative effects on the environment from transporting ore through two separate transportation corridors.

[317] See SD-68, NIRB Cumulative Effects Assessment Framework Workshop Report.

[318] See SD-68, "Baffinland Presentations at Cumulative Effects Assessment Framework Workshop", February 2024.

[319] See SD-68 "Baffinland Information Request Response to NIRB on Cumulative Effects", January 2024 and "Baffinland Presentations at Cumulative Effects Assessment Framework Workshop", February 2024.

[320] Amendment No. 1 to North Baffin Regional Land Use Plan, SD-34.

III.7I. Summary of Non-Significant Design Updates

294. As described above, the Project Certificate has included the Steensby Railway component of the Mary River Project since 2012, and new terms and conditions and commitments have been added over time to account for the Early Revenue Phase and the PIP Amendments.

295. The Steensby Railway component of the Mary River Project will be subject to all relevant terms and conditions and commitments within the Project Certificate and commitments and agreements developed since 2012, as described in the Table of Commitments (**SD-2)**.

296. Through the various regulatory processes that Baffinland has undergone since 2012 and through its operational experience to date, Baffinland has identified additional environmental mitigations by design that can be applied to the Steensby Railway component of the Mary River Project to reduce the previously anticipated potential effects and to increase the certainty in these predictions from the original assessment.

297. All mitigations by design fall within the scope of non-significant modifications, which are typical as projects advance from the planning stages at which an environmental assessment is conducted into detailed permitting and final construction. This is explicitly accounted for in the Project Certificate under Term and Condition 16:

> **Term and Condition 16 Commentary:** It is understood that the term "consistent with those proposed in the FEIS" requires general consistency only in relation to the type, location and scope of this infrastructure and facilities, but does not limit the ability of the Proponent to refine and optimize the design, placement and construction as may become necessary to reflect site-specific conditions encountered during construction.

298. A summary of non-significant design improvements being advanced under the final planning for the Steensby Components of the Mary River Project is provided in **Table 15**, below.

Table 15: Summary of Non-Significant Design Improvements

Category	Improvements	Driver for Improvement	Anticipated Outcome
Steensby Railway Design	• Adaptive management procedure to add additional crossings over time to facilitate land user and caribou crossing • Larger diameter culverts and/or use of bridges in fish bearing waters	• Phase 2 technical review • Operational experience and advice from DFO	• Increased permeability for land users and caribou • Facilitate fish passage and reduce spring maintenance requirements

Category	Improvements	Driver for Improvement	Anticipated Outcome
Steensby Port Marine Structures Design	• Removal of underwater dredging and blasting from the construction plan • Underwater rock knoll in the vicinity of the ore dock that could have been an underwater hazard to ore carriers does not need to be removed in current plan	• Operational experience	• Reduced disturbance to marine environment and fish habitat
Dust Management	• Full enclosure of ore crushing facilities at the mine site • Continuation of use of additional dust controls at ore stockpiles including application of dust suppressants • Enclosures at ore transfer points at the Mine Site and Steensby Port • Consideration of dust management measures for the Steensby Port stockpile	• Inuit feedback based on operational experience	• Significant reduction in fugitive dust emissions
Power Generation	• The overland ore conveyor from the pit edge to the crusher will have a 250-350 m drop in elevation that will allow the loaded conveyor to generate up to 15 MW of power	• Reduced reliance on diesel • Climate Change Strategy • Implementation of techniques to drive climate change targets	• Reduction in forecast GHG emissions
Effluent Management	• Addition of sewage treatment facilities at temporary railway construction camps to eliminate need to truck waste to Mary River or Steensby Port during construction period	• Efficiencies to reduce diesel use and waste movement	• Reduced forecast GHG emissions; reduced potential for unanticipated spills
Surface Water Management	• Improvements to surface water management infrastructure designs	• Operational experience	• Reduced potential for unanticipated spills and water quality exceedances at discharge points

Part 8: Inuit and Stakeholder Engagement

III.8A. Overview of Engagement on the Steensby Railway

299. Prior to submitting this Application, Baffinland engaged the "localities" that would be affected by the Steensby Railway, as defined by the Agency in its **Section 98 Guide**.[321] Baffinland used the engagement process to: (i) discuss the Steensby Railway and understand what impact(s) its alignment, construction and operation may have, whether negative or positive; and (ii) to identify appropriate measures for addressing the localities' concerns.

300. In order to address the Agency's guidance with respect to engagement on an application under section 98 of the *CTA*, Baffinland has prepared a Stakeholder Engagement Report which provides a comprehensive summary of Baffinland's engagement. The Stakeholder Engagement Report and the attachments thereto are enclosed at **SD-69**.[322] The Table of Commitments (**SD-2**) also addresses the interests of localities in relation to this Section 98 Application.

301. The Stakeholder Engagement Report includes details of Baffinland's direct engagement with the localities, as well as Baffinland's engagement through the regulatory processes established by the *Nunavut Agreement*, including the processes led by the NPC, NIRB, and NWB. The Stakeholder Engagement Report describes the key provisions of the Mary River IIBA, which builds in processes for ongoing engagement with QIA for the life of the Mary River Project on topics that have been identified as important to Inuit.

302. Baffinland has been engaging with Inuit and the localities with respect to the Steensby Railway for over 18 years. There were three periods of focus of particular relevance to the Steensby Railway:

(a) From 2007 to 2012, engagement focused on the concept of a railway in the preferred location, and on developing mitigations which were applied to the Mary River Project as terms and conditions and commitments included in the Project Certificate. During this period, the NPC also carried out their initial work on the NBRLUP amendment (which completed in 2024). Shortly after NIRB's environmental assessment process was completed, the NWB carried out a public process to focus on mitigating the use of water by and management of waste from the Mary River Project, including the Steensby Railway. This culminated in the issuance of the Type A Water Licence in 2013.

(b) From 2014 to 2022, engagement focused on the Phase 2 Proposal, which included the North Railway to the Milne Port. While the Phase 2 Proposal was ultimately rejected, the NIRB review process nevertheless provided an opportunity for Baffinland to engage with localities on the subject of a railway for the Mary River Project.

(c) From 2021 to 2024, Baffinland has engaged communities and stakeholders more specifically on the Steensby Railway again, as set out in further detail below.

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[321] Canada Transportation Agency, "*How to Apply for Approval to Construct a Railway Line: A Guide for Federally Regulated Railway Companies*" (October 4, 2019) [the Section 98 Guide], available online at: <https://otc-cta.gc.ca/eng/publication/how-apply-approval-construct-a-railway-line-a-guide>.

[322] Stakeholder Engagement Report, SD-69.

III.8B. **Identification of the Localities**

303. Based on the outcomes of the NIRB and the Mary River IIBA processes, the North Baffin Localities were identified as the communities that may be impacted by the Mary River Project. NIRB and the Mary River IIBA also identified the communities of Kinngait (formerly Cape Dorset) and Kimmirut as having an interest in certain aspects of the Mary River Project (namely, the Steensby Port and the Southern Shipping Route) due to their proximity to the Southern Shipping Route.[323] These communities comprise the Mary River Project's ecological, socio-economic and cultural zone of influence and were selected based on: (i) their existing and historical socio-economic and/or eco-systemic ties to the Mary River Project area; and (ii) their geographic proximity to the Mary River Project (note all are located at a notable distance from the Mary River Project, and none are connected to the Mary River Project—or even to each other—by road or any other infrastructure).

304. As is detailed in the Stakeholder Engagement Report, the primary Indigenous organization that has been identified as being potentially impacted by the Steensby Railway is QIA. QIA is a Designated Inuit Organization under the Nunavut Agreement, representing the rights and values of the approximately 15,500 Inuit within the Qikiqtani region. QIA has been engaged continuously with respect to the Mary River Project since 2006. This engagement has occurred directly by Baffinland, through the regulatory processes before the NPC, NIRB and NWB and, importantly, through the mechanisms established by the Mary River IIBA. In accordance with the Mary River IIBA, QIA was given a draft copy of this Application to review in advance of filing and their feedback was addressed per Baffinland's response to them.[324]

305. Baffinland has also engaged with Nunavut Tunngavik Incorporated (**NTI**). NTI coordinates and manages Inuit responsibilities set out in the Nunavut Agreement and ensures that the federal and territorial governments fulfill their obligations under the Nunavut Agreement. NTI has participated in each of the NIRB amendment processes for the Mary River Project. In 2024, NTI (together with the Governments of Canada and Nunavut) approved Amendment No. 1 to the NBRLUP, which established the transportation corridor needed for the Steensby Railway.

306. Other relevant organizations that Baffinland has engaged with in relation to the Mary River Project include:

(a) Institutions of Public Government: NPC, NIRB, and NWB;

(b) Government: Government of Nunavut (GN), Environment and Climate Change Canada (ECCC), Fisheries and Oceans Canada (DFO), Health Canada (HC) Parks Canada (PC), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Transport Canada (TC), Canadian Transportation Agency (CTA), Natural Resources Canada (NRCan), and Canadian Northern Economic Development Agency (CanNor);

(c) Nunavik Organizations: Makivvik Corporation, Kativik Regional Government;

[323] Mary River IIBA, SD-72.

[324] Baffinland Iron Mines, Response to QIA Comments on Baffinland Iron Mines Corporation's Application to the Canadian Transportation Agency for Approval to Construct a South Railway Line, October 13, 2023, SD-75.

(d) Education Organizations: Nunavut Arctic College and local North Baffin public schools; and

(e) Non-Governmental Organizations: World Wildlife Fund – Canada (WWF), and Oceans North.

III.8C. Summary of Direct Baffinland Engagement Activities

307. Baffinland has been engaging directly with the North Baffin Localities about the Mary River Project since exploration first began in 2004, and about a railway since 2007.

308. These engagement activities have been extensive and broad in scope including, for example:

(a) maintaining Community Liaison Offices staffed by Baffinland Community Liaison Officers (**BCLOs**) in each of the North Baffin Localities;

(b) hiring full-time Inuit Knowledge Holders and Community Relations Guides in each of the North Baffin Localities to ensure a better exchange of information between the community and Baffinland, and that the information is provided in light of the cultural context in which the Project is situated;

(c) hosting community tours, public meetings, technical workshops and career fairs within the North Baffin Localities and at the site of the Mary River Project, as well as focus groups, workshops and meetings with individual community groups, Hunters and Trappers Organization (**HTOs**) and Hamlet Councils;

(d) hosting site meetings and inspections with relevant regulatory agencies and other interested parties;

(e) conducting workshops to provide opportunities for Inuit to share Inuit Qaujimajutuqangit (**IQ**) or Inuit traditional knowledge relevant to the Mary River Project;

(a) conducting community and Baffinland employee surveys;

(f) engaging on social media and through in-community public radio shows; and

(g) facilitating regular working group meetings with members of the Terrestrial Environment Working Group, the Marine Environment Working Group and the Mary River Socio-Economic Working Group in accordance with the Project Certificate.

309. Baffinland's Community and Stakeholder Engagement Plan (**CESP**) establishes the approach, strategy and means by which Baffinland communicates with the localities. It draws on the knowledge gained from past engagement practices, and focuses on maintaining and improving existing relationships. The CSEP is a living document and will continue to be updated to respond to feedback by localities on the Mary River Project. Baffinland is also looking into developing and updating community-specific guidelines, in collaboration with each locality who wishes to have community-specific guidelines in place.[325]

310. Baffinland's engagement activities in the communities have been carried out by an Inuit-led team, and communication about the Mary River Project is shared by Inuit team members including Elders fluent in Inuktitut (which is the language many Inuit in the region feel most comfortable expressing themselves in) and English, following and respecting Inuit oral traditions. Engagement opportunities are publicized in a manner that is culturally relevant to Inuit.[326] While details of these engagements are reflected in documentation appended to the Stakeholder Engagement Report, oral tradition means that detailed minutes are not always available. Should the Agency require further details on any engagement, Baffinland would be pleased to make the individuals that led the meetings available to provide a verbal summary.

311. It is important to highlight the breadth of public, community, government, and Inuit engagement that has occurred. The following summarizes the key engagement activities that have been carried out by Baffinland since 2014:

(a) almost 250 formal meetings have been held with Hamlet Councils and HTOs;

(b) approximately 100 Public Meetings, Towns Halls or Public Radio Shows;

(c) close to 75 Working Group Meetings (Marine, Terrestrial, and Socio-Economic);

(d) more than 20 formal site visits;

(e) youth forums and community organization meetings such as sewing groups, foodbanks, schools and Search and Rescue committees; and

(f) innumerable informal engagements through many interactions with local community members at the Mary River Project site.

312. These approximately 450 formal engagements related to the Mary River Project, as well as the numerous and frequent other informal engagements, show the deep commitment Baffinland has to working with communities and Inuit. This summary does not reflect:

(a) regular engagements between Baffinland community-based staff and community members;

(b) engagements with Inuit related to ongoing implementation of the IIBA, including engagements with Inuit contractors, job fairs and workshops and training of potential Inuit employees

[325] At technical meetings held by the NIRB in April 2019, the Municipality of Igloolik suggested that Baffinland develop engagement approaches that are tailored to specific communities. In response, Baffinland committed to the development of community-specific engagement guidelines.

[326] As described in the Stakeholder Engagement Report, culturally relevant publication activities in Nunavut includes, for example, Facebook postings, radio shows, and invitations by letter to key groups such as hunter and trappers organizations.

(c) engagements with Governments (Federal/ Territorial);

(d) engagements through public review processes;

(e) the volume of written materials exchanged with key parties such as the Hamlets and the HTOs via email and via the NIRB review and reconsideration process; and

(f) Emails between Baffinland staff and interested parties based in Nunavut.

313. Table 4.2 in the Stakeholder Engagement Report (and reproduced below) summarizes the meetings that Baffinland had with respect to the North Railway proposed in the Phase 2 Proposal. Those meetings included discussions on the approved Steensby Railway and how the North Railway and Steensby Railway would interact. These engagements occurred between 2019 and 2021.

Table 16: Summary of Engagement Related to Rail between 2019 and 2021

Activity	Description
Phase 2 Information Tour	Public Meeting format, 5 North Baffin communities, Jan 7-11, 2019
Community Risk Assessment Workshops	IQ Workshops, 5 North Baffin community, January to September 2019
Management Plan Meetings	Marine and Terrestrial Working Group Meetings, Regulators and Mittimatalik HTO, February 7-8, 2019
Crossing Selection Workshop	IQ Workshop at Mary River Mine Site, 5 North Baffin communities, July 29 to August 2, 2019.
EA Workshop – Rail Mitigation Focused (which included North Railway)	IQ Workshop, 5 North Baffin communities and HTOs, January 22 to February 11, 2020 at the Mine Site
Meetings with hamlets and public Q&A sessions on Phase 2 update and review process	Meetings, 5 North Baffin communities and HTOs, July 4 to December 14, 2021

314. Baffinland recommenced site specific field studies in the Steensby Railway and Steensby Port areas in 2021 in preparation for the development of the final authorizations required to permit the Steensby Component of the Project to move forward. Since that time the communities of Igloolik and Sanirajak have been provided written notices in both English and Inuktitut regarding the years planned scope of activities, and invited to meet directly with Baffinland for a discussion, either virtually or in person. In the execution of each year's field programs, local Inuit were hired and trained in various positions and in many cases have returned in each years program (**SD-77**).[327]

[327] Written notices to Igloolik and Sanirajak regarding the planned scope of activities for Steensby Rail and Steensby Port field studies, 2021-2023, SD-77.

315. In the beginning of 2023 Baffinland began a series of in person meetings and workshops in the 5 North Baffin communities, with a focus on those closest in proximity to the planned Steensby Railway and Steensby Port construction activities, specifically Pond Inlet, Igloolik and Sanirajak. These engagements delivered general updates on Baffinland's intentions to move forward with the construction of the Steensby Component of the Project in the near future, and eventually focused in on authorization specific engagement requirements. Additional detail on these engagements can be found in Table 4.3 of the Stakeholder Engagement Report. Baffinland visited the North Baffin Localities and Kinngait and Kimmirut to meet with the HTOs and Hamlet councils. Technical workshops in Igloolik, Sanirajak and Pond Inlet with the HTOs on the terrestrial environment and archaeology were also completed during the tour.

Table 17: Summary of Engagement Related to the Steensby Railway and Port in 2023 and 2024

Activity	Description
Community meetings on the Steensby Component	Meetings, Hamlet Councils and HTOs, February 14-March 30, 2023.
Steensby Railway and Fisheries Habitat Offsetting Workshop	Workshop, Hamlet Council Members and HTOs in Igloolik and Sanirajak, May 9-18, 2023
Steensby Railway and Steensby Port Workshop	Workshop, QIA representatives, June 15-16, 2023.
Steensby Railway and Fisheries Habitat Offsetting Workshop Pond Inlet	Workshop, Hamlet Council Members, MHTO, and QIA, July 11-12, 2023 (Appendix G.8)
Virtual Steensby Component Permitting Update meetings	Virtual meetings, QIA, monthly from Sep 2023 onwards
Steensby Railway Permitting Update Meetings	Meetings, Hamlets and HTOs of Igloolik, Sanirajak and Pond Inlet, October 3-6, 2023
Mary River Project - Steensby Component Update workshop for Inuit Knowledge Holders	Mine Site visit and workshop, Inuit Knowledge Holders, November 13-14, 2023
Mary River Project - Steensby Component Update workshops	Workshops, Hamlet Councils and HTOs in the seven communities, November 2023 – March 2024
Mary River Project – Steensby Component Update radio shows	Radio broadcast, members of the public of Clyde River, Igloolik, Kinngait, Pond Inlet, Sanirajak, November 2023 – March 2024
MEWG and TEWG Meetings	Working groups, MEWG and TEWG Meetings, HTO Chairpersons and Regulators, December 11-14, 2023

316. As an outcome of these discussions, Baffinland will continue to involve Inuit and incorporate evolving IQ in the Steensby Railway as the detailed design is being finalised, such as by confirming the final crossing locations for hunters and caribou.

317. Specifics of the meetings that have been held, including location, notification, engagement materials shared, and summaries of meeting outcomes (minutes, notes) are listed in and appended to the Stakeholder Engagement Report (**SD-69**). The feedback received through these engagements are reflected in the summary of identified interests of the localities relevant to the Steensby Railway, as well as the mitigation measures and responses by Baffinland to those local interests reflected in the Table of Commitments at **SD-2.**

III.8D. Engagement Activities via Nunavut Regulatory Processes

318. As set out in **Part 7** of this Background to the Application Brief, Baffinland has, in addition to its own extensive record of engagement, relied on the public engagement aspects of the NPC, NIRB and NWB processes to identify and address interests of the North Baffin Localities. Amendment No. 1, the Project Certificate and the Type A Water Licence all include provisions which address issues raised by community participants in the regulatory process.

319. The QIA participated in all stages of NIRB's environmental review process for the Steensby Railway, and supported the Minister's approval of the Mary River Project and the issuance of the Project Certificate. To aid in additional communication and engagement with communities specific to the Mary River Project, QIA formed and administered seven Mary River Project Committees in parallel with the community working groups Baffinland developed and administered, and their comments were included in its final submission to NIRB. QIA's view of the Project was that provided the conditions presented in its final submissions were accepted by all parties, appropriate mechanisms are in place to effectively monitor and manage the Mary River Project in an acceptable manner. QIA emphasized in its final submission that the success of the Mary River Project demands continued work and collaboration with communities after the permitting process and throughout the life of mine.

320. The QIA supported the Minister's approval of the Project Certificate in 2012 as well as Ministerial approval of every subsequent amendment to the Project Certificate No. 1-5 (in 2014, 2018, 2020, 2022, and 2023).

III.8E. Engagement Activities via the Mary River IIBA

321. The Mary River IIBA[328] was negotiated between Baffinland and QIA in accordance with the requirements of Article 26 of the Nunavut Agreement, which requires proponents of Major Development Projects (as defined by the Nunavut Agreement) to enter into IIBAs before the project can proceed. The Mary River IIBA was first signed in 2013 and was amended in 2018. The Mary River IIBA addresses important considerations identified though collaboration with Inuit, such as direct financial benefits, Inuit employment and training, support for communities, and contracting opportunities.

322. The Mary River IIBA also includes dedicated mitigation measures, focused on mitigation of issues of interest identified by the North Baffin Localities:

(a) *Inuit travel and access* - Protects Inuit rights to harvest and to access land, water and marine areas around the mine. Inuit identify safe travel routes and Baffinland develops monitoring stations along these routes. The monitoring stations can be used as emergency shelters. Harvesters can also stop at the mine site for gas, food and shelter.

(b) *Project monitoring and mitigation* – Baffinland must follow the rules and processes approved by NPC, NIRB and the NWB (and fund QIA's participation in those processes). Baffinland funds QIA to hire and employ Inuit environmental monitors at the mine site. Working groups, funded by Baffinland, can be created to address any monitoring issues that arise.[329]

(c) *Inuit Qaujimajatuqangit* – IQ collected will inform decisions related to the Mary River Project and the IIBA will oversee the collection and use of IQ, and Baffinland will fund collecting and preparing IQ.

(d) *Wildlife compensation* – Baffinland must report any wildlife kills to the QIA and local HTOs. As an example, if Baffinland kills a polar bear, the affected HTO can get a minimum of $20,000 for the loss. As noted above Inuit can apply to the wildlife compensation fund for loss or damage relating to wildlife suffered as a result, directly or indirectly, of development activity relating to the Mary River Project. This fund is administered by QIA.

(e) *Archaeology* – The IIBA requires Baffinland to respect the archaeological record of Nunavut and the requirements of the Nunavut Agreement.

(f) *Workplace Conditions* - The IIBA addresses cross cultural training, counsellor programs, country food, Inuit family values.

(g) *Support for communities* – The IIBA establishes contribution to funds designed to target community supports.

[328] IIBA, SD-72.

[329] As an example, Baffinland funds an independent Dust Audit Committee which was established in September 2022 to observe and understand the present and potential future dust sources and recommend dust mitigation measures for Baffinland's consideration. Baffinland contracted Nunami Stantec to conduct the third-party audit which involves the five most impacted communities; Arctic Bay, Clyde River, Igloolik, Pond Inlet and Sanirajak.

323. Baffinland reports regularly to the QIA on the performance of its obligations through quarterly reports and an annual IIBA Implementation Report. In addition, the QIA and Baffinland jointly host an Annual Project Review Forum to provide information on the progress of IIBA implementation to representatives of the North Baffin Localities, among others.

324. As required by the Nunavut Agreement, Baffinland and QIA also have an agreed Water Compensation Agreement (**WCA**) which sets out compensation to Inuit for impacts on rights relating to water, as well as systems for monitoring of water quality during the Project. The WCA applies to the entire Project, including the Steensby Railway.

III.8F. Summary of Key Interests Identified by Localities and Baffinland Responses

325. As detailed in the Stakeholder Engagement Report (**SD-69**) and the Table of Commitments (**SD-2**), Baffinland has identified the interests and concerns of the localities through more than 18 years of extensive engagement activities. The main interests and concerns with respect to the Steensby Railway which emerged from Baffinland's lengthy and extensive engagement included the following:

(a) the importance of collecting and incorporating IQ and Inuit experiences into project planning, assessments and mitigations;

(b) the potential impact(s) of water crossings on wildlife including, for example, impacts on fish migration and spawning;

(c) the potential impact(s) of the railway on land users and hunters including impacts on access to traditional hunting routes and summer hunting camps, and the ability for land users to cross the railway;

(d) the potential impact on caribou, including the ability of caribou to cross the railway and the potential impact of noise and vibration on caribou movements;

(e) the potential impact(s) of dust emissions from iron ore loading including, for example, impacts of dust on vegetation ingested by wildlife and, in turn, on wildlife by humans, as well as the potential to reduce dust emissions from the Tote Road due to the use of rail transportation instead of hauling ore by truck;

(f) the potential impacts of air emissions from the diesel engines of the locomotives;

(g) the potential disturbance of cultural and archeological sites;

(h) the need for an emergency response plan and restoration of the land in the event of a derailment; and

(i) the need for benefits for the communities including, for example, employment opportunities support families and to support participation in cultural activities (e.g. through purchase of equipment and gas, etc.).

326. Baffinland has carefully incorporated and addressed each of these concerns through one or more of the following:

(a) by negotiating a comprehensive IIBA with QIA (i.e., the Mary River IIBA) pursuant to Article 26 of the Nunavut Agreement;[330]

(b) by addressing issues identified by the localities in the design and development of the Steensby Railway;

(c) the comprehensive and detailed mitigation measures provided for in the Terms and Conditions of the Project Certificate, which were developed by NIRB in consultation with QIA, the North Baffin Localities, federal and territorial regulatory authorities and Baffinland (among others) through NIRB's review and assessment process; and/or

(d) the other commitments made by Baffinland in respect of the Mary River Project generally, including the Steensby Railway specifically, and in respect of this section 98 Application.

327. For example, Baffinland has implemented the following measures to address the main concerns identified by the localities:

(a) Baffinland is supporting the incorporation of IQ and Inuit Knowledge in the Mary River Project through, for example, programs such as the QIA-led and Baffinland -funded Inuit Stewardship Plan and the Inuit Knowledge Holder and Community Relations Guide positions recently established by Baffinland in each of the North Baffin Localities;

(b) Baffinland has incorporated snowmobile/ATV and caribou crossings (and other caribou protection measures) into the design of the Steensby Railway, the locations for which have been determined during engagement with Inuit. The locations and/or number of caribou crossings and snowmobile crossings can be adjusted, if required, based on further ongoing engagement with the North Baffin Localities and the QIA as the Steensby Railway is being constructed.

(c) In order to reduce potential interactions with caribou, Baffinland will also extend a version of its "Caribou Decision Framework" to the Steensby Railway. This framework provides guidance on slow-down and stopping procedures, and is already in effect for drivers on the Tote Road.

(d) Baffinland has incorporated additional bridges over fish-bearing waters and larger diameter culverts into the design of the Steensby Railway in order to facilitate fish migration. As outlined in this Background to the Application Brief at **Part 2** [*Location of the Steensby Railway*] and **Part 3** [*Alternative Alignments*], the alignment of the Steensby Railway has been chosen to, in part, minimize intrusion into water bodies and reduce multiple crossings of the same watercourse.

[330] *Nunavut Agreement, supra* note 1 at Article 26.

(e) Baffinland will extend its dust management system for the Mary River Mine to the Steensby Components as applicable. These dust management systems have been developed based on input from localities during the monitoring and Project Certificate commitment processes described in above. Baffinland has also committed to cease transportation of iron ore by truck and ship within the Northern Transportation Corridor once the Steensby Railway reaches commercial transportation rates, which will limit any potential for cumulative effects.[331]

(f) Baffinland has developed a detailed safety management and inspection system, as well as a railway emergency response plan, to ensure safe construction and operation of the Steensby Railway.

328. In response to comments from the localities about the need for employment and other economic benefits and opportunities, Baffinland communicated to localities that the construction of the Steensby Components of the Mary River Project will create an overall increase in employment opportunities with the Mary River Project and will also increase the benefits to Qikiqtani Inuit under the Mary River IIBA.

329. As set out in the Stakeholder Engagement Report and attachments,[332] and the Table of Commitments,[333] Baffinland is confident that it has identified effective measures to address the interests of localities that have been identified through direct engagement efforts and the regulatory process.

330. It is also important to highlight that Baffinland's engagement is ongoing and will continue through the construction of the Steensby Railway, and the life of the Mary River Project. Further, the construction and operation of the Steensby Railway will also ensure that Baffinland is able to fulfill its commitments on one of the key interests raised by the localities during engagements—that is, for Baffinland to deliver the full socio-economic and financial benefits set out in the Mary River IIBA in a timely way.

[331] A transition period will apply.

[332] Stakeholder Engagement Report, SD-69.

[333] Table of Commitments, SD-2.