ADDENDUM

TO THE

GUIDELINES

FOR THE PREPARATION OF AN

ENVIRONMENTAL IMPACT STATEMENT

for

XSTRATA ZINC CANADA AND SABINA GOLD & SILVER CORP.'S

BATHURST INLET PORT AND ROAD PROJECT

(NIRB File No. 03UN114)

MAY 2013

Introduction

The following information pertains to sections of the "Guidelines for the Preparation of an Environmental Impact Statement for the Bathurst Inlet Port and Road Project" (issued December 6, 2004) and should be considered as further guidance to assist in the preparation of a thorough assessment of the revised Project Description as received by the Nunavut Impact Review Board (NIRB) on March 28, 2013.

Scope of Review

2.2.1 PROJECT COMPONENTS

The scope of the development under review includes the physical works and activities or undertakings that constitute the BIPR project as submitted to the NIRB March 28, 2013. The temporal scope for the Project includes all stages of the project, including construction, operation, maintenance, temporary closure, final closure and post-closure periods.

Project Proposal Summary

The BIPR Project is proposed to be constructed in two phases, with the first phase consisting of the port and related facilities and 85 km of the all-weather road. It is anticipated that this first section of the road would support the development of the Hackett River and Back River mining projects. Once other projects in the region and the need for the construction of Phase 2 have been identified, the second 132 km section of the all-weather road would be constructed completing the 217 km road. This would then connect the BIPR port with Contwoyto Lake, where seasonal connection would then be planned with the existing Tibbitt to Contwoyto Winter Road (TCWR) that currently services the diamond mines in the Lac de Gras area in the Northwest Territories.

Project Components

The following table outlines the BIPR Project Components, the Phase in which they will be constructed, and a brief description of the activities included therein, and is followed by a description of temporary project components currently proposed.

Table 2-1: BIPR Project Components and Development Phase

Component	Construction Phase	Description
Port	1	Wharf and shallow draft dock on Bathurst Inlet suitable for year round use by 50,000 dead weight tonne (DWT) ships. Infrequent maintenance dredging could be required during operation of the Port at preferred site. The port site to also contain a laydown and container storage area.
Shipping	1	The proposed access to Bathurst Inlet is from the North Atlantic Ocean via Baffin Bay, Lancaster Sound, Barrow Strait, Peel Sound, Franklin Strait, Larsen Sound, Victoria Strait, Queen Maud Gulf, Dease Strait and Coronation Gulf. For the construction of the BIPR project, additional routes for delivery of construction materials, supplies and fuel from the west (Bering Strait and Hay River via Mackenzie system) could occur. Shipping schedule would be limited to the ice-free period. Appropriate navigation aids would be installed as necessary along the final route.
Tank Farm	1	12 steel tanks (18 ML each) for a total of 216 ML of fuel storage. One tank would be for Jet A fuel and the rest diesel within an appropriately bermed, lined and prepared area.
Airstrip	1	A 1,200 m gravel airstrip and related support facilities for year round operation including the necessary equipment to support weekly year round flights including generator, temporary runway lights, fuel tanks, de-icing equipment and permanent lights. Fuel would be supplied to the airstrip via a 10,000 L skid-mounted tank with its own pump.
Permanent Camp	1	During construction it is anticipated that the camp would contain up to 200 persons. Floating accommodations are proposed for the start of the camp until the permanent ones are installed. During operations, the permanent camp would house approximately150 people with related generators, maintenance shop, accommodation, water supply and treatment, sewage treatment, kitchen and administration facilities including an incinerator.

Table 2-1: BIPR Project Components and Development Phase (*continued*)

Component	Construction Phase	Description
Excavated Materials Storage Area	1	An overburden stockpile would be established at an area west of the camp. The organic overburden material would be segregated from other waste material to be used in reclamation. The area would have an estimated surface footprint of 14.5 ha.
Quarries	1 and 2	Quarry developed to supply material to build port infrastructure and road, with blasting anticipated to be required to obtain materials from some if not all quarries for construction of the BIPR project. It is expected that approximately 800,000 m^3 of rock will be excavated. Explosives for the project would only be required during the construction of the BIPR site and would be stored in accordance with regulations.
Inert Waste Disposal site	1	A disposal site would be established at the port and, if required, the site may also include a bioremediation facility for hydrocarbon-contaminated soil.
All-weather road	1 and 2	*Phase 1*: Construction and operation of an 85 km all-weather access road from the proposed Bathurst Inlet port site moving south following the originally proposed routing. *Phase 2*: Proposed construction and operation of a 132 km all-weather access road from the termination point of the phase 1 construction, terminating at Contwoyto Lake, construction to include camp and maintenance shop facilities at Contwoyto Lake. No confirmed schedule for the start date of construction, however a 2 year construction period is anticipated. For both construction Phases of the project, approximately 105 drainage areas would require either the installation of bridges or culverts to maintain drainage along the road.
Contwoyto Camp	2	A 20-person camp to be constructed at Contwoyto Lake, with all necessary facilities to accommodate maintenance crew and truck drivers as required (i.e., power supply, potable water, waste water, diesel fuel storage and distribution, incinerator). The area would also have temporary trailer parking and a material storage area to allow storage until the ice road opens.

Temporary Components of the BIPR Project

Ice Road

To support construction of the Project, the Proponent proposes to construct an ice road from the existing Tibbitt to Contwoyto Winter Road that currently services the diamond mines in the Lac de Gras area in the Northwest Territories from Yellowknife. It is anticipated that the ice road would be constructed for the first two years of construction for Phase 1 of the BIPR project and that the ice road would be in place for approximately 2 months of each year it was constructed.

Temporary Port

The temporary port facilities would consist of a laydown pad, floating camps, fuel bladders (4 to 8 ML of fuel), portable shop and barge offload. The temporary port facilities would be replaced with permanent infrastructure as it is constructed and commissioned. The permanent wharf and cargo laydown area would be constructed within the same footprint as the temporary port.

Future Expansions and Induced Activities and Development

Any future project phases or planned increases to project infrastructure and associated use of project facilities by the Proponent or its customers should identified and discussed to the extent possible, including project-induced shipping for the purpose of community resupply.

3.0 Draft Environmental impact Statement Overview

3.3 FORMAT

The EIS shall have sections numbered and be presented in a fully functional PDF format which supports electronic linkages between and among the Table of Contents and associated sections within the EIS document(s). Subject to any other instructions given by the NIRB, the following format shall be adopted, based on the most recent guidance on the preparation of EIS documentation (Guide 7 (NIRB, 2006b) or any subsequent replacement Guide in force at the time the EIS is being prepared) and adapted as much as possible to the specific circumstances of the Project. The digital EIS document must be fully indexed and searchable using keywords, and shall contain the following:

- Cover sheet with project description;
- Executive summary (in English, Inuinnaqtun and Inuktitut);
- Plain language summary/popular summary (in English, Inuinnaqtun and Inuktitut);
- Glossary (in English, Inuinnaqtun and Inuktitut);
- Non-technical summary provided for each separate volume of the EIS, providing an outline contents (in English, Inuinnaqtun and Inuktitut);
- Table of Contents;

- Concordance table which lists each of the Guideline requirements and the associated location of each within the EIS;
- Purpose of, and need for, the Project;
- Detailed project description including a description potential future development;
- Alternatives considered in the development of the project proposal;
- Discussion of the public consultation initiatives with the communities potentially affected by the Project. Provide the results of public consultation, as well as evidence that community concerns were addressed in the planning of the Project activities;
- Baseline information and studies of the existing ecosystem and socio-economic environment;
- Anticipated ecosystemic and socio-economic impacts of the project proposal, including potential impacts on the VECs and VSECs (and as identified through the public consultation process);
- Anticipated effects of the environment on the Project;
- Anticipated cumulative effects of the Project on the region/regions;
- Anticipated transboundary effects;
- Anticipated accidents and malfunctions, and potential effects on the environment, include contingency plans and mitigation measures;
- Steps which the Proponent proposes to take to avoid and/or mitigate adverse impacts, including contingency plans (spills, fires, floods, etc.) and adaptive management strategies;
- Statement of residual impacts and significance;
- Steps which the Proponent intends to undertake in order to restore the area affected by the Project activities during operation and upon project closure, reclamation and relinquishment of leased land to original landowners;
- Steps which the Proponent proposes to take to optimize the benefits of the Project, with specific consideration being given to expressed community and regional interests;
- The monitoring program that the Proponent proposes to establish;
- The interests in lands and waters which the Proponent has secured, or seeks to secure;
- List of permits, licences and authorizations required to undertake the Project proposal;
- List of consultants or individuals who assisted in preparation of the EIS;
- List of agencies, organizations, and persons to whom copies of the EIS will be sent;
- Index; and

- Supporting documentation and appendices, including a table of commitments that summarizes the proposed mitigation and other company commitments with cross reference to environmental issues or potential impacts.

3.7 Presentation

The Proponent shall provide an EIS that is complete and which provides sufficient information to identify, describe and determine the significance of potential impacts to the ecosystemic and socio-economic environments that could arise from the Project. The EIS should include scientific works, subject-specific studies and all other sources of information covering all aspects of the Project in regards to ecosystemic and socio-economic perspectives.

For clarity and ease of reference, the EIS should be presented in the same order as the EIS Guidelines. However, the NIRB recognizes that flexibility in the arrangement of the document may be required and the Proponent is encouraged to use its judgment and best practices in designing a document that is arranged and formatted to facilitate ease of review while ensuring that all the information requested in these Guidelines is provided. In the interest of brevity, the EIS should make reference to, rather than repeat, information that may be presented in other sections of the document. An index of the EIS document is also required and must provide a reference to the locations of required information by volume, section, sub-section, and page number.

The EIS shall be made available to the NIRB electronically on searchable CD-ROM and/or memory stick, as well as in hard copy. The Proponent shall be responsible for the delivery of the EIS to regulators and relevant authorities in print copy and/or electronic versions. As the NIRB is required to make the EIS available to the public for review, for purposes of uploading and distribution, individual file sizes must be no larger than 5 MB in size (using only low resolution images). If the Proponent determines that certain files are better presented with larger resolution, then these files should be submitted to the NIRB; however it should be noted that these files may only be distributed by the NIRB upon request, and that in this case, the Proponent may be required to provide hard copy mailings of such items. Where certain volumes or sections of the EIS may exceed the 5 MB limit file size, the Proponent is required to break these files into manageable sizes for submission to the NIRB, in a manner that facilitates parties' ease of navigation of such files. All electronic files submitted to the NIRB must be named using concise and succinct file names which facilitate the NIRB and reviewers' understanding, and electronic submissions to the NIRB must further, be accompanied by a document which provides a listing of electronic files and the contents of each (e.g. "Wildlife_Mgmt_Plan_ver01_part1of11.pdf").

3.6 Data Presentation

Wherever appropriate and useful to clarify the text, the Proponent shall provide charts, diagrams, photographs, and maps that clearly define land ownership (Crown, Inuit owned, Commissioner's, etc.) and which provide a scale and direction of North within the EIS document. Maps or diagrams, where appropriate, should show all project related infrastructure and/or activities (e.g., RSA, LSA, camp sites, drilling activities, dock sites,

fuel storage and laydown areas, mine site and infrastructure, transportation routes including ground transport, marine shipping and air transport, borrow pits and quarry sites, etc.). Maps should be presented to minimize extraneous and duplicated information, and should be scaled appropriately to show the resource and to allow easy comparison. Any such figures must be clearly referenced in the text of the EIS and the document must also include a listing of all maps and figures including an indication as to where these may be found and discussed in any separate volumes or main EIS document, as applicable.

3.7 TRANSLATION

In addition to the Executive Summary, Popular Summary and Glossary being presented in English, Inuinnaqtun and Inuktitut within the EIS, a summary of the materials contained within each additional volume must also be translated into Inuinnaqtun and Inuktitut. If these summaries are included in a separate binder, this binder must be referenced within the EIS and be compiled for ease of reference. Maps shall indicate common and accepted place-names usually referred to by the local populations in their own language(s), in addition to official toponyms, especially where traditional Inuit place-names have been made official through the process outlined in Section 33.9 of the NLCA.

4.0 ENVIRONMENTAL IMPACT STATEMENT CONTENT GUIDELINES

4.5 DETAILED PROJECT PROPOSAL DESCRIPTION

The Proponent is required to present an overall development plan describing the Project development phases (site preparation, construction, operation, maintenance, any potential modifications, temporary closure, final closure, and post-closure), relevant timeframes, works and undertakings associated with each of these phases. The plan must include consideration for temporary closures as well as care and maintenance situations which may arise when operations are unexpectedly suspended. The Proponent should also identify all associated monitoring and/or mitigation plans to be implemented in each of the development phases to eliminate or minimize adverse effects that might occur at various project stages for each project element.

4.5.1 Project Components and Activities

4.5.1.1 All-Weather Road

Point c) within Section 4.5.1.1 (at p. 14) of the original Guidelines has been revised as follows:

c) Road design pertaining to caribou (including other wildlife) and human crossings of the road.

In addition to providing the information required in the All-Weather Road section 4.5.1.1 (at p. 14 of the original EIS Guidelines), the following additional information must be included:

k) Describe management procedures to be implemented to ensure the private access nature of the road is maintained during operations. Provide draft road operational plans including user monitoring of the road and enforcement of regulations of the road;

l) Provide the Proponent's protocols for the management of emergency shelters;

m) Outline road maintenance responsibility, procedures, frequency and management. If maintenance equipment must be stored along the road, provide details of the design and type of structures required for storage, refuelling, and possible maintenance of this equipment;

n) Assess dust control measures that would be adopted for the road, including an assessment of potential impacts associated with the use of proposed dust suppressants; and

o) Identify any adaptive management strategies required to reduce and/or manage the potential adverse effects related to road construction and development.

4.5.1.2 Port Facilities, Services and Operations

In addition to the requirements set out in Section 4.5.1.2 (pp. 14) the Port Facilities, Services and Operations section of the original EIS Guidelines the following additional information is required:

o) Provide criterion that will be used to assess the suitability of dredged materials for use as construction materials and, where determined that they are not usable, provide details for the management of dredged materials;

p) Provide a description and schedule for required port maintenance activities, including dredging and associated disposal procedures and locations;;

r) Provide the Operational plans for the Port facility, including services and occupation during year-round operations;

s) Provide draft waste management plans for implementation at the Port facility, including, where possible and applicable, a description of the proposed collection, handling, storage, treatment, and/or disposal methods of contaminated ice, snow, soil, seepage and/or surface runoff without a landfarm on site; and

u) Description of any adaptive management strategies required to reduce or manage potential adverse effects associated with activities at the port facility.

4.5.1.4 Shipping

To reflect the revised project description, the specific items within Section 4.5.1.4 (pp. 15) of the original EIS Guidelines and listed below are replaced by the following revised sections:

a) Detailed description of proposed shipping route including appropriately scaled and labelled map to the Port site;

b) Detailed timeframe for shipping season and identify if year round shipping will occur;

h) Provide occupational health and safety, spill response and public safety plans on the shipping route where icebreaking is to occur, including details regarding how the Proponent would ensure contractors and other third parties completing work on the Project have sufficient training and knowledge to implement these plans.

4.5.1.6 Borrow Pits and Quarry Sites

Item b) of Section 4.5.1.6 of the original EIS Guidelines (p. 16) is revised as follows:

b) Estimation of the quantities that will be extracted from Borrow and Quarry sites including materials required for maintenance in both Project phases.

In addition to the requirements listed in Section 4.5.1.6 of the original EIS Guidelines (pp. 15-16) the following must also be provided:

g) Description of the proposed sediment, dust control and erosion measures to be implemented during construction and operation of borrow pits and quarry sites.

4.5.2 Project Design

The following item in Section 4.5.2 of the original EIS Guidelines (pp. 16-17) have been revised as follows:

b) Global climate change; describe and assess, on the basis of current knowledge, how the potential for climate change (global warming) could affect permafrost and soils with high ice content, as well as marine ice flow regimes, and the long-term impacts of such changes on the Project. The Proponent should ensure the inclusion of year-round shipping and icebreaking, as applicable.

4.5.5 Closure and Reclamation Plan

In addition to the information stipulated and required within Section 4.5.5 of the original EIS Guidelines (pp. 17-18), the Proponent is also required to include within its closure and reclamation plans reference to, and discussion of the suspension/temporary closure of the project and project infrastructure.

4.6.3 Socio-Economic Environment

In addition to the requirements of Section 4.6.3 (pp. 21-22) of the original EIS Guidelines the Proponent must also include the following:

l) Description of potential socio-economic impacts of the all-weather road.

m) Discussion of whether country foods are consumed, or are expected to be consumed, in the potentially affected area;

n) Identification of what country foods are consumed, which parts of country foods are consumed, and their consumption frequency;

4.7.2 Cumulative Effects Assessment

In addition to the requirements set out in Section 4.7.2 (pp. 24) of the original EIS Guidelines, the Proponent is also directed to carry out its Cumulative Effects Assessment (CEA) with consideration for the following factors:

a. A larger spatial boundary (RSA rather than LSA): This will enable the Proponent to assess the project impacts in relation to other activities (including other projects and exploration) in the geographical region, and implies that spatial assessment boundaries may cross jurisdictional boundaries for a better understanding of additive and interactive pathways of different types of cumulative effects (NIRB, 2007);

b. A longer temporal scale: This will enable the Proponent to consider all activities from past developments into the present time and the reasonably foreseeable future for a more accurate analysis of variability and significant long-term effects;

c. Alternatives analysis: CEA requires the explicit creation of alternative development scenarios and analysis of potential cumulative effects associated with each option (Greig et al., 2002). Therefore, the Proponent should endeavour to ensure its CEA addresses the alternatives presented under Section 4.4.1 of the original EIS Guidelines (p. 13);

d. Consideration of effects on VECs and VSECs: An effective CEA will allow the Proponent to more accurately assess how the interaction of impacts from the various Project components and activities, and those from other past, present and reasonably foreseeable projects throughout the region affected by the Project (including exploration), might impact in a cumulative fashion on selected VECs/VSECs; and

e. Evaluation of significance: Effective CEA requires identifying and predicting the likelihood and significance of potential cumulative effects, including direct, indirect and residual impacts. The Proponent shall consider and determine the significance of the cumulative effects using the criteria described in Section 4.7.1 of the existing EIS Guidelines.

Reflecting the identified objectives and methodologies for a CEA, the Proponent shall:

f. Justify the environmental components that will constitute the focus of the CEA. The Proponent's assessment should emphasize the cumulative effects on the main VECs/VSECs that could be affected by the Project;

g. Present a justification for the spatial and temporal boundaries for the CEA. It should be noted that these boundaries can vary depending on the VECs or VSECs assessed. The Proponent shall give due consideration to the potential for cumulative effects that may be transboundary in nature;

h. Discuss and justify the choice of projects, components and selected activities for the CEA. These shall include past activities and projects, those currently being carried out and any reasonably foreseeable project or activity; and

i. Discuss the mitigation measures that are technically and economically feasible, and determine the significance of the cumulative effects. If any impact is identified and verified beyond the Proponent's sole responsibility or capacity, the Proponent shall make best efforts to identify how its mitigation measures may contribute toward any collective mitigation undertaken by other responsible parties.

4.7.3 Physical and Biological Impacts

4.7.3.1 Terrestrial Impacts

The following specific items of Section 4.7.3.1 (pp. 24) of the original EIS Guidelines are revised as follows:

b) functional changes in special, unique or sensitive landform features (such as wetlands, stream Riparian zones, eskers, fragile landscapes, etc.) associated with the Project components and activities ;

f) changes to the use of the landscape by wildlife attributable to project effects such as the loss or alteration of habitat (i.e. vegetation), the release of pollutants and noise;

In addition to the requirements of Section 4.7.3.1 (p. 24) of the original EIS Guidelines the following additional items must be assessed:

i. Potential for soil erosion, including stream bank erosion, resulting from surface disturbances associated with the Project components and activities (e.g. road embankments, water crossings, water management/diversions) during all Project phases;

j. Potential impacts to soil quality from compaction, the deposition of air emissions and airborne fugitive dust emissions and/or spills from the Project;

k. Discussion of the potential for the occurrence, frequency and distribution of terrain hazards, including snow drifts and snow banks, as a result of construction activities (e.g. cut/fill, extraction of construction materials).

4.7.3.2 Freshwater and Marine Impacts

In addition to the requirements of Section 4.7.3.2 (pp. 25) of the original EIS Guidelines the following additional items must be also be included:

i. Evaluation of storm water runoff throughout the LSA, with consideration for potential impacts to receiving waters (e.g. flow rates and flow patterns);

j. Potential impacts on terrestrial and aquatic wildlife habitat resulting from the modification or redirection of natural flows;

k. Potential for ice damming and resultant effects on other resources;

l. Assessment of each water crossing and in-stream work, and potential impacts to the navigability and safety of the watercourses;

m. Potential changes to permafrost and ground ice conditions as a result of Project activities, including an analysis of the potential for groundwater inflow into the open pit;

n. Potential changes to permafrost/talik distribution, groundwater distribution and flow paths;

o. Identification and discussion of the specific contaminants of potential concern with respect to effects on freshwater and marine impacts associated with the Project, the project activity to which the specific contaminants are related, the rationale for selection and for determining the contaminants to be carried forward into the impact assessment;

p. Discussion of predicted increases in contaminants in groundwater and surface water as a result of the Project, specifically identifying:

    - any water bodies used as current and future drinking water sources (and for all existing or potential drinking water sources comparing concentrations of contaminants to relevant territorial drinking standards/guidelines and/or Health Canada Drinking Water Guidelines (Health Canada, 2010));
    - any water bodies used for recreational purposes;
    - any water bodies that are important to local harvesting; and
    - the fish-bearing status of the water bodies.

q. Potential impacts on water quality due to under ice water withdrawals;

r. Potential impacts on groundwater quality and surface water quality of lakes and rivers from discharges of Project waste water treatment plants. A solute transport model based on numerical groundwater flow modelling should be used for ground water quality predictions and appropriate models selected (with rationale) to predict:

    - Water quality from specific sources;
    - Water quality discharged to the environment; and

- Dispersion, dilution and assimilation of effluent discharged to the environment;

s. Potential impacts on groundwater quality and surface water quality from:
    - dust, ARD and ML resulting from construction fills, embankment of roads, and open quarry sites;
    - blasting activities (including nutrient input to surface water quality);
    - construction and maintenance of the all-weather road and associated water crossings (including potential for increases in suspended sediments);
    - runoff at fuel storage facilities, with consideration for possible fuel spills and malfunctions;
    - accidental spills of fuel and chemicals along the ground transportation routes;
t. Potential impacts of faults on contaminant transport processes in subsurface and surface water quality;
u. Potential impacts on ground and surface water quality from accidental spills of fuel and chemicals along the ground transportation routes;
v. Potential impacts on surface water quality from the deposition of particulate matter resulting from the incomplete combustion of wastes from incineration;
w. Potential impacts on groundwater and surface water quality in relation to other site waste management activities, including: storage, handling, waste deposition in landfills; landfarming of contaminated soil or runoff; the management of historical contaminated material (e.g. previous spills, mishaps, releases); and sewage effluent discharges;
x. Potential impacts on surface water quality from construction and operation of camps;
y. Potential impacts of erosion associated with the all-weather road on surface water quality as a result of vegetation removal, cuts/fills and other surface disturbances;
z. Potential impacts on sediment quality in surrounding lakes and rivers from surface runoff and traffic on Project roads and dust from road traffic and other project sources;
aa. Discussion of fluvial processes and stability as related to proposed water crossings;
bb. Potential sedimentation and infill rates of drainage areas that might be impacted by the Project;
cc. Potential impacts on sediment quality of lakes and rivers from discharges of Project waste water treatment plants;
dd. Potential impacts on sediment quality from ARD and ML resulting from construction fills, embankment of roads, and open quarry sites;
ee. Potential impacts of erosion associated with the all-weather road on sediment quality as a result of vegetation removal, cuts/fills and other surface disturbances;

ff. Potential impacts on sediment quality of nearby lakes and streams as a result of nutrient input from blasting activities;

gg. Potential impacts on sediment from runoff at fuel storage facilities, with consideration for possible fuel spills and malfunctions;

hh. Potential impacts on sediment quality from the deposition of particulate matter resulting from the incomplete combustion of wastes from incineration;

ii. Potential impacts to sediment quality in relation to other site waste management activities, including: the storage, handling, waste deposition in landfills; landfarming of contaminated soil or runoff; the management of historical contaminated material (e.g. previous spills, mishaps, releases); as well as sewage effluent discharges;

jj. Potential impacts on sediment quality from construction and operation of camps;

kk. Potential impacts to fish, invertebrates, and freshwater habitat including potential impacts to water and sediment quality. Consideration should be given to impacts associated with the following: water withdrawals; discharge; redirection of natural flows; explosives use; nutrient and contaminant inputs; and sewage and grey water effluent discharge;

ll. Potential direct or indirect effects on fish and invertebrate biota and habitat of both, including aquatic Species at Risk, from any changes to the aquatic or riparian environments, as a result of any in-water works or Project activities in close proximity to waterbodies;

mm. Potential impacts to fish due to blasting in or near waterbodies, including noise and vibration impacts;

nn. Potential impacts to fish and fish habitat from any infilling of lake, wetland or stream habitats associated with road construction(s);

oo. Potential impacts to freshwater fish, invertebrates and habitat from planned containment structures (e.g., sediment control structures and fuel containment structures) and potential accidental spills;

pp. Potential impacts on identified fish habitat critical for spawning, rearing, nursery and feeding, seasonal migration, winter refuges and migration corridors;

qq. Evaluation of the ability of fish to pass at water crossings along access roads taking into consideration periods of extreme low and extreme high stream flows;

rr. Potential impacts to fish health, distributions and populations especially taking in to consideration contamination and fugitive dust and potential impact to human health due to consumption of these fish;

ss. Discussion of the management measures for minimizing/mitigation of disturbances to fish populations, including measures to reduce the potential for establishment of invasive species in the area;

tt. Quantitative assessment of the ecological risks to freshwater VECs from the potential elevated contaminant loadings as a result of the Project;

uu. Potential risks and impacts to the marine ecosystem through the introduction of exotic species, including pathogens, through seasonal shipping;

uu. Potential impacts on marine water quality from accidental spills of fuel and chemicals along the shipping routes and from the accidental grounding/stranding of marine vessels along the shipping routes;

vv. Potential impacts on marine water quality and sediment quality from discharges of Project waste water treatment plants. A solute transport model based on numerical flow modelling should be used for water quality predictions and appropriate models selected, with rationale, to predict:

- Water quality discharged to the environment; and
- Dispersion, dilution and assimilation of effluent discharged to the environment;

ww. Assessment of the effects of Project activities (i.e. effluent discharge, accommodation barge, loading docks, etc.) on fish and fish habitat of Bathurst Inlet;

xx. Potential impacts of wake effects from shipping on the shoreline stability and sensitive fish or marine mammal habitat (i.e. coastal wetlands);

yy. Potential impacts on sedimentation patterns and subsequent impacts on subsea permafrost in the nearshore region;

zz. Potential impacts of sedimentation from propeller wash on water quality, fish and fish habitat and, benthic invertebrates;

aaa. Potential impacts of ballast water discharge on water quality, fish and fish habitat, benthic invertebrates including cumulative impacts over the life of the Project;

bbb. Potential impact on marine environment and bio-accumulation in marine food chains, in particular on benthic organisms, from antifouling toxins (e.g. tributyltin) leaching from marine vessels; and

ccc. Potential impacts of climate change and sea level change on Project elements.

4.7.3.3 Air Quality / Meteorology / Noise Impacts

The following specific item of Section 4.7.3.3 (pp. 25) of the original EIS Guidelines is revised as follows:

d) Noise levels from Project activities at all project stages, including, but not limited to noise arising from:

- Ground transportation, including mine traffic, other access roads and the public (where applicable);
- Air transportation;

- Equipment use during construction, operation and decommissioning, including power generators; and
- Port site operations including: blasting; drilling; crushing; screening; transportation and stockpiling activities;

In addition to the requirements of Section 4.7.3.3 (pp. 25) of the original EIS Guidelines (as revised above) the NIRB requires that the Proponent include the following *additional* items for assessment:

e. Discussion of the air quality standards, guidelines and regulations that the Proponent must follow to minimize and mitigate effects to air quality;

f. Identification of and predictions regarding the extent of emissions associated with principle emission sources from the Project at various stages including:
   - Criteria air contaminants [TSP, PM_{10}, $PM_{2.5}$, NO_x, SO_2, volatile organic compounds (VOCs), Ozone (O_3), etc.] and GHG emissions from the fuel consumption of mobile equipment such as vehicles, marine vessels, aircraft, and stationary equipment such as diesel generators and other combustion sources;
   - Fugitive dust and gaseous emissions from extraction and ore processing, handling, tailings, waste rock and ore stockpiling, quarries and other Project components and works; and
   - Fugitive dust emissions from ground transportation and wind erosion at various Project components including the all-weather road, access roads and Port site.

g. Assessment of dispersion of Project emissions on an LSA and RSA basis, using appropriate modelling, and discussion of related impacts and mitigation strategies;

h. Assessment of effects on air quality from Project emissions during various project stages including airborne dust (TSP, PM_{10} and $PM_{2.5}$ and/or metals) and criteria air contaminants such as SO_2, NO_x, CO, VOCs, O_3, etc. and potential effects on human health and the environment associated with the identified effects;

i. Specific assessment of the Project's GHG contributions to both Nunavut and Canada;

j. Potential changes in marine noise levels due to shipping activities, as well as noise propagation in the marine environment; and

k. Potential impacts of noise and vibration on the following:
   - Humans and human activity in close proximity to noise generating sources;
   - Terrestrial wildlife, with a focus on caribou and migratory birds and Species at Risk;
   - Marine mammals; and
   - Fish in fresh water and marine environments.

4.7.3.4 Vegetation

In addition to the requirements of Section 4.7.3.4 (pp. 25) of the original EIS Guidelines the Proponent must also include the following items for assessment:

e. Potential impacts to abundance and diversity of vegetation due to Project activities;

f. Potential impacts to specific vegetation coverage and species composition from construction, operation, and reclamation activities in the Project area;

g. Assessment of the potential loss, disturbance, and/or changes to vegetation abundance, diversity, and forage quality as a result of Project components and activities, including potential effects from airborne fugitive dust fall, airborne contaminants from emission sources, and changes to water quality and quantity, permafrost, or snow accumulation;

h. Potential impacts on vegetation abundance and diversity from the transfer/introduction of invasive or exotic species into the LSA via Project equipment and vehicles, including aircraft and marine vessels;

i. Potential impacts on vegetation quality due to soil erosion, structural soil changes, soil contamination, and fugitive dust and gaseous air emissions from the Port, all-weather road and waste management activities;

j. Discussion of the management measures for minimizing/mitigation of disturbances to plant associations, including progressive reclamation/re-vegetation plans for disturbed areas, and measures to reduce the potential for establishment of invasive species in the area;

4.7.3.5 Wildlife, Birds and Fish Habitat

In addition to the requirements of Section 4.7.3.5 (pp. 26) of the original EIS Guidelines and the supplement to 4.7.3.2 in this Addendum to address fish, the Proponent must also include the following items for assessment:

r. Potential general impacts on terrestrial wildlife and birds in the LSA, including: interference with migratory routes; alienation from important habitat (e.g. denning sites, calving and post-calving areas, nesting, staging and fledging areas); habitat fragmentation and general disturbance or disruption caused by Project activities;

s. Potential impacts on population size, abundance, distribution and behaviour of wildlife and bird VECs from:

   - Direct and indirect loss of habitat from the presence of and use of infrastructure, the conduct of project activities and associated sensory disturbances;
   - Direct and indirect impacts from potential degraded water quality and ground contamination, as well as airborne contaminants resulting from project facilities and associated activities;

- Direct and indirect impacts from potential ice-breaking (prior to spring break-up or following fall freeze-up) associated with shipping activities, and ice management at the port/dock facility;
- Direct and indirect impacts from climate change; and
- Where relevant, the Proponent shall take into account the alteration of normal behaviour or patterns and provide any associated outcomes for overall energy balance for the relevant VEC;

t. Potential impacts on wildlife and birds from ground traffic and air traffic disturbance, particularly low level flights (i.e. lower than 610 metres) during critical periods (caribou calving and post-calving, nesting, staging and fledging). For this impact assessment, a delineated flight impact zone could be useful in determining the potential impact of flights on wildlife and birds, with a particular focus on critical life cycle periods and planned air traffic volume and routes;

u. Potential impacts of noise and vibration on wildlife and birds from drilling, blasting and other activities as a result of Project construction and operation;

v. Assessment of the potential for Project activities to act as an attractant to wildlife and bird species, and associated effects/changes to behaviour and condition;

w. Potential for Project facilities to attract wildlife such as polar bear, brown and grizzly bear, wolverine, foxes, ravens and gulls that may prey upon migratory birds and resulting impacts on the migratory bird populations;

x. Potential effects of shipping on coastal and marine birds and habitat, as well as potential disturbance on key migratory bird habitat areas and sanctuaries in proximity to shipping routes in the NSA;

y. Potential impacts to birds and marine wildlife associated with incidental spills, malfunctions and other accidents associated with shipping operations;

z. Assessment of potential cumulative effects on marine bird VECs resulting from escalated marine traffic in the RSA over the mining lifecycle, including the potentially extended minimum operation period. Consideration should be given to the possible significant increase of marine vessel traffic along shipping routes;

aa. Potential loss to or deterioration in the habitat of marine wildlife VECs due to shipping. Special consideration should be given to Species at Risk listed on Schedule 1 of the federal SARA, species with designations by the COSEWIC, species having significant ecological functions, and/or of importance for Inuit life and culture;

bb. Potential direct and indirect impacts to marine wildlife, from marine shipping activities including increased noise levels;

cc. Potential direct and indirect effects on marine wildlife behaviour, distribution, abundance, migration patterns, species health and reproduction from marine shipping activities; and

dd. Assessment of potential residual and cumulative effects on marine wildlife VECs resulting from escalated marine traffic in the RSA over the mining lifecycle (and

including the potentially extended mine operation period). Consideration should be given to the possible significant increase of marine vessel traffic along shipping routes.

4.7.4 Socio-Economic Impacts

In addition to the requirements of Section 4.7.4 (p. 26) of the original EIS Guidelines the Proponent is also required to discuss in detail the public versus private road option, which should include a detailed discussion of the preferred operation of the all-weather road as a private road and the methods by which this will be enforced, including any results of public consultation regarding the private nature of the planned road.

The NIRB has also revised bullet o) under this section to include the following additional items which must be addressed:

Transboundary Impacts

For the purpose of the current Guidelines, transboundary impacts (as defined in the Glossary) must be considered, and will include consideration of direct, indirect, and residual effects of the Project activities (occurring within the NSA) that may occur across provincial, territorial, and international boundaries outside of the NSA. The Proponent shall give due consideration to the potential for transboundary impacts which may result from interactions between the effects of the Project within the NSA, and the effects of other projects which may be located outside the NSA. In addition, the potential for transboundary impacts related to cumulative effects associated with this Project must also be addressed. Where possible, transboundary impacts should be included within the discussion of various VECs and VSECs as such are identified. The Proponent is also required to present an overall discussion of the potential for transboundary impacts, including predictions, impact assessment and proposed mitigation and monitoring plans.

Where feasible, the potential for transboundary impacts should be considered for all VECs and VSECs identified by the Proponent. In particular, and without limitation, the Proponent should ensure that the potential for transboundary impacts identified by the parties and summarized by the NIRB in the Board's letter of February 11, 2013 to the Minister of Aboriginal Affairs and Northern Development regarding the re-engagement of this review (and outlined below) should be addressed:

a. Impacts associated with proposed Project infrastructure (including any associated transportation) on wildlife species such as caribou that have a large migration range, and the resulting socio-economic impacts to communities and groups that rely on these wildlife resources;

b. Impacts to the local, regional and territorial health system of the Northwest Territories as a result of reliance on emergency or medical services; and
c. Impacts to employment and business within the region affected by the Project.