AGNICO EAGLE

UPPER BEAVER
PROJECT

Upper Beaver Gold Project
Impact Statement

Appendix A-2:

Tailored Impact Statement Guidelines Concordance Table

Appendix A-2: Tailored Impact Statement Guidelines Concordance Table for the Upper Beaver Gold Project Impact Statement Submission 1 to the Impact Assessment Agency of Canada

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
2. PROPONENT INFORMATION	
2.1 The Proponent	
The Impact Statement must: • provide contact information for proponent representatives for the Project (e.g., name, address, phone, email); • identify the proponent(s) and, where applicable, the name(s) of the legal entity(ies) that would develop, manage and operate the Project; • describe corporate structure, including roles and responsibilities of key personnel; • specify the mechanism used to ensure that corporate policies will be implemented and respected for the Project; and • identify key personnel, contractors and / or sub-contractors responsible for preparing the Impact Statement.	Section 1
2.2 Qualifications of Individuals Preparing the Impact Statement	
In support of transparency, the Impact Statement must: • provide information on the individuals who prepared the sections within the Impact Statement; and • demonstrate that qualified individuals have prepared the information or studies. Where possible, the proponent should use experts who are members of a professional body or recognized association.	
3. PROJECT DESCRIPTION	
3.1 Project Overview	
The Impact Statement must describe the Project, key project components and ancillary activities, scheduling details, the timing of each phase of the Project, the total lifespan of the Project and other key features. If the Project is part of a larger sequence of projects, the Impact Statement must outline the larger context.	Section 1.3
3.2 Project Location	
The following information must be included and, where appropriate, located on map(s): • geographic coordinates (i.e., longitude / latitude using international standard representation in degrees, minutes, seconds) for the centre of the main project site or for a linear project, provide the beginning and end points;	Section 1.2 Figure 1.1-1
• project footprint, including the extent of the tenure;	Section 2.1.5 Figure 2.1-4
• surface areas, location and spacing of project components;	Section 4
• distance of the project components to any federal lands and the location of any federal lands within the regional study area;	Section 1.2

• services and infrastructure and current land and aquatic uses in the area including:
  • roads;
  • municipalities and administrative regions;
  • resource development projects already underway in the study area (e.g., mines and forestry operations); and
  • local businesses and industries such as fisheries and outfitters, and any other relevant uses;
	Section 2.1.3

• primary, secondary and tertiary watersheds, as per the Ontario Watershed Boundaries;	Figure 2.9-1
• all waterbodies, including intermittent and ephemeral streams, and their location on a map, as well as flow direction;	Figure 2.9-1
• navigable waterways;	
• landcover in the area, including important or critical habitats;	
• ecozones, ecoregions, and ecodistricts as per the province's or Canada's Ecological Land Classification;	
• environmentally sensitive areas, such as national, provincial, and regional parks, ecological reserves, ecologically and biologically sensitive or significant areas, wetlands, and habitats of federally or provincially listed species at risk and other sensitive areas;	
• lands subject to conservation agreements;	
• description and locations of all potable drinking water sources (i.e., municipal or private);	
• description of local community and Indigenous communities;	Section 2.15 Figure 1.2-1
• Indigenous traditional territories and / or consultation areas, Treaty and / or Title lands, First Nations Reserve lands, Indigenous harvesting regions (with permission of Indigenous communities); and	Section 1.2
• culturally important features of the landscape to Indigenous communities and the public.	
3.3 Regulatory Framework and the Role of the Government	
The Impact Statement must identify: • any federal power, duty or function that may be exercised that would permit the carrying out (in whole or in part) of the Project or associated activities;	Section 16.2
• legislative or regulatory requirements that are applicable to the Project at the federal, provincial, regional and municipal levels or from any body, including a co-management body, established under a land claim agreement referred to in section 5 of the Constitution Act, 1982, or from an Indigenous governing body as defined in the *Act* that has powers, duties or functions in relation to the environmental effects of a project;	Section 16
• federal or provincial greenhouse gas (GHG) legislation, policies or regulations that will apply to the Project, in accordance with the Strategic Assessment of Climate Change (SACC);	Section 4.15.2
• government policies, resource management plans, planning or study initiatives relevant to the Project and / or the Impact Assessment and their implications, including relevant regional studies, regional assessments and strategic assessments;	
• any treaty, self-government, land claims or other agreements between federal or provincial governments and Indigenous communities that are pertinent to the Project and / or the Impact Assessment;	Table 2.1-1
• any relevant land use plans, land zoning, or community plans;	Section 2.1.1
• information on land lease agreement or land tenure, when applicable; and	Section 2.1.5
• municipal, regional, provincial and / or national objectives, standards or guidelines, by-laws or ordinances that have been used by the proponent to assist in the evaluation of any predicted environmental, social or economic effects or other impacts, with implications for health effects.	
3.4 Project Components and Activities	
The Impact Statement must: • describe the project components, associated and ancillary works, and other characteristics to assist in understanding the potential environmental, health, social and economic effects, and impacts on Indigenous Peoples and their rights.	Section 4

• describe project activities to be carried out during each project phase, with a focus on activities with the greatest potential to have environmental, health, social and economic effects, or impacts on Indigenous people and their rights.
  • describe the location, methods used, schedule (including expected sequence, start date, time of year, duration and frequency), magnitude and scale of each project activity;
  • highlight activities that involve periods of increased disturbance to environmental, health, social and economic conditions, or impacts on Indigenous Peoples;
	Section 4.4

• provide a summary of any change made to the Project as originally proposed in the Detailed Project Description, including the reasons for these changes;	Section 4.19
• provide sufficient detail to support analysis regarding the Project's impacts in the context of potential interaction between valued components (VCs);	Section 4
• detail how input from diverse subgroups was used to identify potential components or activities of concern;	
• describe how input from Indigenous communities and / or the public influenced project components, such as the location of the new cottage access road; and	Section 4.2
• include maps of key project components, boundaries of the proposed site with geographic coordinates, major existing infrastructure, proponent lands, and leased properties or lands, adjacent resource lease boundaries, jurisdictional boundaries, adjacent land uses and any important environmental features.	Figure 2.1-2 Figure 2.1-3 Figure 2.1-4 Figure 4.3-1 Figure 4.17-2
In addition to describing the project components and activities, the Impact Statement must also describe the following: • dewatering of York Lake;	Section 4.5.1.2

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• construction, operation and decommissioning of the Misema River diversion (e.g., diversion channels, dykes, etc.);	Section 4.5.1.1 Section 4.18.3.2
• construction or changes to public access roads;	Section 4.17.2
• shipment of gold doré and copper concentration off-site;	Section 4.7.2
• changes to existing infrastructure (i.e., expansion, operation, decommissioning, etc.) for the purpose of the Project; and	Table 4.1-1
• progressive site reclamation considering continued use of project infrastructure.	Section 4.18.2
If applicable, describe the following components and activities: • transportation of any incoming ore to be processed at the project's mill from other mine sites, including sources, volumes and location;	Section 4.7.2
• transportation of ore from the project site to be processed at other local mills, including sources, volumes and location;	Section 4.7.2
• construction of infrastructure for off-site ore transported to site for processing (i.e., temporary stockpiles) including associated water management facilities;	Section 4.7.2
• use of project infrastructure to process ore from off-site deposits.	Section 4.7.2
3.5 Workforce Requirements	
The Impact Statement must describe the anticipated labour requirements, employee programs and policies, and workforce development opportunities for the designated project, including: • opportunities for employment outlining the anticipated number of full-time and part-time positions to be created, and timeline for when they will be created. Positions should be presented using the National Occupational Classification system;	Table 4.17-1 to Table 4.17-3
• anticipated workforce region of origin (i.e., local, regional, out-of-province or international employees);	Section 4.17.1.1, Section 15.1
• the skill and education levels required for the positions;	
• anticipated hiring policies and programs;	Section 4.17.1.2
• investment in training opportunities;	Section 4.17.1.2
• working conditions and anticipated work scheduling for construction and operation (e.g., hours of work, rotational schedules);	Section 4.17.1.3 Section 4.17.1.4
• workplace policies and programs for Indigenous employment, and employment of other underrepresented groups;	Section 4.17.1.2, Section 15.6
• workplace policies and programs, including codes of conduct, workplace safety programs and cultural training programs; and	Section 4.17.1.2, Section 15.6
• employee assistance programs and benefits programs.	Section 4.17.1.2
Workforce requirements must take GBA Plus into consideration. The information must be presented in sufficient detail to analyze how historically excluded or underrepresented groups will be taken into account, including Indigenous communities and other relevant diverse subgroups.	
4. PROJECT PURPOSE, NEED AND ALTERNATIVES CONSIDERED	
4.1 Purpose of the Project	
The Impact Statement must outline what is to be achieved by carrying out the Project. The Impact Statement should broadly classify the Project (e.g., mineral extraction and processing) and indicate the target market(s) (e.g., international, domestic, local), where applicable. The purpose of statement should include any objectives the proponent has in carrying out the Project. The proponent is encouraged to consider the perspectives of participants (i.e., public, Indigenous communities, governments) in establishing objectives that relate to the intended effect of the Project on society.	Section 3.1
4.2 Need for the Project	
The Impact Statement must describe the underlying opportunity or issue that the Project intends to seize or solve and should be described from the perspective of the proponent. In many cases, the need for the Project can be described in terms of the demand for a resource. The information provided should make it possible to reasonably conclude that there is an opportunity or issue that warrants a response and that the proposed project is an appropriate approach. The description must include: • supporting information that demonstrates the need for a project;	Section 3.2
• any comments or view of Indigenous Peoples, the public and other participants on the proponent's need statement; and	Section 3.3.2
• description of the recycling potential for gold and copper, and its implications on the need for the Project.	Section 3.2.1
4.3 Alternatives to the Project	
The Impact Statement must provide a description of the alternatives to the Project that are technically and economically feasible to meet the Project need and achieve the project purpose, from the perspective of the proponent. The process of identifying and considering alternatives to the Project must consider the views, information and knowledge from Indigenous communities potentially impacted by the Project and other participants, as well as existing studies and reports.	Section 3.3.3
The Impact Statement must present a rationale for selecting the proposed project over other options, which includes how sustainability principles (described in section 17 - Extent to which the Project contributes to sustainability) were considered. The analysis of alternatives to the Project should serve to validate that the preferred alternative for the Project is a reasonable approach to meeting the need and purpose and is consistent with the aims of the *Act*.	Section 3.3.3
4.4 Alternative Means of Carrying Out the Project	
For the selection of the alternative means of carrying out the Project, the Impact Statement must describe: • the criteria to determine technical and economic feasibility of possible alternative means;	Section 3.5.1.2.3
• the best available technologies considered and applied in determining alternative means;	Section 3.3.4 Table 3.3-1
• those alternative means that are technically and economically feasible presented in sufficient and appropriate detail; and	Section 3.3
• the particularities for each alternative means and their potential adverse and positive environmental, health, social and economic effects, and their impacts on the rights of Indigenous Peoples as identified by Indigenous Peoples.	Section 3.6

The Impact Statement must then describe:
• the methodology and criteria that were used to compare the alternative means, to determine the preferred means of carrying out the Project, and to justify the exclusions of other solutions, based on the trade-offs associated with the preferred and other alternative means;
  • environmental criteria should include effects to air quality, water quality and quantity, fish and fish habitat, wildlife and associated habitat (including wetlands), risk from accidents and malfunctions;
  • potential effects to species at risk as per the *Species at Risk Act* (SARA), including any critical habitat, must be considered in alternative assessment, including a description of how avoidance of effects was considered and how it may be achieved through alternative means of carrying out the Project or alternatives to the Project;
  • potential impacts of the alternatives on GHG emissions and how GHG emissions were considered as a criterion in the alternative's selection (refer to section 4.1.3 of the SACC);
	Section 3.6

• the preferred means of carrying out the Project and the rationale for the selection based on the consideration of environmental, health, social and economic effects, the impacts on the rights of Indigenous Peoples, technical and economic feasibility, and the use of best available technologies, and consideration of the sustainability principles (described in Section 17 - Extent to which the Project contributes to sustainability);	Section 3.6
• application of GBA Plus to the analysis of alternative means of carrying out the Project to inform how effects may vary for diverse subgroups; and	
• how concerns, views and information provided by Indigenous Peoples, the public and other participants were taken into account in establishing criteria and conducting the analysis.	Section 3.3.2
In its alternative means analysis, the Impact Statement must address key project elements, including, but not limited to, the following, where relevant to the Project: • route or corridor and means options for transportation (e.g., transportation of ore on-site and off-site);	Section 3.4.2.1
• route or corridor and means options for linear project components (e.g., transmission lines, access roads (including public access roads);	Section 3.4.9
• energy sources to power the project site and other stationary sources to provide heat or steam to the Project;	Section 3.4.5
• project site and / or component locations;	Section 3.4

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• tailings storage facility, including;
  • alternative types (e.g., dry stack facility or conventional slurry facility, co-deposition, re-use as backfill underground, in-pit disposal, etc.); and
  • location of the tailings storage facility in consideration of groundwater and groundwater flow directions, local groundwater users, as well as nearby rivers, lakes and wetlands.
	Section 3.7

• water and wastewater management including:
  • location of effluent discharge points;
  • treatment technologies and techniques to control effluent quality.
	Section 3.4.6
	Section 3.4.7

• waste rock management, including:
  • options for short to long term management of waste rock;
  • acid mine rock drainage, neutral metal mine drainage, and / or metal(loid) leaching potential of all excavated materials; and
  • selection of methods for waste rock management.
  • diversion and realignment of the Misema River including:
  • conducting the Project without diversion of the Misema River or draining of York Lake (i.e., without an open pit);
  • design of the diversion structures (diversion channels and dykes).
	Section 3.6
	Section 3.7

• conducting the Project without water-crossings on Victoria Creek;	Section 3.4.8
• conducting the Project without affecting the boat launch access;	Section 3.4.9
• waste management; and	Section 3.4.10
• construction alternatives;	Section 3.4.1.1
• location, construction and crossing methods for waterbodies, watercourses, wetlands and other obstacles;	Section 3.4.8
• suspension, abandonment or decommissioning options (including storage and disposal of mine equipment)	Section 3.8 Section 3.9 Section 3.10

• mining-related activities:
  • mining operations, including the following scenarios:
  • open pit and underground mining operations;
  • underground mining operations without open pit;
  • 8-hour or 12-hour operations;
  • 24-hour operations;
  • operating on lower daily volumes
  • processing facilities location and design (e.g., comminution, separation, concentration and dewatering); and
  • mine waste management facilities (tailings, waste rock, overburden, low-grade ore, effluent).
	Section 3.3.4
	Section 3.4
	Table 3.3-1

For mine waste management-facilities an assessment of alternatives must be conducted in such a way that it clearly demonstrates that the chosen location is the most appropriate option for mine waste disposal from environmental, technical, economic, social and health perspectives. The assessment of alternatives shall include the following steps with all supporting documents and / or references: • Identification of candidate alternatives (including threshold criteria)	
• Pre-screening assessment	
• Alternatives characterization (including environmental, technical, economical and social considerations)	
• Multiple accounts ledger (including the determination and evaluation of impacts generated by each option)	
• Value-based decision process	
• Sensitivity analysis	
5. DESCRIPTION OF PUBLIC PARTICIPATION AND VIEWS	
5.1 Summary of Public Engagement Activities	
The Impact Statement must describe the proponent's public engagement activities regarding the Project, including; • a record of engagement undertaken, that describes all efforts, successful and unsuccessful, to seek the views of the public with respect to the designated project;	
• efforts made to distribute project information and the information and materials that were distributed during the consultation process;	
• methods used, where consultations were held, the persons, organizations and diverse subgroups consulted;	
• efforts made to involve the public in the development and revision of the proponent's Impact Statement; and	
• efforts to engage diverse subgroups of the community to support the collection of information needed to complete the GBA Plus.	
5.2 Analysis and Response to Questions, Comments and Issues Raised	
The Impact Statement must: • provide a summary of key issues related to the Project, including the potential environmental, health, social and economic effects and potential for disproportionate effects for diverse subgroups within the population, that were raised through engagement with the public, and how they were incorporated into the Impact Statement;	
• describe any questions and comments raised by the public and how they influenced the design, of the Project;	
• identify the alternative means, mitigation measures or the monitoring and follow-up programs identified to deal with public uncertainties;	
• identify public concerns that have not been addressed, if any, and provide the reasons why they have not been; and	
• provide details and commitments regarding how the public will be kept involved if the Project were to be approved and were to proceed, such as public involvement in follow-up and monitoring programs.	
6. DESCRIPTION OF ENGAGEMENT WITH INDIGENOUS COMMUNITIES	
As part of an Impact Assessment process under the Act, the proponent must collaborate with Indigenous communities in completing its Impact Statement. For the purposes of the Impact Statement, the proponent must: • in accordance with any existing community protocols and / or guidance provided by the Agency, collect available Indigenous knowledge and expertise and integrate it into its Impact Statement, just as it integrates scientific knowledge;	
• share project information frequently and transparently with Indigenous Peoples;	
• support the participation of Indigenous communities in the completion of the Impact Statement, which could include funding studies conducted by potentially affected Indigenous communities who will have demonstrated interest in this regard;	
• cooperate with Indigenous communities to identify preferred mitigation measures to avoid, minimize, offset or otherwise accommodate for potential adverse impacts on Indigenous Peoples or their rights, as well as to optimize the Project's benefits for their communities.	
At a minimum, the proponent must engage with the Indigenous communities identified by the Crown in the Indigenous Engagement and Partnership Plan. For Indigenous communities identified in Section 4.2 of the Indigenous Engagement and Partnership Plan, to be notified of the Project at key milestones of the Impact Assessment process, the proponent must provide project updates at these times and document the notifications in the Impact Statement.	
If the proponent becomes aware of potential adverse effects on an Indigenous community that is not listed in section 4.1 of the Indigenous Engagement and Partnership Plan, that community must also be engaged, as outlined above and the proponent is required to notify the Agency as soon as they have the opportunity to do so.	
The results of any engagement with each Indigenous community must be presented in the Impact Statement, and, as best as possible, convey the perspective of the Indigenous communities being engaged. The record of engagement and inclusion of Indigenous knowledge in the Impact Statement should demonstrate that the proponent sought to build consensus and obtained the agreement from specific Indigenous communities regarding information pertaining to those Indigenous communities presented in the Impact Statement.	
The Agency notes that not all Indigenous communities may be willing to collaborate with the proponent, therefore the proponent must demonstrate they have made best efforts at collaboration, and provide the Agency with an explanation regarding circumstances where collaboration was not possible.	
6.1 Indigenous Knowledge Considerations	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
The Impact Statement must indicate where input from Indigenous communities, including Indigenous knowledge, has been incorporated and how it was considered. Information should be specific to the individual Indigenous community(ies) involved in the assessment, and describe contextual information about the members within an Indigenous community (e.g., women, men, elders and youth).	
The proponent must indicate where Indigenous knowledge that was provided was not included in the assessment and provide a rationale.	
6.2 Record of Engagement	
The record of engagement in the Impact Statement must include: • the proponent's Indigenous engagement policy, as well as established policies and stated principles related to the collection of traditional knowledge and traditional land use information;	
• the list of Indigenous communities engaged by the proponent, including those that the proponent was unsuccessful in engaging;	
• the list of Indigenous communities wishing to be engaged but omitted by the proponent from engagement and the reasons for their omission;	
• where applicable, a copy of each community-specific engagement plan developed collaboratively by the Indigenous community and the proponent for the Project. If only one engagement plan was developed solely by the proponent for engagement with all Indigenous communities, provide a rationale for this approach;	
• the engagement activities undertaken with each Indigenous community, including the date, means and results of engagement;	
• a description of the outcomes of conversations with each Indigenous community about how they wish to be engaged by the proponent;	
• the results of any engagement and the perspectives of the Indigenous Peoples involved;	
• the list of the consultation or engagement protocols adopted by each Indigenous community, if applicable. A copy of the protocols must be included when available in writing;	
• an explanation for cases where engagement efforts have proven unsuccessful;	
• a description of how project information is frequently and transparently shared with Indigenous Peoples;	
• a description of the preferred methods for sharing information, including alternative solutions implemented for people and locations where technological resources are limited or language barriers exist (i.e., translation of written documents or provision of summaries in plain language, or Indigenous languages);	
• a description of how Indigenous communities were provided with an reasonable opportunity to review draft sections of the Impact Statement prior to them being filed, where disagreements occurred, and how disagreements were considered;	
• a description of how Indigenous expertise will be sought to assist with the carrying out of the Project, should it be approved;	
• a description of efforts to engage diverse segments of each Indigenous community in culturally appropriate ways, including groups identified by gender, age or other community relevant factors (e.g., hunters, trappers, and other harvesters) to support the collection of information needed to complete the GBA Plus;	
• a description of how engagement activities by the proponent were intended to ensure Indigenous communities were provided an opportunity to evaluate the Project's potential positive and negative effects and impacts on their members, communities, activities, and rights, as identified by the Indigenous community(ies); and	
• any agreements pertaining to engagement that are finalized or in progress, with anticipated timelines to complete.	
6.3 Analysis and Response to Questions, Comments and Issues raised	
The Impact Statement must: • consider and incorporate Indigenous knowledge, spiritual practices, cultural beliefs, laws and norms in the assessment, including whether the Project would be inconsistent with Indigenous laws and norms;	
• describe the type of information received from Indigenous communities (observations, questions, issues, comments, knowledge, expertise or other);	
• describe the potential effects and impacts to environmental, health, social, cultural and economic conditions of each Indigenous community, informed by the Indigenous community(ies) involved in the assessment and must include both adverse and positive effects;	
• describe the rights or interests of each Indigenous community, that the groups themselves have identified, that may be impacted by the Project;	
• describe the potential effects and impacts to lands in a reserve within the meaning of subsection 2(1) of the *Indian Act*. Note that section 2 of the *Act* defines federal lands as including "reserves, surrendered lands and any other lands that are set apart for the use and benefit of a band and that are subject to the *Indian Act*, and all waters on and airspace above those reserves or lands";	
• provide an analysis of the extent of the potential effects on each Indigenous community, and the views of Indigenous communities regarding the extent of impact on the exercise of rights as well as how these effects or impacts may be avoided, managed, mitigated, or accommodated;	
• detail the main issues, questions and comments raised by each Indigenous community during engagement activities and the proponent's responses, including how matters have been addressed in the Impact Statement or will be addressed in the future;	
• append any specific studies or assessments provided by Indigenous communities, if permission has been obtained from the Indigenous community concerned to publish them;	
• identify the sources of information used in the analyses of potential impacts to rights, as well as assumptions and methodologies used for the analyses;	
• integrate the perspectives of Indigenous youth, women, two-spirited people, individuals with disabilities, and Elders where provided;	

• indicate where and how Indigenous communities' Indigenous knowledge, perspectives and input were integrated into or contributed to decisions regarding the Project or its Impact Assessment, including:
  • the construction, operation, decommissioning, closure and reclamation plans
  • the evaluation of alternatives to the Project, and alternative means of carrying out the Project;
  • developing the assessment including setting spatial and temporal boundaries, identifying and selecting VCs and collection of baseline information;
  • characterization of potential environmental, health, social and economic effects of the Project for each Indigenous community;
  • measures to mitigate effects or to enhance or optimize potential project benefits, including compensation and offset plans as listed in Appendix 1 – Compensation and offset plans;
  • follow-up and monitoring activities as well as adaptive management strategies should the Project proceed; and
  • describe how the information gathered during the Planning Phase of the Impact Assessment of the Project was included, including the documents uploaded to the Registry by Indigenous communities during that phase of the Impact Assessment.	

6.4 Collaboration with Indigenous Peoples following the Submission of the Impact Statement	
The Impact Statement must: • describe the type of work the proponent intends to accomplish with Indigenous communities during subsequent phases of the Impact Assessment process;	
• set out any proponent commitments for engaging affected Indigenous communities, where appropriate;	
• describe how Indigenous Peoples will be involved in decision making processes related to the Project throughout the lifecycle of the Project; and	
• describe how Indigenous expertise and knowledge would be considered in carrying out the Project.	
7. ASSESSMENT METHODOLOGY	
7.1 Baseline Methodology	
For all baseline conditions, the Impact Statement must: • describe the current baseline for the environmental, health, social, and economic conditions related to the Project and the interrelations and interactions among them;	Section 2 Appendix E-1, Appendix G-1, Appendix G-2, Appendix H-1, Appendix I-1, Appendix K-1, Appendix P-1
• describe potential changes in the baseline conditions that are likely to occur in the future, if the Project was not carried out, including changes due to future climate change;	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• include current baseline data, and clearly demonstrate that these data have been collected in a way that makes analyses, extrapolations and reliable predictions possible, and are suitable to estimate pre-project baseline conditions, to predict effects from the Project, and to evaluate post-project changes in the conditions within and across the project, local and regional study areas;	Section 2, Section 7 Appendix E-1, Appendix G-1, Appendix G-2, Appendix H-1, Appendix I-1, Appendix K-1, Appendix P-1
• provide detailed descriptions of data sources and data collection methods, including sampling, survey and research protocols, modeling methods (including details of modelling software used (program and version), and model tuning or parameterization), sources of uncertainty, error estimates, any assumptions or biases, and an explanation of why these are the most appropriate sources and methods for the Project;	Section 2 Appendix E-1, Appendix G-1, Appendix G-2, Appendix H-1, Appendix I-1, Appendix K-1, Appendix P-1
• describe modelling methods and include assumptions, calculations of margins of error, and other relevant statistical information. Models should be validated using field data from the appropriate local and regional study areas;	
• show that the data sources are relevant to and representative of conditions within the established spatial and temporal boundaries and account for natural variability, especially if surrogate data from representative sites are used rather than specific measurements at the project site;	
• indicate if baseline data gaps exist and additional steps taken to address gaps in information;	
• describe where and how community or Indigenous knowledge, Indigenous participation and input were considered in determining baseline conditions (e.g., sampling locations, collection of baseline data, and opportunity to review results) on topics such as air quality, water quality, tissue sampling, fish and fish habitat, species at risk, and moose;	
• describe how GBA Plus was applied to examine differences in baseline conditions among diverse subgroups and provide disaggregated data where necessary; and	
• describe how any ongoing or completed regional assessment in the proposed project area or any relevant strategic assessments, such as the Strategic Assessment of Climate Change, were considered in determining baseline conditions.	
7.2 Selection of Valued Components (VC)	
In the event that a VC is suggested by an Indigenous community but is excluded from the Impact Statement, the proponent must provide a justification for its exclusion. The Impact Statement must: • describe the VCs and provide a rationale for the selection of VCs in sufficient detail to allow the reviewer to understand their relevance to the assessment;	Section 7.3 Table 7.3-1
• indicate the source and reasons of the concerns or interests considered in the selection of VCs, including from the public, provincial or federal authorities, Indigenous communities, and other participants;	Section 7.1.1
• describe how community and Indigenous knowledge and the perspectives were considered in selecting VCs.	Section 7.3
7.3 Spatial and Temporal Boundaries	
7.3.1 Spatial Boundaries	
The Impact Statement must: • describe the spatial boundaries for each VC and provide a rationale for each boundary. Spatial boundaries must be shown on maps;	Section 7.4 Figure 7.4-1
• define spatial boundaries by taking into account: • scale and spatial extent of potential effects and impacts of the Project; • the physical location of potential receptors, including, where applicable, the movement patterns of potential receptors; • relationships between VCs (e.g., interaction between wildlife and vegetation); • community knowledge and Indigenous knowledge; • current or traditional land and resource use by Indigenous communities; • rights of Indigenous Peoples, including treaty lands, traditional territories and areas or sites used for cultural and spiritual practices; • physical, technical, ecological, social, health, economic and cultural considerations; and, • size, nature, location and known effects of past, present and foreseeable projects and activities, particularly for the regional study areas; • any ongoing or completed regional assessment in the proposed project area or any relevant strategic assessments; and	
• identify where spatial boundaries may extend to areas that are (i) on federal lands, (ii) in a province other than the one where the physical activity or the Project is being carried out, or (iii) outside Canada where effects are expected.	
7.3.2 Temporal Boundaries	
The Impact Statement must: • describe the temporal boundaries for each VC and provide a rationale for each boundary;	Section 7.5
• define temporal boundaries by taking into account: • schedule of phases of the Project; • past conditions and historical context; • community knowledge and Indigenous knowledge; • current or traditional land and resource use by Indigenous communities; • rights of Indigenous Peoples, including treaty lands, traditional territories and areas or sites used for cultural and spiritual practices; • relevant physical, technical, ecological, social, health, economic and cultural considerations; • timing of past, present and foreseeable projects and activities; • how continued ore processing from other mine sites after the ore from the Upper Beaver deposit has been depleted could potentially extend ore processing operations on-site beyond the life of the Upper Beaver Mine; and • any ongoing or completed regional assessment in the proposed project area or any relevant strategic assessments.	
• **7.4 Effects Assessment Methodology**	
The Impact Statement must: • describe in detail the Project's potential direct and indirect, adverse and positive effects for each phase of the Project;	
• identify and describe measures that are technically and economically feasible and that would mitigate the Project's adverse effects or enhancements to increase positive effects	
• describe any residual effects of the Project;	
• describe the effects falling within federal jurisdiction as defined in section 2 of the Act;	
• in a stand-alone section or appendix, describe effects that are directly linked or necessarily incidental to the exercise of a federal authority's power or performance of a duty or function that would permit the Project to be carried out, in whole or in part;	
• describe how baseline data was used to inform this analysis;	
• describe the analytical methods selected to assess effects, including clearly stated assumptions for all predictions and how each assumption has been tested, including clear definitions of any descriptors or criteria that are used;	
• describe the degree of uncertainty related to the data and methods;	
• for quantitative predictions based on models, detail model assumptions, parameters, the quality of the data and the degree of certainty of the predictions obtained, including an explanation of model calibration, validation and model performance metrics used;	
• discuss the degree of confidence in the predictions and conclusions of the effect assessment;	
• if a detailed description of effects cannot be provided, provide a rationale for the absence of details and a general description of the potential effects and related project activities (e.g., activities and effects related to closure and reclamation). The proponent should confirm the rationale with the Agency before submitting the Impact Statement;	
• for predictions that may be affected by climate change, discuss how the range of potential climates informed the assessment, including predicted changes in climate extremes;	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• consider and describe the interactions among the environmental, health, social and economic effects and impacts on Indigenous Peoples and their rights;	
• consider and describe the perspectives, concerns and tolerance levels of Indigenous communities and other participants;	
• describe where and how Indigenous and community knowledge and input were considered and incorporated into effects assessment;	
• describe how GBA Plus was applied to examine differences in effects among diverse subgroups and provide disaggregated data where necessary, and	
• describe how any ongoing or completed regional assessment in the proposed project area or any relevant strategic assessments were considered in the effects assessment.	
7.5 Mitigation and Enhancement Measures	

The Impact Statement must:
• describe mitigation measures that specifically address the adverse effects to environmental, social, economic and health conditions identified in the effects assessment including:
  • mitigation practices, polices and commitments that are part of the project design and that are required to achieve the predicted effects (e.g., project design elements that were accounted for in the effects assessment);
  • standard mitigation practices, policies and commitments that constitute proven technically and economically feasible mitigation measures and that are to be applied as part of standard practice;
  • any new or innovative mitigation measures being proposed;	

• propose differentiated mitigation measures, if applicable, so that adverse effects do not fall disproportionately on diverse subgroups, or so they are not disadvantaged in sharing any development benefits and opportunities resulting from the Project. These mitigation measures should be developed in collaboration with those who are vulnerable and / or disadvantaged;	
• write mitigation measures as specific commitments that clearly describe how the proponent intends to implement them and the desired outcomes. Measures are to be specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation;	
• identify and describe the use and application of best available technology and best environmental practice in identifying, assessing and implementing mitigation measures;	
• describe any environmental protection plan(s) for the Project and, if applicable, the environmental management system through which the proponent will deliver this plan. The plan(s) must provide an overall perspective on how potentially adverse effects would be minimized and managed over time;	
• identify the party responsible for the implementation of mitigation measures and the system of accountability;	
• discuss the mechanisms the proponent would use to require its contractors and sub-contractors to comply with any commitments;	
• describe the approach that would be taken if a mitigation measure is no longer feasible while the Project is carried out;	
• describe how, throughout the Project's duration, the lessons learned through follow-up programs will be used to continually improve mitigation measures;	
• where components are to be decommissioned and abandoned, include planned activities to do so. Project components that may be abandoned and decommissioned during the construction or operation phases may include access roads, temporary laydown areas, aggregate extraction sites and other temporary sites;	
• where appropriate, describe financial liability and compensation in place as required by regulation or by the proponent's commitments, in relation to decommissioning or abandonment;	
• document specific suggestions raised by Indigenous communities for avoiding, mitigating or otherwise accommodating the Project's environmental, health, social and economic effects, including potential effects and impacts on Indigenous Peoples and describe whether and how these measures will be incorporated in the project design;	
• identify opportunities for enhancing positive effects, such as creation of local employment and infrastructure improvements;	
• identify other technically and economically feasible mitigation measures that were considered but are not proposed for implementation, and explain why they were rejected. Justify any trade-offs between cost savings and effectiveness of the various forms of mitigation measures; and	

• where appropriate, describe any adaptive management plans that will be implemented to address uncertainties associated with the effectiveness of mitigation measures included in a follow-up program (see section 15.4) including:
  • identifying the expected outcomes and targets that the Adaptive Management Plan will address;
  • describing the uncertainties that the Adaptive Management Plan will address;
  • developing hypotheses aimed at reducing the uncertainties described above;
  • describing the relevant baseline(s) for the Adaptive Management Plan;
  • describing mitigation measures to be employed and alternatives.	

For each mitigation measure identified, the Impact Statement must: • provide an assessment of the anticipated effectiveness and resulting residual effects; to the extent possible, provide relevant information to demonstrate anticipated mitigation effectiveness, including technical information from analogous projects and projects in the region, peer-reviewed studies, and local Indigenous and community knowledge;	
• describe all relevant uncertainties and assess how they could affect predicted residual effects;	
• if there is little experience or some question as to the effectiveness of any measures, describe the potential risks and effects should those measures not be effective or malfunction;	
• for those mitigation measures intended to address effects to the environmental, health, social and economic conditions of Indigenous Peoples or impacts on rights of Indigenous Peoples, provide a description of the consultation with Indigenous communities regarding the residual effects;	
• assess any potentially adverse environmental effects associated with the mitigation method itself; and	
• describe how disproportionate effects that were identified in the GBA Plus results were used to inform mitigation and enhancement measures.	
7.6 Cumulative Effects Assessment	

The Impact Statement must:
• identify the VCs that will be subject to the cumulative effects assessment, including:
  • VCs for which the proponent anticipates residual effects from the Project (must be considered in the cumulative effects assessment);
  • VCs identified as being of particular concern in the context of cumulative effects by the public and by Indigenous communities;
  • VCs where the predicted residual effects might not indicate the need for a cumulative effects assessment, but rely heavily on uncertain mitigation measures;
  • VCs for which cumulative effects were identified as a concern during the Planning phase, including:
  • air quality (i.e., potential for increased wind dispersal of project contaminants due to other forestry activities in the area);
  • surface water quality and quantity, and sediment quality (e.g., existing contamination in the Misema River system and its adjacent lakes; and Blanche River, Englehart River and Lake Timiskaming);
  • groundwater quality and quantity;
  • physical and cultural heritage, and to any structure, site or thing that is of historical, archaeological, paleontological or architectural significance;
  • current use of lands and resources for traditional purposes by Indigenous Peoples;
  • Indigenous Peoples' health and mental well-being;
  • social conditions, including use of land and resources for recreational purposes;	

• include a rationale if VCs are excluded from the cumulative effects assessment;	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix

• identify and justify the spatial and temporal boundaries for the cumulative effect assessment for each VC selected, taking into account:
  • boundaries may differ for each VC and should not be constrained by jurisdictional boundaries;
  • spatial and temporal boundaries will generally be larger than the boundaries for the project effects alone, and may extend beyond Canada's jurisdiction;
  • temporal boundaries should account for potential effects throughout the lifecycle of the Project, including decommissioning and abandonment;
  • spatial and temporal boundaries for VCs related to effects and impacts on Indigenous Peoples defined in collaboration with the Indigenous communities concerned;	

• identify the sources of potential cumulative effects on environmental, health, social, or economic components. Specify which other projects or activities that have been or will be carried out that could have resulted or could result in effects on the selected VCs within the defined boundaries and whether those effects could interact with the residual effects of the Project. Clearly explain and justify the rationale for selecting other past, existing or future projects or activities to include in the cumulative effects assessment.	
• consider the results of any relevant regional studies or regional assessments;	
• describe how the selection of boundaries and other past, existing or future projects or activities for cumulative effects assessment were informed by consultations with the public, Indigenous Peoples, jurisdictions, federal authorities and other participants.	

• assess the cumulative effects for each selected VC;
  • the analysis must include the effects of past, existing and foreseeable future projects and physical activities in combination with the residual effects of the Project, taking into account how the effects may interact (additive, synergistic, compensatory, and masking effects);
  • the analysis of the effects of future projects and physical activities must include a comparison of possible future scenarios with and without the Project, but must reflect the full range of cumulative effects and not just the Project's contribution;
  • the effects of past and existing projects and physical activities can be used to put the current state of the VC into context, but must be included in the cumulative effects analysis;
  • cumulative effects for the same VC may need to be assessed using a hierarchy, e.g., effects on local populations of certain species and on the larger populations;	

• describe technically and economically feasible mitigation measures proposed for cumulative environmental, health, social and economic effects, as well as potential impacts on the rights of Indigenous Peoples, including:
  • an assessment of the effectiveness of the measures applied to mitigate the cumulative effects;
  • in cases where measures to mitigate these effects are beyond the control of the proponent, identify any parties that have the authority to act on these measures. In such cases, the Impact Statement must summarize any commitments by the other parties regarding implementation of the necessary measures and any associated communication plans;	

• assess the regional implications of applying project-specific mitigation and enhancement measures, taking into account any reasonably foreseeable development in the area; and	
• develop a follow-up program to verify the accuracy of the assessment and the effectiveness of mitigation measures for cumulative effects (see section 15-Follow-up programs).	
7.7 Extent to which Effects are Significant	
For adverse effects within federal jurisdiction and the adverse direct or incidental effects, as defined in section 2 of the Act, the Impact Statement must: • characterize the residual effects, even if deemed small or negligible, and cumulative effects, using criteria and language most appropriate for the effect;	

• consider using the following criteria for residual effects, as appropriate:
  • magnitude;
  • geographic extent;
  • timing;
  • duration;
  • frequency;
  • reversibility; and
  • the environmental, health, social and economic context within which potential effects may occur.	

• describe the extent to which the adverse effects within federal jurisdiction and the adverse direct or incidental effects are significant;	
• describe the extent to which the adverse cumulative effects within federal jurisdiction, and the adverse direct or incidental effects, are significant;	
• justify the approach and choice of criteria used to determine the extent to which the effects are significant;	
• define and provide justification for any qualitative or quantitative categories, benchmarks, thresholds, or other descriptors used to characterize the extent to which effects are significant prior to conducting the effects assessment;	
• identify and explain relevant sources of information that were used to characterize the extent to which those effects are significant, including how the perspectives, concerns and tolerance levels of Indigenous communities and other participants were considered; and	
• describe how the probability or likelihood of that effect occurring and the degree of scientific uncertainty related to the data and methods used in the effect assessment, where considered in determining the extent of significance.	
8. Biophysical Environment	
The following must be included in relevant sections of the biophysical environment both in written description and on maps: • primary, secondary and tertiary watersheds as per the Ontario Watershed Boundaries;	Appendix G-1 (Section 1.3, Figure 1.3.1)
• waterbodies and watercourses, including intermittent and ephemeral streams;	Appendix G-2 (Section 4, Figure 3-1), Appendix I-1 (Section 3, Figure 2-1a)
• wetlands;	Appendix K-1 (Section 3.2.2, Section 5.2.1, Figure 5-2)
• ecozones, ecoregions, and ecodistricts as per the province's or Canada's Ecological Landscape Classification	Appendix K-1 (Section 1.1, Figure 1-3)
8.1 Meteorological Environment	
The Impact Statement must: • describe the local and regional climate, in sufficient detail to highlight weather variations and characteristics of the regions affected by project activities and components, including historical records of relevant meteorological information;	

• provide summary data and the reference to underlying data source, including unique weather stations identifiers for:
  • monthly mean, maximum and minimum temperatures;
  • monthly mean, maximum and minimum precipitation;
  • typical wind speed and direction;
  • monthly mean evapotranspiration estimates using standard meteorological measurement (e.g., using the Penman, Morton or Meyer Methods);	

• provide reference to sources (and unique weather station identifiers) for hourly meteorological data (wind speed and direction, air temperature, dew point temperature or humidity, air pressure and precipitation data) from a minimum of one year to support dispersion modelling that captures the normal variability of meteorological conditions; and	Appendix D-1 (Section 2, Section 3.1.10)
• describe the influence of climate change on the local and regional climate and in the risks of extreme weather events.	
8.2 Geology, Geological Hazards and Geochemistry	
8.2.1 Baseline Conditions	
The Impact Statement must: • describe the geology of the bedrock and unconsolidated sediments at an appropriate scale for the Project, including a table of geological descriptions, geological maps and cross-sections at the appropriate scale;	
• identify on geological maps the location of areas of bedrock outcrops that will require blasting;	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• identify the geological zones likely to contain asbestos fibres;	
• describe the geomorphology, topography and geotechnical characteristics of areas proposed • for construction of major project components	

• identify any geological hazards that exist in the areas planned for the project facilities and infrastructure, including:
  • history of seismic activity in the area, including induced earthquakes;
  • evidence of active faults;
  • isostatic rise or subsidence; and
  • history of landslides, slope erosion and the potential for ground and rock instability / landslides, and subsidence during and following project activities;	

• provide a characterization of instabilities caused by historical mining activities;	Section 4.5.1
• provide a geochemical characterization of expected mined materials, such as waste rock, ore (including off-site), low grade ore, pit wall materials, underground development ramps, tailings, overburden and potential construction material (i.e., mine rock, quarries, unconsolidated material);	Appendix H-1 (Section 4 through 6)
• provide a detailed summary of analytical methods used to evaluate mineralogy, acid rock drainage and metal(loid) leaching. The Mine Environment Neutral Drainage (MEND) report 1.20.1 is recommended as guidance to support study design;	Appendix H-1 (Section 3.2)
• describe the representativeness of samples collected for acid rock drainage and metal(loid) leaching assessment. Present cross sections or block model mages at an appropriate scale that include mine rock samples, geology, mineralized zones, the approximate location of all open pit and underground mine development, borehole traces and identification numbers, and a scale and legend;	Appendix H-1 (Section 3.1, Figure 3-1, Section 3.2.1)
• describe the representativeness of tailings solids and process water. Provide a schematic process flow chart including the location that each tested sample represents if various processing streams are tested. In addition to considerations listed for mine rock, consider cyanide and its degradation products in the analytical testing program.	Appendix H-1 (Section 3.1.2, Table 3-3, Figure 3-2)
• describe the quality assurance / quality control procedures and data. Provide laboratory certificates of analysis that include information related to analytical methodology and quality assurance / quality control;	Appendix H-1 (Section 5.1.1.3, Section 7.2.4, Appendix F)
• describe the approach and methods for the prediction of acid rock drainage and metal(loid) leaching. Provide initial leaching potential results based on short term leach tests and a description of the representativeness of laboratory and field kinetic tests based on static tests results; and	Appendix H-1 (Section 3)
• describe baseline concentrations of contaminants of concern (these may include but are not limited to selenium, sulphate, cadmium, nitrate and calcite, and heavy metals) within the local study areas, regional study area as required, and downstream receiving environments.	Appendix H-1
8.2.2 Effects to Geology, Geological Hazards and Geochemistry	
The Impact Statement must describe all effects of the Project on geology, geological hazards, and geochemistry including: • describe potential effects of the Project in areas of geological instability caused by historical mining activities;	
• assess different methods of segregating potentially-acid generating and / or metal(loid) leaching and non-potentially acid generating waste materials during the Project's life cycle, if required for construction materials or separate waste management; and	
• describe potential effects to groundwater and surface water and sediment quality from acid rock drainage, neutral mine drainage, and / or metal(loid) leaching, as described in Section 8.5.2.	
8.3 Topography, Soil and Sediment	
8.3.1 Baseline Conditions	
The Impact Statement must: • describe the terrain, soils and sediments within the local and regional study areas. Provide surficial geology maps and cross-sections of appropriate scale;	
• describe and map landforms associated with important wildlife habitat features including elevated land forms, eskers, ridges, cliffs, rock outcrops and exposed bedrock where applicable;	
• provide a description and location of any erosion-sensitive soils and areas of ground instability;	
• as required, provide information on soil depth by horizon and soil order within the project area to support soil salvage and reclamation efforts, and to outline potential for soil erosion;	
• describe the suitability of topsoil and overburden for use in the reclamation of disturbed areas including an assessment of the acid generating potential and metal(loid) leaching potential of overburden to be used;	
• describe the historical land use and the potential for contamination of soils and sediments;	
• describe any known or suspected soil or sediment contamination with the study area taking into account historical land use; and	
• identify areas or ecosystems that are sensitive or vulnerable to acidification resulting from the deposition of atmospheric contaminants.	
8.3.2 Effects to Topography, Soil and Sediment	
The Impact Statement must describe all effects of the Project on topography, soil and sediment including: • potential for changes to soil quality, loss, fertility, compaction, and erosion due to vegetation clearing;	
• potential and likelihood of re-suspended, releasing or otherwise disturbing known or suspected soil or sediment contamination; and	
• potential for changes to soil from the deposition of dust produced from project activities.	
8.3.3 Mitigation and Enhancement Measures	
The Impact Statement must describe the mitigation measures for the possible effects to topography, soil and sediment, and provide a rationale with quantitative and qualitative evidence that explains the effectiveness of the proposed measures: • including the consideration of the use of phytostabilization and native plants as mitigation measures to reduce the mobility of contaminants in soil.	
8.4 Atmospheric, Acoustic, and Visual environment	
8.4.1 Baseline Conditions	
The Impact Statement must: • characterize the ambient air quality in the project, local and regional study areas and identify existing emissions and contaminant sources;	Appendix D-1

• provide baseline ambient air concentrations for contaminants, in particular near key receptors (e.g., communities, traditional land users, wildlife) and quantify emission sources for the following:
  • total particulate matter;
  • particulate matter less than 2.5 microns (PM2.5);
  • particulate matter less than 10 microns (PM10);
  • carbon monoxide (CO);
  • sulphur dioxide (SO2);
  • nitrogen dioxide (NO2) and nitrogen oxides (NOx);
  • ozone (O3);
  • volatile organic compounds (VOCs)6, individual or an appropriate subset;
  • polycyclic aromatic compounds, including polycyclic aromatic hydrocarbons (PAHs), alkylated PAHs, PAH transformation products, including nitro and oxy-PAHs, and dibenzothiophenes (DBTs);
  • metals;
  • Diesel Particulate Matter (DPM);
  • any other relevant air pollutants from mobile, stationary or fugitive sources;
	Appendix D-1 (Section 4)

• compare ambient air quality results with applicable regional, provincial and federal standards. For air pollutants with standards, the comparison must use the same averaging period and the statistical format associated with each numerical value; • standards include: Canadian Ambient Air Quality Standards (CAAQS), National Ambient Air Quality Objectives (NAAQO), or relevant provincial standards. The proponent must refer to the new CAAQS established by the Canadian Council of Ministers of the Environment (CCME) for PM2.5, O3, SO2 and NO2 for 2020 and 2025;	Appendix D-1 (Section 1.3)
• describe deposition through either existing long term, or new monitoring data for a duration of a minimum of one year;	Appendix D-1 (Section 3.1.4)

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• describe the data source(s), including monitoring location(s) and duration, and data validation and quality control methods;	Appendix D-1 (Section 2 and 3)
• identify and address issues related to the quality of the monitoring data and seasonal variability in the baseline survey and determine ambient contaminant concentrations using representative monitoring data, collected over an appropriate duration and geographic scope;	Appendix D-1 (Section 4 and 5)
• if modelling is undertaken to understand baseline ambient air quality, then describe direct and indirect sources of baseline air emissions, including mobile, stationary and fugitive, and provide an inventory of all equipment sources of baseline air emissions;	

• provide current ambient noise levels at key receptor points (e.g., communities, traditional land users, sensitive human receptors, and wildlife), including the results of a baseline ambient noise survey and permissible noise levels for each receptor. The information on usual noise sources (natural or anthropogenic), their geographic extent and temporal variations must be included. At the time of collecting baseline data for the study on ambient noise where there are human receptors, it is recommended that the following aspects be considered:
  • natural sounds;
  • soundscapes (see ISO 12913-1:2014. Acoustics — Soundscape — Part 1: Definition and conceptual framework);
  • expectations regarding quiet conditions in specific places or at specific times;
  • usual sleeping hours (the default assumption is 10 p.m. to 7 a.m.); and
  • degree of baseline annoyance attributable to existing noise sources (e.g., vehicle traffic, aircraft, other industrial noise);
	Appendix E-1

• justify the selection of and provide information on all noise sensitive receptors in the study area, including any foreseeable potential receptor and the distance between the receptors and the Project;	Appendix E-1 (Section 2)
• describe existing ambient night-time light levels at the project site and at any other areas where project activities could have an effect on light levels;	
• describe night-time illumination levels during different weather conditions and seasons; and	
• describe landscapes of interest, visual screens and other components of the visual environment, and locate them on maps.	
8.4.2 Effects to the Atmospheric, Acoustic, and Visual Environment	
The Impact Statement must describe the effects of the Project on the atmospheric, acoustic and visual environment, including: • provide a detailed description of emission sources of air pollutants that will be generated from each project phase listed under 8.4.1.Baseline conditions	

• provide detailed methodology and assumptions used to estimate emissions of air pollutants released.
  • all relevant emission factors should be provided and referenced;
  • for all applicable emission sources, include the assumed tier of emission standard for each emission factor applied;
  • provide details of the achievement of emission standards for all mobile and stationary engines used in the Project;	

• use atmospheric dispersion modelling to predict the fate of air pollutants resulting from project-related sources and provide appropriately scaled contour map(s) plotting the predicted pollutant levels for all phases of the Project (see Appendix 1 - Guidance for Biophysical Components for guidance on dispersion modelling); • determine whether the formation of secondary pollutants (pollutants which are not directly emitted but form when other primary pollutants react in the atmosphere) resulting from the Project under assessment has the potential to raise concentrations above baseline levels – if so, identify and characterize these pollutants;	
• provide the rationale for the choice of air quality model, including the type and magnitude of emissions, the complexity of sources, terrain and meteorology, or for why modelling is not being used to predict fate of air emissions;	
• provide justification for all control efficiencies used to reduce emission rates of sources within the model, including details of all assumptions associated with the related mitigation measures, and their achievability;	

• assess the uncertainty in the modeled air pollutant concentrations using relevant range of model inputs. All sources of uncertainty should be taken into account, including:
  • model uncertainty, including a consideration for how uncertainty in modelled predictions may vary spatially and temporally;
  • uncertainty in baseline concentration estimates, in the estimates of meteorological inputs, and in estimates of source emissions (from sources attributable to the Project, and externally);	

• conduct a source contribution analysis to assess the relative contributions of project and non-project emission sources on pollutant concentrations at key receptors. The source contribution analysis should be conducted for all pollutants that exceed 10% of the relevant guidance or standard value. Emission sources should be grouped into appropriate categories;	

• assess effects to receiving environment through:
  • comparison of predicted air pollutant levels to the most stringent federal or provincial air quality standards, including the Canadian Ambient Air Quality Standards (CAAQS). The assessment against CAAQS should be based on the principles of “keeping clean areas clean” and continuous improvement, and in the context of air sheds and air zones with the Air Quality Management System;
  • comparison with critical thresholds (consider current, historical loadings, buffering capacity, including Acid Deposition Critical Loads);
  • comparison with sensitive ecological receptors (consider effects thresholds of species in question);
  • comparison to other appropriate existing guidelines, objectives or standards, where relevant. This includes regional and community-based air quality guidelines;	

• describe changes in ambient vibration and other sound levels resulting from the Project at potential receptor locations, including changes to the perception of non-anthropogenic sounds and the anticipated zone of influence from acoustic impacts from the Project;	
• where there is public and / or Indigenous community(ies) concern associated with an increase in sound levels during construction, provide a vibration and sound impact assessment, including an overview of the concerns;	
• consider the expectations of peace and quiet at receptors (e.g., for incorporating appropriate adjustments in the quantitative noise assessment) and the applicable community-based policies concerning noise (e.g., complaints resolution processes as a mitigation measures / follow-up monitoring mechanism);	

• for projects that result or may result in an increase in sound emissions during any phase of the Project:
  • quantify sound levels at appropriate distances from any project facility and / or activities and describe, for each contributing source, the timing (e.g., hours of night-time activities), the number, and duration of noise events, and their sound characteristics, including frequency spectrum;
  • provide the hourly distribution of baseline noise events at night in comparison to predicted individual noise events at night at each receptor location;
  • describe the locations and characteristics of sensitive receptors, including species at risk;
  • describe engagement with regulators, stakeholders, community groups, landowners and Indigenous communities about potential effects to the acoustic environment, including opportunities for their involvement in the assessment of these potential acoustic effects;
  • identify and justify the approach to determine the extent to which sound effects resulting from the Project are adverse;	

• provide a description of any changes in nighttime light levels resulting from the Project;
  • quantify light levels at appropriate distances from any project facilities, including the timing (e.g., night hours), frequency, duration, distribution and character of light emissions;
  • describe the locations and characteristics of the most sensitive receptors, including species at risk and areas favoured by Indigenous Peoples for the practice of traditional activities;
  • describe engagement activities and, where appropriate, provide a record of engagement with regulators, stakeholders, community groups, landowners and Indigenous Peoples regarding potential effects on the visual environment; and	

• describe any positive changes.	
8.4.3 Mitigation and Enhancement Measures	
In particular, the Impact Statement must: • describe all methods and practices to be deployed to reduce and control emissions, including details on actions, triggers, and frequency of mitigation measures. If the best available technologies are not included in the project design, the proponent should provide a rationale for the technologies selected;	
• document and justify how the contaminant emission reduction efficiencies were applied in the calculation of emission rates, including details of all assumptions associated with these mitigation measures and their feasibility;	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• provide a description of existing and planned measures to reduce odours and dust, including a description of improvements to existing infrastructure, as applicable;	
• provide a description of any ambient air quality monitoring to be implemented to verify the predictions from modelling results and to confirm the effectiveness of mitigation measures;	
• provide a description of participation in national or regional air emission tracking and reporting programs (e.g., National Pollutant Release Inventory) or provide rationale why participation is not required;	
• develop and implement strategies compliant with regional and national commitments, such as the CCME's commitment regarding pollution prevention;	
• consider the inclusion of Indigenous Peoples to participate in the development of a dust suppressant plan;	
• provide a noise management plan, including identification of the noise sources, consideration of any applicable noise adjustment (e.g., community type, time-of-day, tonal and / or impulsive noise), common noise mitigation measures (including a detailed complaint resolution process), the performance efficiency of the noise control devices, the best practices programs and the continuous improvement programs, establish the need for follow-up monitoring for the purposes of validation of the model or due to any concern raised by participants, and describe opportunities for Indigenous Knowledge holders to participate in the development of the noise management plan; and	

• provide a lighting management plan, including the planning and management of lighting and of the ambient light for every activity site and the consideration of measures for the reduction of excessive light during construction and operation. Consider the following options of measures for lighting management:
  • avoid or minimize the use of artificial light;
  • select low-intensity lighting;
  • use lighting fixtures that limit or concentrate the lighting to targeted areas and avoid light spilling out of the spaces to be illuminated;
  • limit the projection of light toward the sky by using fixtures that produce dark, uniform lighting that meets actual lighting needs;
  • avoid the emission of light at more than 90 degrees; and
  • avoid lights that emit blue / green / white / UV wavelengths.	

8.5 Groundwater and Surface Water	
8.5.1 Baseline Conditions	

The Impact Statement must:
• provide hydrometeorological (temperature, precipitation, evapotranspiration) and hydrological information (regional flows, site specific flows, water levels) and discuss how the chosen data sets are applicable to the Project in terms of:
  • geographic proximity;
  • similarity of sites (e.g., watershed sizes, elevation, wetland areas, etc.);
  • length of record (e.g., more than 30 years, if possible);
  • applicability to the project period (e.g., currency of data, presence of trends or cyclicity); and
  • any compromises between the above;
	Appendix G-1

• describe and illustrate on one or more topographic maps, at appropriate scales, the drainage basins in relation to key project components. On the map(s), identify all waterbodies and watercourses, including intermittent streams, flood risk areas, wetlands, watershed and sub-watershed boundaries, and direction of flow; • if applicable, indicate the intended locations of water crossing and watercourse diversions;	Appendix G-1 (Figure 1.3.1), Appendix I-1 (Figure 2-1a), Appendix K-1 (Figure 5-2)

• provide a list of all waterbodies and watercourses (permanent, intermittent and ephemeral) that may be directly or indirectly affected by the Project. Provide a table that groups waterbodies and watercourses by sub-watershed and provides the following information about each:
  • type of watercourse impacted (e.g., lotic or lentic system, lake, river, pond, temporary or permanent stream);
  • size of the waterbodies and watercourses, as applicable (e.g., width at the ordinary high water mark, length or area);
	Appendix I-1 (Section 3)

• provide flow hydrographs and corresponding water levels for nearby streams and rivers, including any site-specific rating curves showing the full range of seasonal and inter-annual variations; as well as seasonal baseflow;
  • hydrographs may be based on data from nearby gauging stations or from gauging stations on site;
  • approach used should take into account the need to provide information for use in fish habitat characterization and effects assessment as guided by the Canadian Science Advisory Secretariat's science advisory report entitled "Framework for assessing the ecological flow requirements to support fisheries in Canada;
	Appendix G-1 (Appendix A and B)

• provide stage hydrographs for lakes expected to be affected by the Project showing the full range of seasonal and inter-annual water level variations;	Appendix G-1
• for each waterbody and watercourse potentially affected by the Project, provide a description of ice cover, thickness and conditions and the timing of freeze-thaw cycles;	Appendix G-1
• provide for each waterbody potentially affected by the Project, bathymetry, maximum and mean depths, vertical profile information, information on stratification and turnover, and sediment composition (e.g., particle size analysis and sediment quality);	Appendix G-2 (Appendix A), Appendix I-1 (Section 3)

• using traditional field and mapping techniques, provide a delineation and characterization of groundwater–surface water interactions, including an identification of groundwater-dependent ecosystems, wetlands, discharge and recharge areas that are potentially affected by the Project;
  • use this information to calibrate and verify numerical flow modelling;
  • the chosen approach should take into account the potential effect that changes to groundwater-surface water interactions have on fish and fish habitat;	

• develop a quantitative surface water balance for watersheds potentially affected by the Project, detailing water intake and outflow to the environment;	

• describe the surface water, ground water and sediment quality baseline characterization program, including sampling site selection and locations, monitoring duration and frequency, sampling methodology, and analytical protocol, including quality assurance and quality control measures;
  • describe the incorporation of any applicable historical data or existing information;
  • characterization program should include sampling locations within the project area, the local and regional study areas, and should include reference locations that are unlikely to be impacted by the Project;
	Appendix G-2 (Section 3), Appendix I-1 (Section 2)

• provide baseline data for relevant physicochemical parameters and chemical constituents for surface water, groundwater and sediment quality;
  • physicochemical parameters may include temperature, pH, electrical conductivity, dissolved oxygen, turbidity, total suspended solids, total hardness, total, particulate, and dissolved organic and inorganic carbon, total dissolved solids;
  • relevant chemical constituents may include major and minor ions, total and dissolved trace metals, radionuclides, total mercury, methylmercury, polycyclic aromatic compounds, nutrients, organic and inorganic compounds, or other compounds of potential concern;
  • water sample collection and analysis should use appropriately sensitive detection limits and the data should illustrate the seasonal and inter-annual variability in baseline surface water quality with sufficient years of baseline data to fully characterize, including possible variabilities due to groundwater–surface water interactions.
	Appendix G-2 (Section 4), Appendix I-1 (Section 3)

• describe baseline concentrations for relevant physicochemical parameters and chemical constituents in relation to applicable water quality and sediment guidelines;	Appendix G-2 (Section 4), Appendix I-1 (Section 3)
• identify springs and any other potable surface water resources within the local study areas, and regional study areas as required, and describe their current use, potential for future use, and whether their consumption has Indigenous cultural importance;	
• identify domestic, communal, or municipal water wells within the local study areas, and provide information on their depth, distance from the Project, stratigraphy, screened hydrostratigraphic unit and piezometric level and capacity, and describe their current use, potential for future use, and whether their consumption has any Indigenous cultural importance. Where available within the regional study area, domestic, communal, or municipal water wells should be identified, and details provided for the wells within the local study area;	

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• identify groundwater-producing strata (coarse-grained sediments and permeable bedrock) that may be affected by the Project. Where current domestic, communal, or municipal water wells access these strata, their distance from the Project must also be marked and added to the map;	
• provide a summary of key groundwater monitoring wells within the local study areas, and regional study areas (if available)used to inform the conceptual model, and identify their location, groundwater quality information and monitoring frequency. Provide representative hydrographs showing the range of seasonal and inter-annual water level variations and any spatial variation in the local study areas to support the assessment of groundwater effects as they relate to fish and fish habitat. Information within the regional study area should be provided as required, to support the development of the conceptual model of groundwater flow;	
• describe the hydrostratigraphic units (aquifers, aquitards, aquicludes) of the hydrogeological environment in both bedrock and overburden and provide a piezometric map showing heads and the direction of groundwater flow;	
• describe the structural geology of the hydrogeological environment, including major faults, fracture density and orientation with respect to groundwater flow directions;	
• describe the groundwater flow boundaries of the hydrogeological environment, including groundwater divides and boundaries with surface water;	
• provide the hydraulic properties of the hydrostratigraphic units, including data on hydraulic conductivity, specific storage, transmissivity, storativity, saturated thickness, porosity, and specific yield, as applicable;	
• provide hydrogeological maps and cross-sections of the study area showing water table elevations, potentiometric contours, interpreted groundwater flow directions, groundwater divides and areas of recharge and discharge;	
• present a conceptual model of the hydrogeological environment, including a discussion of geomorphic, hydrostratigraphic, hydrologic, climatic, and anthropogenic controls (including historical information related to previous mining periods; and dewatering information related to the advanced exploration program) on groundwater flow	

• present a 3-dimensional numerical groundwater flow model developed for the project area based on the conceptual model of the hydrogeological environment;
  • state the purpose, limitations and assumptions in the modelling approach, including calibration methods, model validation and accuracy;
  • calibrate the numerical model to baseline hydrogeological conditions and historical hydrogeological conditions (as applicable) using groundwater level and stream flow monitoring data and provide metrics and graphs describing the quality of the calibration that was achieved and discuss how spatial variability is considered in model calibration;
  • analyse the sensitivity of key model outputs to hydraulic properties and climatic parameters such as recharge, and describe uncertainty within the model as it relates to model assumptions; using the calibrated numerical model, provide a baseline groundwater budget including baseflow discharge to wetlands, streams and rivers, recharge from lakes or streams, and any anthropogenic withdrawals;	

• present a conceptual model for the hydrological environment, as appropriate to describe baseline conditions for surface waters. The model should be developed to support the assessment of potential changes to water and sediment quantity and quality, including a consideration of the surface water quality mixing zone modelling, in rivers, streams, lakes, springs and wetlands, with input from regulators and Indigenous communities; and	
• explain how baseline data was gathered, and modelling developed, at a scale and resolution that allows for the application of results about groundwater and surface water to the assessment of interrelated VCs, notably for fish, birds and other wildlife, their habitat and their health, as well as human health.	
8.5.2 Effects to Groundwater, Surface Water and Aquatic Sediment	

The Impact Statement must:
• describe the effects of the Project on surface and ground water (quality and quantity), including effects related to:
  • project use of surface water or groundwater resources;
  • changes to water flow and water levels in Ava Lake and other waterbodies or watercourse diversions, including the use of channels and dykes to divert the Misema River around York Lake;
  • discharge of water, effluent, wastewaters or other substances to the environment;	

• describe how the effects of climate change are taken into account in the evaluation of the project effects;	
• discuss changes to watersheds, including alignment and condition of waterbodies and watercourses (permanent, intermittent and ephemeral), including those created, removed or altered by the Project;	
• discuss the effect to the watershed of overprinting of surface water features by project infrastructure (i.e., percent change in instantaneous flows);	
• quantify the extent of hydrological changes that will result from disturbances to aquifers and surface water features, taking into account climate change (see also section 14 Effects of the environment on the Project). This includes changes to the quantity or timing of surface flow, water levels, ice thickness or extent, sediment input, and channel regime in watercourses, and water levels in affected waterbodies;	
• present an integrated site water balance model incorporating surface and groundwater fluxes to or from all major project components, for all project phases. Include estimates of surface water runoff rates for major project components;	

• indicate the groundwater and surface water withdrawal requirements during all phases and specify:
  • the timing, quantity and quality of water withdrawn from the environment (flow rates and annual volumes);
  • any treatment carried out on these waters; and
  • the conditions under which this water is released into the receiving environment;	

• present key flow rates for all project components and water management structures, including inflow, outflow or surface run off from storage piles, contaminated material storage, and tailings management facilities;	
• present water levels and flows in waterbodies impacted by the Project, including, but not limited to, those on the Misema River system;	

• present a comprehensive site water management plan for the Project's life cycle including for;
  • water inflows and outflows from project site;
  • water diversion, including the proposed design flows of the diversion channel;
  • process water management;
  • stormwater management;
  • water management within the project site;
  • water management in the open pit;
  • mine flooding strategies, including the potential for reconnection of the pit lake to the Misema River;	

• present a 3-dimensional numerical groundwater flow model of the hydrogeological system that incorporates all major project features such as open pits, underground workings, waste rock piles, tailings management facilities, dewatering wells, and water diversion ditches:
  • the model should be based on the calibrated model used to describe baseline conditions;
  • the use of telescopically refined groundwater flow models is recommended in the vicinity of open pits and tailings management facilities;	

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• using the 3- dimensional numerical groundwater flow model,
  • estimate key project fluxes, including open pit or mine inflow rates, pit or mine dewatering rates, pit or mine flooding rates, and tailings seepage rates during operations and the post-closure period;
  • estimate seasonal changes to surface water and groundwater regimes during operations and the post-closure period, including effects of depressurization of the basal aquifer and dewatering of surficial deposits, effects on baseflow in rivers and streams, effects on wetlands, effects on groundwater-surface water interactions as they relate to fish habitat, effects on potable supplies, and effects on natural flow divides;
  • describe the contaminants associated with the Project, their spatial and temporal locations and their potential flow paths (e.g., groundwater seepage pathways and how they relate to potential receptors). Characterize how they could affect surface and groundwater quality, including information on the source(s) of any contaminants, and their transport and fate in the hydraulic environment;
  • describe the downgradient flow of groundwater affected by the Project, with the use of figures showing groundwater piezometric contours and particle tracking results;
  • describe potential effects to surface water flows or water levels due to groundwater drawdown, and
  • describe the contaminant attenuation capacity within the hydrogeological units in the project area. With this input, assess the potential for off-site groundwater and surface water contamination. Alternatively, the proponent may conservatively assume no attenuation capacity, but must still describe, in detail, potential degradation products (i.e., daughter materials) that may result from attenuation and other processes during groundwater flow;	

• describe the potential changes to surface water, groundwater and sediment quality related to the Project including;
  • potential changes to surface water quality due to surface erosion and sedimentation, from the removal of vegetation and changes to riparian, wetland, and terrestrial environments;
  • potential changes to surface water quality due to the generation and deposition of dust and particulate matter and any contaminants they contain (such as heavy metals, metal(loid)s, mercury, methylmercury);
  • potential changes to sediment quality and composition due to discharge of sewage works effluent and other Project-related discharges to surface waters.
  • potential changes to surface water as a result of acidifying emissions from the Project and acid deposition, using the information provided to meet the requirements under section 8.4.2 Effects to Atmospheric, Acoustic and Visual environment	

• present an integrated chemical mass balance model incorporating surface and groundwater chemical loads to or from all major project components, for all phases including;
  • a clear description and rationale for all input parameters and assumptions;
  • base case (i.e., most likely, mean, median) and worst case (e.g., 75th to 90th percentile) scenarios, plus applicable sensitivity scenarios;	

• using the integrated chemical mass balance model, describe predicted worst, base, and sensitivity case changes caused by project activities to surface water, groundwater and sediment quality in the receiving environment, including but not limited to those associated with watercourse and waterbody crossings, blasting, diversions, dewatering, water withdrawal, wastewater return, seepage from piles of material and tailings, overflows from excavation, and surface runoff. Include a description of changes to physicochemical parameters and chemical constituents;	
• provide an assessment for off-site migration pathways for impacted groundwater, and an analysis of contaminant attenuation capacities within the hydrogeological units of the project study area;	

• describe tailings management strategies, including:
  • the solid and liquid composition and volume of specific waste streams including results of geochemical testing described in Section 8.2 including cyanide and its degradation products, total organic carbon dissolved inorganic carbon, organic carbon, isotopic composition of water, and potential tracers of groundwater contamination for liquid streams;
  • disposal sites, including their location on the post-closure landscape;
  • feasibility and effectiveness of different reclamation strategies (i.e., various wetland landscapes and dry landscapes);
  • measures and strategies for recycling, preventing pollution and minimizing waste throughout the life-cycle of the Project, including information on the technologies that will be employed; and
  • identify the limits of proposed tailings treatment technologies at closure;	

• provide an assessment of potential contamination to surface waters and groundwater as a result of the geochemistry of the pit walls, and the reconnection of the pit lake to the Misema River system during reclamation and decommissioning;	
• describe the quantity and quality of all effluent streams released from the site to the receiving environment, including effluent from treatment facilities, dewatering activities, seepage and surface run off from the project components and site; • compare the quality of all effluent streams to federal and provincial release limits to determine if worst, base, and sensitivity site predictions require mitigation measures (i.e., BATEA);	

• describe the worst, base, and sensitivity case changes to surface water, groundwater and sediment quality in the receiving environment resulting from acid rock drainage, neutral mine drainage, and / or metal(loid) leaching:
  • provide potentially acid-generating rock volumes and tonnage for the life cycle of the Project, and disposal methods;
  • consider the results of the geochemical characterization study that evaluated the potential for acid rock drainage, neutral mine drainage, and / or metal(loid) leaching for mined materials, tailings, and construction materials (Section 8.2);
  • provide estimates of the potential for mined materials, tailings and construction material to be sources of acid drainage, neutral mine drainage, and / or metal(loid) leaching, timing to its onset, and short- and long-term loading rates calculated from kinetic testing for both neutral and acidic conditions, with consideration for the use of a proxy (i.e., historical mine waste, analytical tests replicating acidic conditions) if kinetic tests have not produced acidic leachate, if applicable;
  • predicted (worst, base, and sensitivity case scenarios) changes to surface water, groundwater and sediment quality due to all discharges and effluents from the Project entire life-cycle, including changes to physicochemical parameters (temperature, pH, salinity, dissolved oxygen), and relevant chemical constituents (major and minor ions, inorganic and organic carbon, heavy metals, metal(loid)s, radionuclides, nutrients, organic compounds); and
  • compare the predicted worst, base, and sensitivity case scenario changes to groundwater, surface and sediment quality to baseline and applicable guidelines, objectives or standards.	

• describe locations at which potential changes to water or sediment quality will be assessed, including:
  • all point and diffuse sources of discharges;
  • immediate receiving environment for any point of diffuse sources of discharges from the Project;
  • at outer boundary of mixing zone;
  • where the water quality from the immediate receiving environment begins to meet Water Quality Guidelines, or background levels for that contaminant
  • at project boundary;
  • at Local Study Area boundary,
  • at Regional Study Area boundary; and	

• analyze and describe changes to surface and groundwater at a scale and resolution that allows for the application of results to the assessment of interrelated VCs, notably for fish and fish habitat and human health. Carry forward the assessment of potential changes in water quality, as required in the following sections of the Guidelines.	
8.5.3 Mitigation and Enhancement Measures	
The Impact Statement must: • describe the mitigation measures for the possible effects on the quantity and quality of surface water, groundwater and sediment, including water supply wells and provide a rationale with quantitative and qualitative evidence that explains the effectiveness of proposed measures;	
• describe any applicable water quality treatment measures and provide evidence supporting the effectiveness of these measures (refer to MEND report 3.50.1), including predicted inflow and outflow concentrations for relevant water quality parameters;	
• provide the details of mitigation measures comprised in water management plans proposed for waterbodies and watercourses likely to be affected during all phases of the Project, including measures applicable to water use minimization; • the proponent may also indicate other water sources (e.g., recycled water) for the Project and consider the possibility of reusing the water;	
• describe and justify water use for the Project and the measures that will be taken to eliminate or reduce the adverse effects, including the supply and discharge of water, and potential exchanges between watersheds;	

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• If the final details of the hydrostatic tests have not been confirmed yet, the proponent nonetheless must specify the expected requirements, the options available and the criteria it intends to apply to assure protection of water resources: • the proponent may also indicate other water sources (e.g., recycled water) for the Project and consider the possibility of reusing the water;	
• describe any specific monitoring program planned during construction, including assessment of effects before and after construction activities in order to optimize or adapt mitigation measures at the time of their application;	

• describe groundwater and surface water monitoring programs during the operations and post-closure periods including:
  • the proposed monitoring points to assess changes to surface water quality, which should include monitoring at all point and diffuse sources of discharge and in the immediate receiving environment and at the boundaries for the outer mixing zone, the Project, the local and regional study areas;
  • the proposed monitoring points to assess changes to groundwater quality, which should include well locations and depths; and
  • the parameters that will be measured, the duration and frequency of monitoring, the sampling protocol and analysis protocol and the quality assurance and quality control measures. Include the description of the measures that will be implemented if the criteria are exceeded;	

• describe any specific monitoring program planned during construction, including assessment of effects before and after construction activities in order to optimize or adapt mitigation measures at the time of their application;	
• describe methods for managing the seepage and runoff from mine infrastructure, including waste rock, tailings, overburden and ore stockpiles, and haul roads, and indicate how it will be collected, managed and monitored, during all phases;	
• describe methods for the prevention, monitoring, management and control of acid rock drainage, neutral mine drainage, and / or and metal(loid) leaching during all project phases;	
• describe the conceptual approach to the identification and management of potentially acid generating and / or metal(loid) leaching mine rock during mine construction and operations. Describe methods for operational testing to support segregation, if applicable.	
8.6 Vegetarian, Riparian and Wetland environments	
8.6.1 Baseline Conditions	

The Impact Statement must:
• provide a description of the biodiversity, relative abundance and distribution of vegetation species and communities of ecological, economic or human importance with the local and regional study areas of the Project, including:
  • rare plant communities and communities of limited distribution;
  • species at risk, including those listed in Schedule 1 of the SARA, provincially listed or assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) o be 'at risk', including species of concern;
  • critical habitat as described in final or draft recovery strategies or action plans for species at risk; and
  • species or communities of importance to Indigenous Peoples, including for traditional, medicinal and cultural purposes;
	Appendix K-1 (Section 4.1 and Section 5)

• describe the biodiversity metrics, biotic and abiotic indicators that are used to characterize the baseline vegetation biodiversity and discuss the rationale for their selection;	Appendix K-1 (Section 3.2)
• provide maps, at an appropriate scale, of the vegetation species and communities of importance within the local study area, and where available, the regional study area;	Appendix K-1 (Figure 4-1a to 4-1h)
• describe the current level of both anthropogenic and natural (fire, flood, drought, etc.) disturbance associated with vegetation and forest land, including a description of level of habitat fragmentation and loss, historical and current disturbance, any proximate activities that have resulted in changes to fire regimes (e.g., fire suppression, flooding, insect infestations, etc.);	Appendix K-1 (Section 4.1, Figure 4-1a to 4-1h)
• describe any weed species, other invasive species, and introduced species of concern; and	
• describe the use of local vegetation for medicinal purposes, or as a source of country foods (traditional foods) and whether its consumption has any Indigenous cultural importance	
• describe the shoreline, banks, current and future flood risk areas, and wetland catchment boundaries;	Appendix K-1 (Section 4.1.2 and Section 5)
• quantify, describe and map riparian areas within the local and regional study area potentially affected by the Project;	

• use the Ontario Land Cover Compilation v.2.0 to quantify, describe and map wetlands (shallow waters, marshes, swamps, fens, and bogs) within the local and regional study area potentially affected by the Project, in the context of:
  • wetland class, ecological community type and conservation status;
  • biodiversity;
  • wetland habitat that provides important functions for species at risk;
  • abundance at local, regional and provincial scales;
  • distribution; and
  • current level of disturbance;
	Appendix K-1 (Figure 5-2)

• determine whether these wetlands are within a geographic area of Canada where wetland loss or degradation has reached critical levels, or considered ecologically or socially or economically important to a region;	
• identify and map wetlands on federal lands potentially affected by the Project and within the scope of federal permits, authorizations, or other approvals. Provide information adequate to determine if the Federal Policy on Wetland Conservation applies;	
• identify and describe wetland capacities to provide for wildlife and wildlife habitat, and fish and fish habitat;	
• provide a wetland functions assessment in accordance with the guiding principles of Wetland Ecological Functions Assessment: An Overview of Approaches or any subsequent approved guidelines by which to determine the most appropriate functions assessment methodology to use (see Appendix 1 - Guidance for Biophysical Components for more guidance on conducting a wetland function assessment); • provide a rationale for the wetland functions assessment method chosen and submit complete data sets from any survey sites, including geospatial data files;	
• contact the relevant provincial and local government authorities to determine if other wetland conservation policies, regulations or wetland compensation guidelines apply;	
• identify a local study area that takes into account watershed area and hydrological connectively of wetlands within, or bisected by, the project area;	
• identify a regional study area of sufficient size to capture effects to wetlands within the larger drainage area and include wetlands located outside of the local study area that may be affected by hydrological changes as a result of cumulative effects; and	
• provide rationale for how the selected local and regional study areas meet the above criteria.	
8.6.2 Effects to Vegetation, Riparian and Wetland Environments	
The Impact Statement must describe the effects of the Project on vegetation and the riparian and wetland environments, including: • describe all potential effects due to the Project, for all phases, to vegetation and to the riparian and wetland environments;	
• describe the key indicators used to assess project effects and the sensitivity of vegetation communities, wetlands, and riparian and terrestrial environments to disturbance, including rationale for their selection, and their connection to the indicators used to characterize baseline conditions;	
• describe changes related to landscape disturbance, including loss and fragmentation of habitats, alteration of riparian areas, including buffers or setbacks and project effects on areas of soil or ground instability;	
• quantify the area of vegetation communities, riparian, wetland, and terrestrial environments, that may be cleared or otherwise disturbed within the study area during all phases of the Project, including a description of the disturbance, and take into consideration:	
• changes to interior to edge habitat ratios;	
• changes to the availability of rare habitat; and	
• changes to functions within the remaining vegetation or wetland complex;	
• describe the amount, merchantability and location of any merchantable timber to be removed during project construction;	
• describe effects onto the biodiversity of riparian, wetland and terrestrial environments, including effects from fragmentation, and changes to regional biodiversity;	
• describe effects related to potential introduction of weed species or invasive species or due to the increase in the spread and prevalence of diseases or pests;	

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• describe any hydrological or water flow changes, either permanent or temporary, that could alter moisture regimes or drainage conditions, and describe the effects on vegetation and wetlands including impacts on fish and fish habitat, where applicable;	
• describe any changes to or loss of wetland function, including consideration of ecological (e.g., hydrological, biogeochemical cycling, habitat and climate functions) and socio-economic functions of wetlands. Describe and justify the methodology used to assess the effects;	
• describe potential effects from project emissions that may result in contamination and acidification of nearby land and waterbodies, including consideration of the sensitivity of vegetation communities, wetlands, and riparian and terrestrial environments to disturbance;	
• describe potential changes to riparian, wetland and terrestrial environments due to activities that may affect topography, soil erosion, compaction, and productivity, contamination, bank slopes and suspension of sediment or due to any contaminants of concern potentially associated with the Project that may affect vegetation, soil, sediment or water;	
• describe any known or suspected soil contamination within the study area that could be re-suspended, released or otherwise disturbed as a result of the Project; and	
• describe any positive changes.	
8.6.3 Mitigation and Enhancement Measures	
In particular, the Impact Statement must: • describe and justify the construction methods used to cross wetlands and other sensitive habitats, and the criteria for determination of techniques proposed for each crossing, including the locations where trenchless crossing methods will be employed;	
• describe and justify the ways of avoiding or reducing the temporary or permanent adverse effects on wetlands and riparian habitats;	
• describe and justify the width of the construction right-of-way and the permanent right-of-way, including the locations where the right-of-way will be narrowed to eliminate or reduce the adverse effects of any linear components, including the 115 kV transmission line, site access road, and cottage access road;	
• describe and justify the necessity of temporary construction sites, and the considerations taken for minimizing the adverse effects, namely the location choice and management measures;	
• describe and justify the proposed measures to mitigate bank erosion, including measures to eliminate the potential for erosion, such as bank stabilization using vegetation;	

• describe the vegetation standards and controls that will be deployed during construction and operation of the Project;
  • describe and justify the measures allowing identification of invasive species or other undesirable introduced species, avoid their propagation and control them during all phases of the Project, including the necessity of preconstruction surveys to identify any high density areas;
  • identify the criteria and circumstances of application of chemical, biological or mechanical control methods as well as the relevant regulations and determine the adverse effects associated with control methods; and
  • describe the selection of plant species to be conserved and planted in order to promote vegetation communities with low natural growth;	

• concerning wetlands:
  • explain how avoidance of wetlands was considered, namely by considering other locations for project components and activities;
  • explain how mitigation measures consider the natural succession and the variability of the environment over time; and
  • describe proposed compensation measures (see Appendix 1 - Compensation and Offset Plans for relevant guidance);	

• describe any reclamation and revegetation procedures proposed as mitigation measures, including:
  • revegetation techniques, timing, and the locations where they would be implemented;
  • selection of plant species to be maintained and planted to promote return to a natural ecosystem, including consideration for Indigenous use, during operation and upon reclamation, and integration of the reclaimed landscape with the regional landscape;
  • Native and indigenous species adapted to the local conditions should be used when the purpose of revegetation is to naturalize or regenerate the area;
  • the expected timelines, from an ecological perspective, for establishment and recovery of vegetation communities and the expected differences in community composition and structure. Identify the information sources on which the predictions rely, such as evidence from peer-reviewed scientific literature;
  • any sources of uncertainty with respect to the anticipated effectiveness of reclamation. Explain how uncertainty was taken into account in the predictions; and
  • reclamation standards to be used to evaluate ecological equivalency of post-operation reclaimed landscapes, in consultation with Indigenous communities;	

• describe and justify the soil treatment methods to eliminate or reduce the adverse effects on the soils and materials in the root area, including recovery techniques (e.g., soil stripping including the proposed width, stump removal and other soil treatment techniques), soil separation maintenance measures, control measures for wind and water erosion, work shutdown procedures in case of wet conditions, and soil settlement prevention measures; and	
• describe and justify how to locate pre-existing soil or sediment contamination, the mitigation and monitoring measures that will be undertaken in this regard, and the applicable regulatory restoration measures.	
8.7 Fish and Fish Habitat	
8.7.1 Baseline Conditions	
The Impact Statement must: • demonstrate that an appropriate baseline study design was selected to enable the ability to detect change to fish and fish habitat, with a clear description of assumptions and uncertainties, as guided by the Canadian Science Advisory Secretariat's science advice report entitled "A review of functional monitoring methods to assess mitigation, restoration, and offsetting activities in Canada	Appendix I-1 (Section 1.2 and Section 2)

• for each waterbody or watercourse (permanent and intermittent) that may be directly or indirectly affected by the Project, ensure the following information is included in addition to the groundwater and surface water requirements described in section 8.5.1 Baseline Conditions:
  • type of water body or watercourse;
  • size and depths of the waterbody or watercourse
  • streamflow types and characteristics;
  • substrate type, vegetation and anthropogenic barriers to fish;
  • description of any proposed water work; and
  • for crossings, describe the anticipated method of crossing (trenched or trenchless).
	Appendix I-1 (Section 3)

• for each potentially affected waterbody or watercourse frequented by fish, provide the location and area of potential and confirmed fish habitat and a detailed assessment of physical and biological habitat characteristics. Present information as maps using satellite imagery overlaid with relevant information and text description, with associated summary tables. Relevant physical and biological habitat characteristics for fish habitat include:
  • surface and ground water characteristics as requested in section 8.5.1 Baseline Conditions;
  • baseline extent of habitat disturbance (e.g., fragmentation);
  • habitat use or suitability for fish and aquatic species present, and habitat function (e.g., spawning, nursery, growth, prey, invertebrate population, food availability, foraging, migration, cover habitat, thermal and overwintering habitat, etc.) and sensitive times for these activities;
  • substrate type, aquatic vegetation, riparian vegetation, bank stability, light penetration, presence of woody debris, presence of beaver dams, stream segment type (riffle, run, pool), natural or anthropogenic barriers to fish passage, and geomorphological features and processes;
	Appendix I-1 (Section 3)

• for each potentially affected waterbody or watercourse, provide a detailed description of potentially affected fish species and populations (as defined in subsection 2(1) of the Fisheries Act); • where data is used to generate biodiversity metrics (e.g., abundance, richness, diversity, density), provide rationale on the choice of metrics based on their applicability for use in the effects assessment and associated follow-up, if applicable;	Appendix I-1 (Section 3)

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• describe parameters and ecological processes relevant to predicted effects on fish and aquatic species listed above. For example, it may be necessary to establish a broader ecological baseline if the Project affects a spawning area for a migratory species, but does not affect the larger area they depend on for life processes. Relevant parameters and ecological process may include: migratory patterns, food webs and trophic levels, structural and functional linkages (e.g., predator-prey interactions), life history and population dynamics, sensitive habitats and periods, behaviour, benthic invertebrate community structure, or other relevant ecological processes that fish depend on to carry out their life history;
  • use either a qualitative or a quantitative approach to characterize ecological processes, as appropriate to detect anticipated changes and their likelihood, and include a rationale to support the selected approach;
  • provide a list of aquatic species9 at risk likely to be present, and provide the location and description of suitable or potential habitat for these species (residence and critical habitat) in or near the project study area; including:
  • provincial species at risk (specify provincial legislation or regulations); and
  • species listed as at risk by COSEWIC;
	Appendix I-1 (Section 3)

• identify and describe the data sources used, including information on data collection (e.g., gear and catch methods, location of sampling stations, date of catches, date of surveys, species surveyed, size and life cycle stage, catch per unit effort). It is recommended that the information be presented in the form of tables;	Appendix I-1 (Section 2)
• provide baseline measurements of contaminants in fish tissue and aquatic species;	Appendix I-1 (Section 3)
• describe the use of fish as country foods or for other traditional purposes, including a description of the particular species of importance and whether its consumption has cultural importance for Indigenous Peoples, including medicinal use. All sites used in the study area or historically important sites for the collection of country foods must be identified and mapped, such as important fishing sites; and	
• identify and describe sensitive habitat areas within the local and regional study areas and include maps that demonstrate proximity of these areas. Considerations include understanding the potential impacts of the Project on any species that have been recommended for listing under the *Species at Risk Act* by COSEWIC (e.g., Lake Sturgeon).	
8.7.2 Effects to Fish and Fish Habitat	
The Impact Statement must: • use a Pathways of Effects approach to determine potential effects to fish and fish habitat;	
• delineate anticipated harmful alteration, disruption, or destruction of fish habitat (temporary or permanent) in terms of area, habitat type, sensitivity of habitat and impact (e.g., magnitude, intensity and persistence). Habitat losses must be clearly located and presented on a map at appropriate scales and in a table.	
• delineate anticipated death of fish by means other than fishing.	
For each water body and watercourse directly or indirectly affected by the Project, the following must be documented and considered in the determination of effects: • geomorphological changes and their effects on hydrodynamic conditions and aquatic habitats (e.g., modification of substrates, dynamic imbalance, long term bank instability, silting of spawning grounds), including direct and indirect effects from habitat fragmentation;	
• changes in groundwater and surface water conditions and their effects on aquatic habitat and life cycle activities (e.g., reproduction rearing, feeding, movements, migrations, winter refuge) and any changes to aquatic invertebrate communities;	

• changes to water quality, including:
  • potential introduction of deleterious substances (e.g., sediment, project-related contaminants in seepage and runoff);
  • effluent at the discharge point and in the receiving environment, and seepage and runoff from the mine not discharged through a discharge point (referencing the assessment of water quality in section 8.5);	

• compare predicted water quality for all project phases and at all key locations in the receiving environment to applicable water quality guidelines, site specific objectives or benchmarks, relevant toxicity test results (either site specific or published), and / or other applicable methods;	
• potential discharges to the aquatic environment of waters used for hydrostatic testing;	
• potential effects to fish tissue from contaminants, including bioaccumulation downstream of the Project. Include a comparison of predicted water quality for all project phases at all key locations in the receiving environment to applicable water quality guidelines, site-specific objectives or benchmarks, and relevant toxicity test results (either site-specific or published), or other applicable methods. Describe potential effects from contamination on fish and other aquatic species' behaviour, distribution, abundance, and migration patterns; • effects should be predicted or modelled using baseline measurements of contaminants in the complete food web (including water, invertebrates and prey fish), and by carbon and nitrogen stable isotope measurements in fish and the complete fish food web;	
• changes to relevant parameters and ecological processes that may affect fish and fish habitat, including: migratory patterns, food webs and trophic levels, structural and functional linkages (e.g., predator-prey interactions), life history and population dynamics, sensitive habitats and periods, behaviour or other relevant ecological processes that fish depend on to carry out their life history;	

• potential effects on fish populations, including provincially listed aquatic species at risk, and sources of mortality, including, but not limited to:
  • potential losses of individuals, including changes in abundance, and the relationship to population density and the resilience of populations;
  • any modifications in migration, local movements (e.g., upstream and downstream migration, and lateral movements), accessibility or use of habitat, changes in distribution, or stranding of fish, following the construction, operation or decommissioning of works (e.g., physical, chemical and hydraulic barriers);
  • noise and vibrations caused by project activities in or near the aquatic environment (e.g., blasting). Provide a summary of existing studies and research on potential effects of noise and vibrations on potentially affected aquatic species, including behavioural impacts;
  • entrapment, impingement or entrainment;
  • project-specific components including, but not limited to, the dewatering of York Lake, construction of dams and dykes, and diversion of the Misema River.
  • an examination of the correlation between construction periods and sensitive periods for fish (e.g., reproduction), key fisheries windows for freshwater species, and any potential effects due to overlapping periods;
  • effects on the ability to meet local Fish Management Objectives;
  • effects on fish biodiversity considering identified biodiversity metrics and how the Project's effects on aquatic biodiversity may contribute to changes in regional biodiversity and effects on local and regional ecosystems;
  • effects on populations as a result of increased access or traffic to the area (e.g., increased access to fishing) caused by the Project;	

• changes to riparian areas (Section 8.6 Vegetation, Riparian and Wetland Environments) that could affect fish and fish habitat and productivity (see Appendix 2 for reference document);	
• changes to relevant parameters and ecological processes that may affect fish and fish habitat, including: migratory patterns, food webs and trophic levels, structural and functional linkages (e.g., predator-prey interactions), life history and population dynamics, sensitive habitats and periods, behaviour, benthic invertebrate community structure, or other relevant ecological processes that fish depend on to carry out their life history;	
• provide a summary of existing studies and research on potential effects of noise and vibrations on potentially affected aquatic species, including behavioural impacts,	
• potential introduction of aquatic invasive species, including pathogens, through project activities, and discussion of the frequency of those activities;	

• potential impacts on Indigenous rights and harvest opportunities for species noted as important to Indigenous communities and local communities such as lake trout, pickerel (i.e., walleye), northern pike and smallmouth bass, including:
  • changes in contaminant levels in harvested species and their prey, with a focus on traditional foods harvested by Indigenous Peoples; and
  • tolerance thresholds for potential adverse effects that the Indigenous Peoples have identified, and how they were considered in the assessment;	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• describe and justify watercourse-crossing techniques to be used and the criteria for determining the techniques proposed for each watercourse-crossing;	
• any other changes resulting from the Project, including but not limited to dams and / or dykes, water crossings, including over Victoria Creek, transfer of overburden over Victoria Creek, and blasting, that may affect fish and fish habitat or aquatic species at risk and their habitat.	
• describe any need for a *Fisheries Act* authorization and describe any consideration of Fisheries and Oceans Canada guidance documents; and	
• describe any positive changes, such as habitat creation and, where applicable, provide information on re-stocking (including the number of fish) or creation of new fish habitat (including the new area created).	
8.7.3 Mitigation and Enhancement Measures	
The Impact Statement must describe the mitigation measures for the potential effects on fish and fish habitat, including: • all standard measures, codes of practice, policies, and commitments regarding mitigation that constitute technical and economically feasible proven mitigation measures and that will be applied in common practice, regardless of the location, as well as any new or innovative mitigation measure proposed;	
• measures to prevent or mitigate the risk of harmful alteration, disruption or destruction of fish, fish habitat, or death of fish caused by any project activity, including during the sensitive periods and in the sensitive locations (e.g., spawning and migration) for fish and other aquatic species;	
• provide details on the relocation of fish and other aquatic species from York Lake, prior to the draining of York Lake and construction of the diversion channels;	
• measures applicable to all water crossings, intakes, and outflows including how they would be maintained following construction of the Project;	
• describe the conditions on which crossings of watercourses and riparian areas would be restored and maintained after construction of the Project;	
• measures to mitigate sensory disturbance and functional fish habitat loss that it may cause, including in relation to blasting;	
• measures recommended to avoid fish mortality, for example, during use of explosives in the aquatic environment or nearby, or by fish impingement and entrainment during pumping and water withdrawal operations (e.g., during the construction of temporary structures and of hydrostatic tests);	
• measures to prevent the deposit of substances harmful to fish in the aquatic environment;	
• measures for impacted riparian or aquatic environments,	
• describe the criteria for assessment of the successful restoration of fish-bearing watercourses, as well as the mode and timing and the conditions of documentation of this assessment;	
• mitigation measures to be applied during hydrostatic tests, including for water withdrawal and discharge activities;	
• measures to prevent the introduction and intrusion of invasive aquatic species during work in or near the aquatic environment;	
• measures and plans to offset or compensate for any loss in productivity of fish populations and fish habitat as a result of the Project (see Appendix 1 - Compensation and offset plans, for relevant guidance);	
• describe how environmental protection plans will address any applicable federal and provincial policies with respect to fish habitat; and	
• describe how the mitigation measures are consistent with any applicable recovery strategy, action plan or management plan.	
8.8 Birds, Migratory Birds and their Habitat	
8.8.1 Baseline Conditions	
The Impact Statement must: • provide up to date baseline studies, that are representative of current conditions;	Appendix K-1 (Section 4.2)
• identify species or groups that may be affected differently by the Project and may require different mitigation measures, and where possible should not collapse data into diversity metrics or narrow focus to an indicator species;	

• the following groupings should be considered as unique VCs with rationale provided where groups are not included as unique VCs:
  • Raptors, such as hawks, eagles, falcons;
  • Waterfowl, such as ducks, geese, swans;
  • Waterbirds, such as loons, gulls, and terns;
  • Marsh birds, such as grebes, rails, herons;
  • Shorebirds, such as sandpipers, plovers, snipes;
  • Forest birds, such as warblers, vireos, thrushes;
  • Other landbirds, such as owls, swallows, kingfishers;
  • identified avian species at risk under federal or provincial jurisdiction;
  • important habitats associated with avian species at risk;	

• identify any applicable Bird Conservation Regions (BCRs) and BCR strategies;	
• describe the biodiversity11 of bird species and their habitats that are found or are likely to be found in the local and regional study areas;	
• identify the metrics, and biotic and abiotic indicators that are used to characterize the baseline conditions and discuss the rationale for their selection;	Appendix K-1 (Section 3.3)

• identify bird species, communities or groups, that use the study areas at any time of the year that are likely to be directly or indirectly affected and describe their:
  • abundance (including relative abundance in each habitat type) and population status;
  • distribution;
  • life cycle;
  • seasonal ranges, migration, movements;
  • frequency and timing of occurrence;
  • seasonal and annual variation in abundance, distribution and habitat use;
  • habitat association(s) and requirements for all relevant life cycle stages; and
  • sensitive periods (e.g., seasonal, time of day);
	Appendix K-1 (Section 4.2)

• provide an estimate of year-round bird use of the area (e.g., winter, spring migration, breeding season, fall migration), based on data from existing sources and surveys to provide current field data if required to generate reliable estimates. In each portion of the year, survey effort must account for differences in species movements including winter usage of highly habitat-reliant species and highly mobile species that will accurately characterize the use of a site;	Appendix K-1 (Section 3.3 and Section 4.2)
• identify, and show on maps, areas of concentration of migratory birds, including sites used for, breeding, feeding, wintering, resting, staging and migrating;	
• describe the habitat and habitat features found in the study areas that are associated with the presence of those bird species that are likely to be affected, based on the best available existing information (e.g., land cover types, vegetation) (can refer to information provided in previous sections). Provide maps showing the location of identified habitat and habitat features associated with the presence of those bird species that are likely to be affected; • should there be anticipated displacement of nesting birds, baseline habitat data should provide evidence that there is enough equivalent habitat for birds to be displaced to and that the habitat being removed is not unique to the project study area or region;	
• describe food webs and trophic linkages to summarize biotic interactions. where applicable, that are relevant to the study areas;	

• for avian species at risk, locate on an appropriately scaled map the potential habitats, survey locations, records of the species, residences and critical habitat, except where locations and records are considered sensitive information;
  • identify any and all federal Species at risk and / or Critical Habitat in the study area;
  • identify any provincial Species at risk;
  • identify any species assessed as at risk by the Committee on the Status of Endangered Wildlife in Canada;
  • identify any sites that are likely to be sensitive locations and habitat for birds or environmentally significant areas. These include National Parks, Areas of Natural or Scientific Interest, Migratory Bird Sanctuaries or other priority areas or sanctuaries for birds, National Wildlife Areas or World Biosphere Reserves;
  • illustrate on the map the project's footprint, identifying temporary and permanent infrastructure;
  • locate the highest concentrations or areas of use by species;
	Appendix K-1

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• describe the use of (magnitude, timing) birds as a source of country foods (traditional foods) and whether consumption has Indigenous cultural importance;	
• describe other birds of Indigenous cultural importance, including bald eagle, nighthawks and other osprey, whip-poor-will, Canadian warbler, and turkey vultures;	
• describe the source of the data, data collection methods, and provide a rationale for any modelling approaches chosen. The baseline data must be sufficient to account for natural variability in populations (generally at least two years of field data) and have been collected by well designed studies (see Appendix 1 - Guidance for Biophysical Components for more guidance on collecting baseline data); and	
• where predictive modelling is required, provide the explanatory data (e.g., covariates such as associated land cover, etc.) required to predict effects on birds (e.g., changes in abundance, density, distribution or other relevant effects) collected in such as way as to represent the following sources of variation where applicable: spatial variation in land cover composition, soil type, geomorphology, hydrological processes, and inter-annual and intra-annual climate variability.	
8.8.2 Effects to Birds, Migratory Birds and their Habitat	

The Impact Statement must:
• describe the interaction between the Project and birds, migratory birds, and their habitat, for all phases, including from:
  • site preparation, vegetation removal, particularly of habitats important for nesting, foraging, staging, overwintering or that act as movement corridors;
  • deposit of harmful substances in waters that are frequented by birds and changes to water quality;
  • changes to the aquatic flow regime and sediment load;
  • construction and operation of tailings disposal facilities (i.e., tailings ponds), wastewater ponds, or other ponds containing process liquids or substances harmful to birds;
  • construction and operation of structures, including power transmission and distribution lines
  • changes to the atmospheric, acoustic, and visual environment (e.g., noise, vibration, lighting, air emissions and dust);
  • site reclamation; and
  • any project activities that may occur during critical periods and / or restricted activity periods for migratory and non-migratory birds, including species at risk;	

• describe the key indicators used to assess project effects and the sensitivity of avian communities to disturbance, including rationale for their selection and their connection to indicators used to characterize baseline conditions;	

• describe the potential effects of the Project on migratory and non-migratory birds, their nest and eggs, including, but not limited to, from:
  • short- and long-term changes to habitats important for nesting, foraging, staging, overwintering, rearing and moulting and to movement corridors between habitat, and from habitat loss, fragmentation and structural change. Consider changes in terms of habitat type, quality, availability, distribution, and function. short- and long-term changes in food sources in terms of types, quality, quantity, availability, distribution and function;
  • changes to bird-habitat relationships; the change in biodiversity, abundance, and density of the avian community that utilise the various habitat types or ecosystems;
  • changes to mortality risk, including as a result of collision of birds (migratory and non-migratory) with project infrastructure, buildings, flaring gas, overhead lines, vessels and vehicles, as a result of light attraction and from indirect effects, such as increased movement of predators or access to hunting;
  • increased disturbance (e.g., sound, artificial light, presence of workers) considering the critical periods for the birds, including breeding, migration and overwintering;
  • if a temporary relocation hypothesis is made during the operational phases of the Project, support the hypothesis with scientific evidence or through study and monitoring within the project area as the Project proceeds;
  • describe the activities most likely to result in disturbance, injury or take of birds (migratory and non-migratory), their nests and eggs, such as vegetation clearing or increased noise from industrial machinery; indicate the timing windows for those activities, the amount, duration, frequency, and timing of disturbances, and whether or not the activities would be permanent or non-permanent in the environment;
  • contaminants and bioaccumulation of contaminants, including those that may be consumed by Indigenous Peoples;	

• analyze the predicted effects for (1) migratory birds, (2) non-migratory birds, (3) each VC, including each species at risk and (4) priority BCR species. Include separate analyses for each activity, component and project phase;	
• in the event of bird displacement, any assumptions regarding temporary or permanent relocation should be justified using scientific evidence that there is available habitat within the local or regional study area to allow relocation under a variety of population scenarios, supported by monitoring within the applicable study areas as the Project proceeds. For example, it should be clear that a growing population will not be limited by habitat loss (direct or indirect due to sensory or other disturbance) in the study area.	
8.8.3 Mitigations and Enhancement Measures	
The Impact Statement must: • describe the measures to mitigate adverse effects to migratory and non-migratory birds and their habitat, including their eggs and nests;	
• describe the measures to prevent and mitigate the risk of harmful, destructive or disruptive activities during sensitive periods and in sensitive locations (e.g., breeding bird season, migration and nesting) for birds, their nests and their eggs, or areas frequented by birds, such as avoiding lights at night during key migration peaks, avoiding excessive loud noises, vibration or blasting during breeding season.	
• demonstrate how the proponent considered the timing of vegetation removal and construction to be outside the main breeding season.	
• describe and justify the specific timing windows that are being considered ;	
• describe measures to mitigate sensory disturbance and the functional habitat loss it may cause; and	
• describe measures for preventing the deposit of substances harmful to migratory birds in areas frequented by migratory birds.	
8.9 Terrestrial Wildlife and Wildlife Habitat	
8.9.1 Baseline Conditions	
The Impact Statement must: • provide up-to-date baseline studies that are representative of current conditions;	Appendix K-1
• describe and map the biodiversity12 of terrestrial wildlife species (amphibians, reptiles, mammals) and wildlife habitats (e.g., calving sites, feeding areas, winter habitat) that are found or are likely to be found in the study area, such as, beaver, bears, otter, or moose;	Appendix K-1

• identify wildlife species, other than avian species, of ecological, economic or human importance, within the study area, that are likely to be directly or indirectly affected and describe each species:
  • distribution and location;
  • abundance and population status;
  • life cycle;
  • known residences;
  • seasonal wildlife concentration areas (e.g., amphibian woodland breeding ponds, mature forest stands, mineral licks, seeps and springs, animal movement corridors etc.);
  • seasonal ranges, migration and movements;
  • habitat requirements;
  • sensitive periods (e.g., seasonal, diurnal and nocturnal); and
  • provide a map showing the highest concentrations or areas of use by species or relative abundance where available, and differentiating between federal and non-federal lands;
	Appendix K-1 (Section 4.3 through Section 4.6, Section 5)

• identify the metrics and biotic and abiotic indicators that are used to characterize the baseline conditions (e.g., population size, recruitment rates, etc.) and discuss the rationale for their selection;	Appendix K-1 (Section 3.4 through Section 3.7)
• describe the use of wildlife as a source of country foods (traditional foods e.g., moose) and whether its consumption has Indigenous cultural use and value, including for medicinal purposes;	
• describe the use and harvesting of fur-bearing species and whether its harvesting has Indigenous cultural use and value;	

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• describe, quantify and show on maps the habitat type for animal species, including its: function; location; suitability; structure; diversity; relative use, natural inter-annual and seasonal variability, and; abundance as it existed before project construction;	

• describe any locations within the study area that might constitute sensitive areas for terrestrial wildlife, and show on maps, such as:
  • species at risk critical habitat that has been designated or is under consideration,
  • ecological reserves; wildlife management areas, established or proposed sanctuaries and protected areas, in proximity to the project location or that could be affected by routine project operations;
  • nearby environmentally significant areas such as; National Parks, areas of natural or scientific interest, National Wildlife Areas, or World Biosphere Reserves and areas under consideration or study for such designation;	

• identify and describe any invasive species, introduced species of concern; and other species that may be considered as “weed species” in the Project’s context;	Appendix K-1 (Section 5)
• describe the levels of disturbance currently affecting wildlife and wildlife habitat, such as habitat fragmentation and the extent of human access and use;	
• describe the natural disturbance regimes and their sources (e.g., fire, floods, droughts, diseases, insects and other pests, etc.); and	
• describe the source of the baseline data, data collection methods, and provide a rationale for any modelling approaches chosen, and describe how community and Indigenous knowledge was incorporated (see Appendix 1 - Guidance for Biophysical Components for more guidance on collecting baseline data).	
8.9.2 Effects to Terrestrial Wildlife and their Habitat	

The Impact Statement must:
• describe the potential effects from all phases of the Project on wildlife and wildlife habitat, including population level, regional or local sub-population effects, including, but not limited to:
  • site preparation, vegetation removal, particularly of habitats important for breeding, overwintering or that act as movement corridors;
  • noise, light and sensory disturbances;
  • water and air emissions or dust;
  • dry stack tailings;
  • bioaccumulation of contaminants in wildlife;
  • habitat loss and fragmentation;
  • introduction of invasive species;
  • altered predator-prey relations, such as increased wildlife predation;
  • Increased vehicle traffic, and
  • increase in the spread and prevalence of diseases and other health concerns;	

• describe the key indicators used to assess project effects and the sensitivity of wildlife to disturbance. Provide a rationale for their selection, including a clear connection to the indicators used to characterize baseline conditions;	
• describe the potential effects from the all phases of the Project on Wildlife Management Unit 28;	
• provide an evaluation of the effect of the Project, including any new road access, pipeline, transmission line or other rights of way on wildlife mortality risk and movement patterns;	
• describe effects to wildlife biodiversity, considering biodiversity metrics and the biotic and abiotic indicators selected, including changes to regional biodiversity and local and regional ecosystems;	
• describe and quantify, where possible, the potential effects to wildlife, including acute and chronic effects to wildlife health, of changes to air and water quality (e.g., from contaminants, effluents, atmospheric emissions, dust deposition, and bioaccumulation);	
• describe and assess the resilience and recovery capabilities of wildlife populations and habitats to disturbance, including the anticipated potential for the project area to be return ed to its existing state with respect to wildlife populations and their habitat following operations;	
• describe the potential adverse effects of the Project, such as increased hunting pressures from in-migration of workers, changes in behaviour of predator species, etc., on species noted as important to Indigenous communities and local communities, and their habitat;	
• describe and take into account the tolerance thresholds for potential adverse effects that Indigenous communities have identified; and	
• describe changes to important habitat for species important to current use of lands and resources for traditional purposes (e.g., moose).	
8.9.3 Mitigation and Enhancement Measures	
The Impact Statement must describe the measures for mitigating potential effects on terrestrial wildlife and wildlife habitat, including: • describe all feasible measures to avoid or lessen potential adverse effects to wildlife and their habitat, including residences and critical habitat. Include a description of the measures in terms of the effectiveness of each measure in avoiding negative effects;	
• provide the best technically and economically feasible approaches for mitigating effects on habitat, aligned with the hierarchy of mitigation measures, and justify moving from one mitigation option to another;	
• describe and explain the condition in which the temporary construction areas and right-of-way will be restored or maintained following construction, and explain the mitigation measures considered including possible revegetation, obstruction of the sightline, restoration of wildlife corridors and habitat connectivity, reduction of fragmentation and reduction of long-term cumulative effects;	
• describe and explain the measures to control the use of the right-of-way and new access roads to access areas that were previously difficult to reach, including by wildlife predators as well as by hunters, off-roading recreationalists, and other users;	
• describe the deterrent systems that will be used to mitigate impacts to wildlife and species at risk due to, for instance, attraction to the project site and / or components and activities associated with the Project;	
• describe wildlife friendly road-design principles and features, which may include underpasses and wildlife bridges (as well as monitoring to estimate bat and other wildlife mortality);	
• describe measures to prevent the release of harmful substances into waters or areas frequented or occupied by wildlife;	
• describe measures to address sensory disturbance and the resulting functional loss of wildlife habitat;	
• provide details on the implementation of a log sheet to report accidents and malfunctions, including the reporting of wildlife mortality on site, and how this log will inform monitoring approaches; and provide details on how the information from this log will be shared with partnered Indigenous communities;	
• provide details of any compensation or offsetting plans proposed following guidance in Appendix 1 –Compensation and offset plans and available guidance documents, if effects cannot be otherwise avoided or mitigated; and	
• describe mitigation measures applicable to wildlife habitat and other biodiversity metrics that will be implemented through reclamation, including timelines and targets that will be used to assess effectiveness.	
8.10 Species at Risk and their Habitat	
8.10.1 Baseline Conditions	
The Impact Statement must: • provide up-to-date baseline studies that are representative of current conditions;	Appendix K-1 (Section 5.1)
consider each species at risk as a valued component;	

• provide a list of all species at risk that are likely to be in the project area and the study area, including:
  • species listed in Schedule 1 of the federal Species at Risk Act;
  • species protected under provincial legislation, and
  • species assessed by COSEWIC as extirpated, endangered, threatened or of special concern. It is recommended to refer to the most recent COSEWIC annual report for the list of assessed wildlife species posted on its website;
	Appendix K-1 (Section 5.1)

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• for each species at risk identify in the list above:
  • describe abundance (including relative abundance in each habitat type), population status, and distribution;
  • describe seasonal and annual variation in abundance, distribution, and habitat use;
  • provide a map showing survey sites, species sighting records, the areas of highest concentration or areas of use;
  • provide information and / or mapping at an appropriate scale for residences, seasonal movements, movement corridors, habitat requirements, key habitat areas, identified or proposed Critical Habitat and / or recovery habitat (where applicable), differentiated by federal and non-federal lands; and
  • describe the general life history (e.g., breeding, foraging) that may occur in the project area, or be affected by the Project;
  • identify critical periods (e.g., denning, rutting, spawning, calving, breeding, roosting), setback distances, or other restrictions related to these species;	

provide any published studies that describe the regional importance (including economic), abundance and distribution of species at risk, including recovery strategies or plans;	

• describe the source of the Species at Risk data, including survey design, sampling protocols and data handling;
  • when using recognized standards, provide details of any modifications to the recommended methods and rationale for these modifications;
  • indicate who was consulted in the development of the baseline surveys (e.g., federal / provincial wildlife experts, specialists and local Indigenous communities); and	

• describe how community and Indigenous knowledge was incorporated.	
8.10.2 Effects to Species at Risk and their Habitat	
The Impact Statement must: • describe the potential effects of the Project on species at risk listed under Schedule 1 of the Species at Risk Act, and its critical habitat (including its extent, availability and presence of biophysical attributes). The analysis of potential effects should be provided separately for each species at risk, including separate analyses for each activity, component and phase of the Project;	
• describe the potential effects of the Project on species protected by provincial legislation and on species assessed by the COSEWIC as extirpated, endangered, threatened or of special concern (flora and fauna), as well as on the potential habitat of these species that are not currently listed under the *Species at Risk Act*. Each of these species should be considered separately as a VC;	
• describe the key indicators used to assess project effects and the sensitivity of species at risk to disturbance. Provide a rationale for their selection, including a clear connection to the indicators used to characterize baseline conditions;	
• clearly identify the locations of federal and non-federal lands within the study area and differentiate between them in the presentation of information regarding species at risk;	
• identify provincial, or federal permits or authorizations that may be required in relation to the species at risk, and describe discussions with the appropriate authority regarding permits or authorizations;	
• describe the area, biophysical attributes and location of habitat including critical habitat affected (e.g., destroyed, permanently altered, disrupted), including direct and indirect effects due to vibration and artificial light in the project area on usage patterns and migratory behaviour of species at risk; and	

• describe the residual effects that are likely to result from the Project after avoidance and minimization measures have been applied, including the extent, duration and magnitude of the effects on:
  • number of individuals killed, harmed, harassed;
  • number of residences damaged or destroyed; and.	

• describe and take into account the tolerance thresholds for potential adverse effects that Indigenous communities have identified.	
8.10.3 Mitigation and Enhancement Measures	
• The Impact Statement must describe the measures for mitigating potential effects on species at risk, as well as ecological communities at risk, including: describe the proposed mitigation measures for potential adverse effects on species at risk and critical habitat, include the justification, based on scientific data, for the proposed measures;	
• provide an account of how the Project and mitigation measures are consistent with the recovery strategy, action plan, or management plan for the species. Mitigation measures must be compatible with any applicable recovery strategy and action or management plan and be described in terms of the effectiveness of each measure in avoiding negative effects.	
• describe mitigation measures to reduce the risk of harmful, destructive or disruptive activities, including the proposed road network, in sensitive times and places of importance to species at risk;	
• describe measures to prevent the release of harmful substances into waters or areas frequented or occupied by species at risk; and	
• provide mitigation measures for effects on habitat, aligned with the hierarchy of mitigation measures and justify moving from one mitigation option to another.	
With respect to bats: • describe the effectiveness of the mitigation measures, taking into account the configuration of the resources in the environment and how local bat populations use these resources;	
• describe how bat behaviour (differentiated by species) has been taken into account, based on the geographical location and time period; and	

• at minimum, the following mitigation measures should be implemented:
  • spatial avoidance:
  • a buffer zone of 120 m is recommended;
  • for resting areas and nurseries in trees, apply a buffer zone to the entire complex of roosts and nurseries; and
  • for hibernacula, apply the buffer zone to the entire underground cave and mine system;	

• temporal avoidance (timing of disruption, destruction of resting areas or exclusion):
  • Avoid disturbance to maternity roosts and hibernacula (or areas that have the potential to contain maternity roosts or hibernacula) during sensitive periods. Consider the following general sensitive periods in the development of plans:
  • Hibernacula: October 1 to March 31
  • Maternity roosts: June 1 to July 31	

• if bats are discovered in any existing infrastructure, ensure that have egressed prior to any potential or harmful activities;	

• lighting:
  • avoid or minimize the use of artificial light in bat habitats;
  • select low-intensity lighting;
  • use lighting fixtures that restrict or focus illumination to target areas;
  • avoid lights that emit blue / green / white / UV wavelengths.	

• follow the Canadian National White-nose Syndrome Decontamination Protocol for entering bat hibernacula (Canadian Wildlife Health Cooperative); and	
• other compensation.	
8.11 Climate Change	
8.11.1 GHG Emissions	
As described in Section 5.1.1 of the SACC, with regards to GHG emissions, the Impact Statement must provide: • a description of each of the Project's main GHG emission sources and their estimated annual GHG emissions over the lifetime of the Project;	
• net GHG emissions by year for each phase of the Project based on a project's maximum capacity (additional guidance at Section 2.1 of the Technical Guide);	
• each term of Equation 1 (Net GHG emissions = Direct GHG emissions + Acquired energy GHG emissions - Avoided domestic GHG emissions - Offset measures), per year for each phase of the Project (additional guidance at Section 2.1 of the Technical Guide);	
• emissions intensity (Equation 4 of the technical guide) for each year of the operation phase of the Project in units of kt CO_2 eq/t or equivalent (additional guidance at Section 2.1.5 of the Technical Guide);	

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• the quantity and a description of the "units produced" used in Equation 4 of the Technical Guide for each year of the operation phase of the Project (additional guidance at Section 2.1.5 of the Technical Guide);	
• methodology, data, emission factors and assumptions used to quantify each element of the net GHG emissions (refer to Section 3.1.1 of the SACC and Section 2 of the Technical Guide);	
• a discussion on the development of emissions estimates and uncertainty assessment (refer to Section 3.3 of the SACC); and	
• when applicable, a description of large sources of GHG emissions that may be the consequence of accidents or malfunctions.	
8.11.2 Carbon Sinks	
As described in Section 5.1.2 of the SACC, the Impact Statement must provide a quantitative and qualitative description of the Project's positive or negative effects on carbon sinks. Additional guidance on the methodology to estimate losses or gains to carbon sinks is available in Section 4 of the Technical Guide.	
8.11.3 Impacts of the Project on Federal Emissions Reduction Efforts and on Global GHG Emissions	
As described in Section 5.1.3 of the SACC, with regards to federal emissions reduction efforts and on global GHG emissions, the Impact Statement must provide an explanation of how the Project may impact Canada's efforts to reduce GHG emissions, if applicable, but also a discussion on how a project could impact global GHG emissions, if applicable.	
8.11.4 Mitigation Measures and Net-Zero Plan	
In terms of mitigation measures and net-zero plan, the proponent must complete a Best Available Technologies / Best Environmental Practices (BAT / BEP) Determination that will assess potential GHG mitigation measures throughout all phases of the Project as described in Section 5.1.4 of the SACC.	
The proponent must also provide a credible net-zero plan that would use and build off the BAT / BEP Determination to describe the mitigation measures that will be taken to minimize GHG emissions throughout all phases of the Project and achieve net-zero emission by 2050, and thereafter for the remainder of the lifetime of the Project, if project activities are determined to continue beyond 2050, as described in Section 5.3 of the SACC.	
9. HEALTH, SOCIAL AND ECONOMIC CONDITIONS	
9.1 Health Conditions	
9.1.1 Baseline Conditions	
The Impact Statement must: • be sufficient to provide a comprehensive understanding of the state of human health;	
• provide information that is sufficiently detailed to describe the pathways by which the Project's influence on the determinants of health may affect health outcomes;	
• provide a comparison of data at the provincial, regional or national level, if possible, to better interpret baseline conditions;	
• identify the social area of influence of the Project;	
• describe how community and Indigenous knowledge from relevant populations was used in establishing baseline conditions, including input from diverse subgroups; and	
• describe baseline conditions using disaggregated data for diverse subgroups and their different access to resources, opportunities and services within the community to support GBA Plus.	
To understand the community context and baseline health profile for Indigenous communities, the Impact Statement must: • develop community health profiles that reflect the overall health of each Indigenous community, where information is available, that include: □ health outcomes of interest, such as chronic diseases, mental illness and addictions, suicide rates, injuries, rate of gender-based violence; □ health factors of interest, such as health-related behaviours (e.g., food consumption; physical activity; problematic substance use), and mental well-being (e.g., feelings of depression; real or perceived health risks reflecting the level of chronic biological stress); □ use, where known, secondary information sources (e.g., Public Health Agency of Canada, Statistics Canada, Indigenous Services Canada, Indigenous health authorities, provincial health authorities);	
• describe any context-specific definitions of health and well-being, including from the perspective of the relevant Indigenous cultures and local communities;	
• describe relevant community and Indigenous history or context, including historical impacts on health;	
• present baseline information for social determinants of health by summarizing key project-relevant information on the social (cultural) and economic factors, contributing to social / community well-being, with reference to sections 9.2. Social Conditions and 9.3. Economic conditions, including: □ factors supporting mental health and community well-being (including perceived emotional or social stress, feelings of isolation and of concern for future generations, and changes on community cohesion); and □ safety of Indigenous women, girls, and gender-diverse people, including the potential for gender-based violence due to factors such as in-migration of outside workers;	
document and describe the relevant protection factors that contribute to community resilience (e.g., sense of belonging, cultural continuity, language, family supports) and other social determinants of health selected specifically for Indigenous communities, contributing to social / community well-being, including subgroups within them, with reference to Section 10. Indigenous Peoples;	
Illustrate the interconnections between the abovementioned factors, contributing positively or adversely to social / community well-being, and health factors related to mental and physical well-being, to identify potential interactions of effects;	
• provide the approximate location on a map and distance of likely human receptors, including foreseeable future receptors, which could be affected by changes in air, water, country food quality, and noise and light levels. Include communities' gathering, hunting, trapping and fishing areas, including for Indigenous Peoples' permanent residences, temporary residences (e.g., Indigenous cottages and camps identified in collaboration with Indigenous Peoples) and sensitive receptors (e.g., schools, hospitals, community centres, retirement complexes, healthcare centres) near the Project;	
• describe the access and consumption of country foods13 (traditional foods), which represent the link between a social determinant (i.e., food security / sovereignty) and health-related behaviours, while including what species are used, quantities, frequency, harvesting locations and how the data were collected (e.g., site-specific consumption surveys, First Nations Food, Nutrition and Environment Study);	
• describe the level of food security and food sovereignty within local and Indigenous communities. Refer to the Public Health Agency of Canada's website on food security and to the First Nations Food, Nutrition & Environment Study for more information;	
• provide the proximity of land and resource use activities to the proposed transmission line;	
• provide baseline contaminant concentrations in ambient air, drinking water and tissues of traditional foods consumed by Indigenous communities. The proponent should work with local Indigenous communities to collect tissue samples where appropriate; and	
• provide a summary of identified data and explain the selection of methods for statistical analysis of available data, including identifying uncertainties and limitations of proposed methods and available data. If surrogate data from reference sites are used rather than project site-specific measurements, demonstrate how the data are representative of site conditions.	
Additionally, with respect to health conditions applicable to both the Indigenous Peoples and the public, the Impact Statement must provide the following: • provide an overview of community health that reflects the overall health of each nearby community, where information is available,	
• describe and characterize the existing health services and programs, including health care provider capacity; and	
• identify and describe drinking water sources, both surface and / or groundwater (permanent, seasonal, periodic or temporary), including approximate wellhead capture zones.	
9.1.2 Effects to Health Conditions	
The proponent must assess the potential effects of the Project on health conditions.	
A dedicated Health Impact Assessment, supported by a Human Health Risk Assessment (HHRA), should show an understanding of the Project's health, social, and economic impacts, including on Indigenous Peoples and will play a role in understanding the Project's impacts on Indigenous rights and culture.	
In addition, a description of what methodologies and tools will be employed to determine the positive and adverse health effects of the project should be provided.	
With regard to the health conditions of Indigenous people, the Impact Statement must: • describe the health pathways of effects that the Project may have on Indigenous Peoples;	
• describe, impacts to mental well-being and anxiety tied to real or perceived contamination from project activities, including cumulative impacts to mental well-being;	
• consider the inclusion of Indigenous Peoples in the development of community-specific socio-economic impact assessments;	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• apply a Health Impact Assessment approach, including consideration of determinants of health;	
• describe any potential health effects resulting from changes to project-relevant biophysical and social determinants of health; and	
• describe how Indigenous knowledge was used in assessing human health effects.	
Additionally, with respect to health conditions applicable to both the Indigenous Peoples and the public, the Impact Statement must provide the following: • describe accumulation of contaminants in country foods and traditional foods, and the resulting impacts this has on health;	
• describe any potential health effects resulting from changes to project-relevant biophysical • and social determinants of health; and	
• describe how community knowledge was used in assessing human health effects.	
9.1.3 Biophysical Determinants of Health	
With respect to the health of Indigenous people, the Impact Statement must: • provide the rationale if a determination is made that an assessment of the potential for contamination of country foods (traditional foods or other exposure pathways, such as inhalation) is not required or if some contaminants are excluded from the assessment;	
• identify other potential routes of exposure to contaminants;	
• provide a detailed justification for every contaminant of potential concern (COPC)17 or exposure route that would be excluded and / or eliminated from the assessment of the human health risks;	

• conduct a problem formulation exercise and / or preliminary model predictions to determine whether a HHRA is required. The proponent must provide a rationale if the problem formulation and / or preliminary model predictions indicate that a HHRA is not warranted;
  • problem formulation consists of identifying the main factors to consider. It briefly addresses the following factors:
  • identification of the boundaries of the study;
  • identification of the current and future COPCs;
  • identification of current and future human receptors;
  • identification of current and future exposure pathways;
  • development of the conceptual site model illustrating the connections existing between the COPC, the receptors and the exposure routes.	

• if a HHRA is conducted, the assessment must examine all exposure pathways for contaminants of potential concern to adequately characterize potential biophysical risks to human health. A multimedia HHRA may need to be considered and conducted for any contaminant of potential concern with an identified risk and multiple pathways. Use best practices in health risk assessment methods (see Health Canada, 2019. Guidance for Assessing Human Health Impacts in Environmental Assessments: Human Health Risk Assessment);	
• provide an assessment of the carcinogenicity of diesel exhaust gases when diesel engines are a source of air pollutant emissions for the Project. In characterizing the carcinogenic risk of project-related diesel exhaust gases, the proponent has two options: • carry out a quantitative risk assessment of diesel emissions (i.e., calculate the associated incremental cancer risk using the associated unit risk and inhalation slope factor available from the California Environmental Protection Agency (CalEPA) in combination with model estimates of exposure to diesel emissions. Although not being expressly recognized in Canada, this approach can provide an overview of the potential impacts that a particular project may have on the risks associated with diesel emissions; or	

• provide a qualitative risk assessment of the carcinogenic risk of diesel exhaust gases related to the Project, which includes three different elements to ensure transparency:
  • identification of the main sources of diesel emissions for the Project and acknowledgement of the relative importance of diesel emissions as a source of air pollution for the Project;
  • acknowledgement that diesel emissions have been labelled a human carcinogen by international authorities such as Health Canada, WHO's International Agency for Research on Cancer, the U.S. Environmental Protection Agency and the California Environmental Protection Agency; and
  • why a quantitative assessment of the carcinogenic risk of diesel emissions for the Project is not being done;	

• assess the cancer risks of human exposure to all potentially carcinogenic PAHs in the diesel mixture rather than to a single surrogate substance. (refer to Health Canada's Guidance for Evaluating Human Health Impacts in Environmental Assessments: Human Health Risk Assessment (2019)).	
• describe and quantify potential effects between project activities, environmental contaminants, food security (i.e., food safety and food access / availability / use), and other related factors (e.g., cultural continuity and perceived health risks,), contributing to social / community well-being, and their linkages to mental and physical well-being (e.g., depression, anxiety, real and perceived health risks, food consumption patterns, chronic biological stress);	

• with regard to potential effects on food security:
  • describe changes in terms of their implications for the physical and mental health of Indigenous Peoples; and
  • identify possibilities of avoidance of certain country food sources, or drinking or recreational water sources, by Indigenous Peoples due to the perception of contamination;	

• describe and quantify specific thresholds used for HHRA and document if different thresholds were considered for vulnerable populations, including by sex and age. Provide a justification if any applicable threshold was not used;	
• document and take into account tolerance thresholds for potential adverse effects on health identified by Indigenous Peoples;	
• describe any project-related changes that could result in a positive health effect (e.g., remediation projects); and	
• identify any effects to human health from current and potential future Traditional Land and Resource Use activities (e.g., hunting, harvesting plants) in the close vicinity of the proposed transmission line.	
• identify any effects to human health from current and potential future Traditional Land and Resource Use activities (e.g., hunting, harvesting plants) in the close vicinity of the proposed transmission line.	

Additionally, with respect to health conditions applicable to both the Indigenous Peoples and the public, the Impact Statement must provide the following:
• provide an assessment of the potential effects on human health for all relevant phases in consideration of, but not limited to, potential changes to the environment in Section 8, including:
  • air quality;
  • noise exposure and effects of vibration;
  • light levels;
  • current and future availability and quality of country foods (traditional foods); and
  • current and future availability and quality of water for drinking, recreational and cultural uses;	

• determine the anticipated effects of the Project on the quality and quantity of groundwater or surface water used for domestic purposes based on the strictest guideline values for the following criteria: Guidelines for Canadian Drinking Water Quality (GCDWQ), or any relevant provincial water quality standards or guidelines;	
• describe how the Project-related contaminants in the water, air or soil, can be taken up in country foods (i.e., foods that are trapped, fished, hunted, harvested or grown for subsistence, cultural or medicinal purposes);	
• describe, for each receptor, impacts of noise on community annoyance and sleep disturbance for construction noise lasting longer than one year and operational noise at each receptor location;	
• in situations where project related air, water or noise emissions meet local, provincial or federal guidelines, and yet public concerns were raised regarding human health effects, provide a description of the public concerns and how they were or are to be addressed; and identify any effects to human health from current and future land and resource use activities in the close vicinity of the proposed transmission line.	
9.1.4 Social Determinants of Health	
With respect to the social determinants of health of Indigenous people, the Impact Statement must: • describe the potential health effects arising from the project's-relevant effects on social conditions, economic conditions, and conditions of Indigenous Peoples' VCs, and their respective indicators, reflecting the input of the affected communities;	
• identify and describe anticipated changes to those social determinants of health that may be related to the Project, as selected in baseline studies, with reference to Section 9.1 Health Conditions;	
• describe the effects that in-migration of outside workers and out-migration may have on social determinants of health;	

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• describe the ways in which the potential avoidance of land near project components by Indigenous Peoples due to perceived changes in environmental quality and tranquillity was considered in assessing potential effects on the diet and health of Indigenous Peoples;	
• describe tolerance thresholds for potential adverse effects identified by Indigenous Peoples; and	
• describe any positive health effects (e.g., resulting from improved economic opportunities, increased access to services).	
Additionally, with respect to social determinants of health applicable to both the Indigenous Peoples and the public, the Impact Statement must provide the following: • describe the effects that in-migration of outside workers may have on the safety of women, girls and gender-diverse people; and	

• identify any emotional or social stress factor that may result from the Project, particularly:
  • concerns regarding public safety during all phases of the Project, including due to accidents and malfunctions; and
  • disturbance of normal daily activities.	

9.1.5 Mitigation and Enhancement Measures	

In particular, the Impact Statement must:
• describe the mitigation and enhancement measures for Indigenous Peoples and for each Indigenous community, including:
  • mitigation measures to support the safety and security of people, including ongoing measures to prevent gender-based violence;
  • mitigation and enhancement measures that may be put in place to counteract any negative health, economic and social effects on local Indigenous communities as a result of in-migration of workers; and
  • mitigation measures to help stabilize the effects of boom-and-bust cycles for improved community adaptation;	

• if the level of emissions from a particular project or effluent discharge is below or at the applicable limits, identify if additional mitigation measures will still be considered. However, if the change may be substantial (even within established limits) as a result of local or regional circumstances or the extent of the change, the proponent must provide additional mitigation measures to minimize pollution and risks to human health;	
• when potential effects on human health exist due to exposure to a non-threshold contaminant (e.g., certain air pollutants such as fine particulate matter and nitrogen dioxide), describe mitigation measures aimed at reducing residual effects to as low a level as reasonably possible; and	
• identify mitigation and enhancement measures presented in other sections (i.e., sections 9.2.3., 9.3.3.) that are also applicable to health and well-being effects.	
9.2 Social Conditions	
9.2.1 Baseline Conditions	
With respect to social conditions of Indigenous Peoples, the Impact Statement must: • establish the baseline conditions for Indigenous communities in doing so must consider the cultural context including Indigenous governance regimes and Indigenous laws associated with health and socio-economic conditions; and	
• provide community-specific social and economic conditions on a disaggregated basis (without identifying individuals).	
• describe how community and Indigenous knowledge from relevant populations was used in establishing baseline conditions, including input from diverse subgroups.	
Additionally, with respect to social conditions applicable to both the Indigenous Peoples and the public, the Impact Statement must provide the following: • describe the existing social conditions for local communities and Indigenous communities, and contrast these conditions to the provincial, regional or national levels, if possible, to better interpret baseline conditions.	
• describe baseline conditions using disaggregated data for diverse subgroups (e.g., women, youth, and elders) and their different access to resources, opportunities and services within the community to support GBA Plus.	
9.2.1.1 Community Profile	
To understand the community context, the Impact Statement must prepare community profile(s) for Indigenous communities and describe: • influences on community well-being (e.g., rates of alcohol and substance misuse, and of illegal activities and violence; rates of gender-based violence), including indicators proposed by Indigenous communities;	
• community cohesion, including level of support and engagement in community or neighbourhood, social networks and social activities;	
• the socio-cultural environment, identifying Indigenous Peoples and predominant cultural communities, including description of Indigenous communities; and	
• relative socio-economic conditions for local and Indigenous communities using both primary source data as well as applicable information from the Community Well-Being Index: https://www.sac-isc.gc.ca/eng/1100100016579/1557319653695.	
Additionally, with respect to social conditions applicable to both the Indigenous Peoples and the public, the Impact Statement must provide the following: • access, ownership and use of resources (e.g., minerals, food, water, social infrastructure);	
• relevant historical community background; and	
• applicable history with previous developers.	
9.2.1.2 Land and Resource Use	
With respect to the social conditions of Indigenous Peoples, the Impact Statement must describe baseline conditions of land and resource use for Indigenous Peoples as described in Section 10.2.1.	
Additionally, the Impact Statement must describe baseline conditions of land and resource use for Indigenous Peoples and the public, including: • describe general patterns of human occupancy and of land resource use in the study area based on selected spatial and temporal boundaries (include maps, if possible);	
• identify and take into account relevant local, regional, or provincial land use or resource development plans;	
• describe sites or areas that are used by local people either as a permanent residence or as a seasonal / temporary location, and the number of people using each identified site or area (include a map, if possible);	
• identify remote, rural and urban residential areas (including seasonally and year-round occupied establishments);	
• identify parks and recreation areas including water bodies (including local and provincial parks and recognized scenic areas); • describe the historical connection to recreation areas and waterbodies by local land users;	
• identify monitored or administered forest areas (including forests under agreement and areas designated for timber sales);	
• identify registered or recognized hunting, trapping or guiding areas, recreational (e.g., hiking, wildlife viewing areas) and commercial fishing areas, or any other areas for gathering, harvesting practices and aesthetic enjoyment;	
• identify water supplies, as well as water sources and intakes for industries (such as daycares), residents and municipalities; and	
• describe the natural and cultural heritage, and provide maps for buildings, sites and things of historical, archaeological, paleontological or architectural significance in the study area, including land, trails, burial sites, ceremonial sites, natural features and resources considered to be heritage.	
9.2.1.3 Services and Infrastructure	
The Impact Statement must describe the existing local and regional infrastructure facilities in the study areas for Indigenous Peoples and the public, including: • road infrastructure and traffic safety;	
• railways; and	
• any other potentially affected infrastructure and transportation routes.	
The Impact Statement must describe the existing local and regional services in the study areas for Indigenous Peoples and the public, including: • accommodation and lodging (e.g., availability, suitability);	
• existing health services and programs, including health providers' capacity; and	
• all other potentially affected services.	
9.2.1.4 Navigation	

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The Impact Statement must describe baseline conditions for navigation for Indigenous Peoples and the public, including:
• identify and describe existing navigable waterways for which navigability may be impacted by the Project, including any scheduled waterways under the Canadian Navigable Waters Act, as well as non-scheduled waterways, and all their uses. Provide the following details when describing navigable waters;
  • physical characteristics (e.g., size, depth);
  • use of waterway (e.g., transport or travel for commercial or recreational purposes, etc.) ;
  • past, current and potential future use, including by Indigenous Peoples;
  • access; and
  • number of waterfront owners, including the Crown (e.g., two or more);
	Appendix P-1

• provide a list of potentially affected waterway users and concerns regarding waterway use and access.	Appendix P-1
9.2.2 Effects to Social Conditions	
The Impact Statement must assess the adverse and positive effects of the Project on social conditions of Indigenous Peoples and the public. Interconnections between social VCs and other VCs and interactions between effects must be described.	Section 15.2
9.2.2.1 Effects to Community Well-Being	
The Impact Statement must describe effects to community well-being for Indigenous Peoples, including: • consider the inclusion of Indigenous Peoples in the development of community-specific socio-economic impact assessments;	
• document and take into account tolerance thresholds for potential adverse effects identified by Indigenous Peoples;	
• describe any positive effects on well-being (e.g., resulting from improved economic opportunities, increased access to services);	

The Impact Statement must describe effects to community well-being for Indigenous Peoples and the public, including:
• assess potential adverse and positive effects, at the community level, of changes to social conditions including, but not limited to:
  • income inequity;
  • price and availability of housing or land;
  • changes that result from increased population (temporary or permanent);
  • changes that result from increased cost of living due to the Project;
  • changes in criminal activity and crime rates;
  • changes or stresses on community, family and household cohesion;
  • changes to use and misuse of alcohol and substances
  • changes to illegal or other potentially disruptive activities;
  • changes to economic opportunities
  • changes to access services
  • changes to gender-based violence (e.g., harassment or human trafficking); and
  • those conditions considered for analysis of determinants of health in section 9.1.4;	

9.2.2.2 Effects to Land and Resource Use	
Additionally, the Impact Statement must describe adverse and positive effects to land and resource use for Indigenous Peoples and the public, including: • describe the potential interactions of the Project with local and regional land use and resource activities;	

• describe predicted changes to land use activities or sites / areas in the local and regional study area, including to:
  • registered or recognized hunting, trapping or guiding areas, recreational (e.g., hiking, wildlife viewing areas) and commercial fishing areas, or any other areas for gathering, harvesting practices and aesthetic enjoyment
  • loss of any resources or physical or cultural heritage due to the Project, such as loss or change to the Traditional Trail (sometimes referred to as Indian Trail), and loss of York Lake;
  • access to the resources, including entry and exit sites for watercraft, such as the Beaverhouse Lake boat launch;
  • quantity and quality of the resources; and	

• overall experience when undertaking recreational activities, including due to noise or aesthetics; describe the results of engagement activities with communities having heritage resource concerns in the project area and indicate the involvement of community members, including Indigenous communities, in related studies, if applicable.	
9.2.2.3 Effects to Services and Infrastructure	
The Impact Statement must describe adverse and positive effects to services and infrastructure for Indigenous Peoples and the public, including: • describe the predicted effects to the local and regional infrastructure facilities and services in the study area, including adverse and positive effects.	
9.2.2.4 Effects to Navigation	
The Impact Statement must describe adverse and positive effects to navigation for Indigenous peoples and the public, including: • Identify navigable waterways and their uses by waterway users, including Indigenous communities, and how these might change due to the Project;	
• describe each project activity that may interact with navigable waterways (i.e., project components that will be constructed, operated, decommissioned, and abandoned, in, on, around, nearby, under, over, through) during all phases of the Project, including any scheduled waterways under the Canadian Navigable Waters Act, and where waterways would be crossed, specify the proposed crossing method;	
• describe engagement with waterway users including Indigenous communities, and summarized identified issues raised and how issues were or would be addressed; and	
• describe changes to navigation by waterway users, including Indigenous communities, due to the Project, including effects to access, safety, and due to the dewatering of York Lake and diversion of the Misema River.	
9.2.3 Mitigation Measures	
The Impact Statement must describe the mitigation and enhancement measures that will be implemented for all potential effects on social VCs.	
9.3 Economic Conditions	
9.3.1 Baseline Conditions	
With respect to the economic conditions of Indigenous Peoples, the Impact Statement must describe the local and regional economic conditions and trends and their impacts on Indigenous communities, including the following: • the main economic activities of Indigenous people in the study area;	
• any relevant treaty provisions pertaining to economic activities for Indigenous Peoples;	
• an overview of the Indigenous businesses that may provide supplies and services required for the Project, including the affiliation of those businesses, if applicable, to Indigenous communities identified in the Indigenous Engagement and Partnership Plan; and	
• any current use on lands and water bodies in the study areas by Indigenous people for traditional or non-traditional economic purposes (Refer also to 10.2. Current use of lands and resources for traditional purposes).	
Additionally, with respect to economic conditions applicable to both the Indigenous Peoples and the public, the Impact Statement must provide the following: • an overview of the main economic activities in the study areas, including demographic information for economically active members of the local and regional population;	
• any local, provincial, or federal economic development plans or funding programs for the project area, local study area and regional study area and the level of funding received by any community as a result of these initiatives;	
• existing employment rates, including principal employment and economic well-being in the study areas and impacted communities;	
• workforce, including the availability of skilled and unskilled workers, existing working conditions, wages and average salary range, full-time and part-time employment and training and gender gaps such as for skilled trades and in wages and qualifications; and	
• the current use of lands and water bodies for economic activities in the study areas including hunting, recreational and commercial fishing (including catch rates, visitation rates, and angling days, number of licenses, value of fisheries), trapping, outdoor recreation, use of seasonal cabins, outfitters, and forestry.	
• Baseline conditions must be described using disaggregated data for diverse subgroups (e.g., Indigenous people, women, youth, and elders) and their different access to resources, opportunities and services within the community to support GBA Plus.	
9.3.2 Effects to Economic Conditions	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
With respect to the economic conditions of Indigenous Peoples, the Impact Statement must describe potential positive and adverse economic effects of the Project on Indigenous people.	
9.3.2.1 Employment	

With respect to the economic conditions of Indigenous Peoples and the assessment of overall net benefits of the Project applicable to both Indigenous Peoples and the public, the Impact Statement must:
• describe the potential changes in employment including the following aspects:
  • an estimate of the direct, indirect and induced employment at each phase of the Project (including an estimate of the full-time equivalent (FTE) employment during all phases of the Project and an estimate of full- and part-time employment);
  • an estimate of direct, indirect or induced income or wages;
  • a description of the types of employment likely to be in demand;
  • an estimate of the ability of the local and regional labour market (including Indigenous participants in the labour market) to meet demand, to the extent practicable indicate the affiliation of the participants to Indigenous communities identified in the Indigenous Engagement and Partnership Plan;
  • an analysis of the potential for labour shortages in certain sectors as a result of after the Project;
  • an estimate of introduced works into the local and regional labour market to support the Project;
  • any potential long-term changes to the local and regional labour markets as a result of this project, such as the creation of dependency and reliance on the mining industry;	

• describe the potential changes in training including:
  • provision of training to the local and regional population to ready them for employment at the Project, including provision of funding. Please specify target populations such as youth, Indigenous people as well as the sources of funding (the Proponents versus government programs);
  • potential economic effects from training related to the Project;	

• describe the GBA Plus aspects of employment, including;
  • the potential effects on employment for Indigenous people, women and other diverse subgroups, including any actions that will be taken to increase the employment of these subgroups in the Project, including training programs; and
  • the Project's diversity and inclusion workforce plans, policies and practices.	

9.3.2.2 Business Environment and Local Economy	
With respect to the economic conditions of Indigenous Peoples, the Impact Statement must: • describe, if applicable, any actions to increase procurement from local or regional Indigenous businesses, and from businesses owned by Indigenous women, or other diverse subgroups;	
• provide an estimate of the anticipated levels of local and regional economic participation in the Project for Indigenous communities in comparison to the total project requirements (e.g., total dollar value of contracts);	

• describe the effects of the Project on the local Indigenous economy overall, including:
  • an estimate and description of direct, indirect and induced economic effects of the Project on Indigenous people during each phase of the Project as well as any that may remain beyond the life of the Project; and
  • the sources and methodologies used for developing multipliers and estimates and, where a generic multiplier may not accurately reflect the specific situation of the Project, provide evidence of specific economic activity that will result from the Project going ahead;	

• describe situations when the Project may directly or indirectly create economic hardships for Indigenous people or the displacement of Indigenous businesses;	
• estimate the potential effects of the Project on the traditional economy, including the potential loss of related jobs;	
• describe the potential effects of changes to economic conditions for specific sectors in affected Indigenous communities related to traditional use of lands and resources including tourism (refer to sections 7.6 Cumulative effects assessment, and 10.2 Current use of lands and resources for traditional purposes)	
Additionally, the Impact Statement must support the assessment of overall net economic benefits of the Project applicable to both the Indigenous Peoples and the public: • provide details regarding investments in each phase of the project and total investment, including a forecast of capital and operating costs;	

• describe economic benefits and costs to local, provincial, and national economy for each phase of the project;
  • information on revenues from tax levies, royalties, changes to GDP, development of new technologies or intellectual property, etc.;
  • indicate whether a revenue / benefit sharing agreement is under consideration or under discussion (details are not necessary);
  • impacts to specific sectors, such as forestry and logging; fishing, hunting, and trapping; commercial outfitters; commercial recreation and tourism; etc.;
  • describe potential effects of changes to land and resources used in local economic activity;
  • describe where the project may directly or indirectly create economic hardships or displacement of business, including Indigenous businesses;	

• provide information on the economic viability of the project, in consideration of the merger with Kirkland Lake Gold, to support the net benefits assessment;	

• describe the methodologies and assumptions used to estimate the economic benefits of the project including:
  • forecasts of relevant commodity prices used, where these were acquired and, if available, how they were forecasted;
  • relevant sources of uncertainty in the estimate;
  • sensitivity analysis of how changes in global competitiveness of the project, commodity prices, capital and operating costs or other relevant sources of uncertainty may affect the estimated economic benefits;	

• describe any environmental, social, and governance risks to project economics, and	
• describe any financial liability and compensation in place, as required by regulation or by the proponent's commitments, in relation to decommissioning or abandonment.	
9.3.3 Mitigation and Enhancement Measures	
The Impact Statement must describe the mitigation and enhancement measures that will be implemented for all potential effects on economic conditions, including, with respect to the economic conditions of Indigenous Peoples and the net benefits assessment: • describe plans, programs and policies to encourage contracting and procurement opportunities for Indigenous Peoples;	
• describe supplier network development initiatives, including the identification of potential Indigenous suppliers, and plans to provide them with information on technical, commercial and other requirements, and to debrief unsuccessful bidders;	
• describe any procurement policies that facilitate the opportunities for Indigenous companies;	
• describe technology transfer and research and development programs that will facilitate the use of Indigenous suppliers of goods and services and Indigenous employees, and that will develop new capabilities related to project requirements;	
• where appropriate, describe financial liability and compensation in place as required by regulation or by the proponent's commitments, in relation to decommissioning or abandonment; and	
• describe and justify the need for compensation plans to mitigate potential effects on social and economic VCs related to Indigenous Peoples.	

Additionally, with respect to economic conditions applicable to both the Indigenous Peoples and the public, the Impact Statement must:
• identify and describe opportunities for enhancing positive effects, such as creation of Indigenous employment and local employment and, including :
  education, training and hiring practices that encourage employment of Indigenous people and local people;
  actions taken to increase access to education and training opportunities for different groups (e.g., provision of transportation, flexible hours); and
  training, education, and scholarship programs that the proponent plans to support in order to improve employment opportunities, including participation in and contribution to local training networks. Specify the types of employment targeted by these programs, as well as the targeted clientele, such as local residents, and various relevant subgroups (e.g., Indigenous people, youth and women);	

• cultural competency training plans for non-Indigenous employees to ensure a respectful working relationship with Indigenous contractors and to promote a safe work environment that fosters the well-being of Indigenous employees;	
10. INDIGENOUS PEOPLES	
10.1 Indigenous Physical and Cultural Heritage, and Structures, Sites, or Things of Significance	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
10.1.1 Baseline Conditions	
The Impact Statement must: • describe the interconnections and impact pathways between heritage and cultural structures, sites, places, and things and the current use of lands, health, social, and economic components, Indigenous knowledge, and Indigenous rights for each potentially-impacted Indigenous community, including intergenerational impacts over the lifetime of the Project;	
• describe how historical and current cumulative effects to environmental and socio-cultural conditions, including changes to those conditions, have already impacted physical and cultural heritage;	
• include components of the environment identified by Indigenous communities as having heritage value, to reflect that natural and cultural heritage is a multidimensional concept which is not limited to particular sites or objects;	
• provide the location of physical and cultural heritage features on maps, if it has be shared by Indigenous Peoples with the proponent and if the proponent has obtained permission from the Indigenous communities for the information to be shared publicly;	
• describe how input from potentially impacted Indigenous communities was sought and considered in the identification of these locations and features, including opportunities provided to participate in or lead historic resources studies (including field studies); and	
• describe the existing baseline cultural heritage conditions within the project area, local study area and regional study area by identifying all known or potential built heritage resources and cultural heritage landscapes, including a historical summary of the study area.	
10.1.2 Effects to Indigenous Physical and Cultural Heritage	

The Impact Statement must:
• assess potential effects to physical and cultural heritage, and structures, sites or things of historical, archaeological, paleontological or architectural significance to groups, including, but not limited to:
  • loss or destruction of physical and cultural heritage;
  • changes to access to and / or experience with physical and cultural heritage;
  • changes to the cultural value, spirituality, or importance associated with physical and cultural heritage;
  • changes to sacred, ceremonial or culturally important places, objects, species, or things, including languages, stories and traditions;
  • changes to the ability to maintain and transmit culture to future generations; and
  • changes to visual aesthetics over the life of the Project and post-project decommissioning or abandonment.	

• identify preliminary potential project-specific impacts on the known and potential built heritage resources and cultural heritage landscapes. Include a description of the anticipated impact to each known or potential built heritage resource or cultural heritage landscape;	
• in the event that project activities may disturb the soil, on the surface or underground, is carried out on provincial Crown lands, conduct an archaeological potential study for the Crown territory affected, in consideration of provincial legislation. Based on the recommendations of this study, field work (visual inspection without snow cover, archaeological inventory, or other) could be necessary. Depending on the findings, this expertise could lead to mitigation measures related to the findings obtained, which can take the form, for example, of intensive digs at a given site or a proposal for modification of the anticipated route;	
• take into account potential effects on physical and cultural heritage when assessing the effects on social and economic conditions;	
• explain the interconnections with and potential impacts to physical and cultural heritage from changes to pre-development and current baseline environmental, health, social, and economic conditions;	
• describe the outcomes of engagement and consultation activities with Indigenous communities with concerns about heritage resources in the project area and indicate the participation of the members of these communities in the related studies, if applicable;	
• describe how Indigenous knowledge informed studies, including the identification of the sites to assess and include studies conducted by Indigenous Peoples, if any;	
• consider natural and cultural heritage as a multidimensional concept which is not limited to particular sites or objects and which can also include components of the environment identified by Indigenous Peoples as having heritage value; and	
• list any other effects highlighted by Indigenous communities, if applicable.	
10.2 Current Use of Lands and Resources for Traditional Purposes	
10.2.1 Baseline Conditions	
Where information is publicly available or provided by Indigenous communities, the Impact Statement must identify and describe: • Indigenous governance systems and Indigenous laws associated with the current use of lands and resources for traditional purposes;	
the location and description of Treaty lands and / or geographic extent of Treaty rights, title area, land claims or traditional territory (including maps where available);	
the location of reserves and communities;	

• resources important for traditional and cultural purposes (e.g., plants, fish, mammals, birds, medicines and other natural resources) including;
  • species at risk;
  • country foods (traditional foods) consumed by Indigenous groups; and
  • waterways, water bodies, springs, wetlands, and shallow groundwater used as drinking water sources and aesthetic properties (taste, colour, clarity, temperature, odour) of those waters;	

• access to identified resources (e.g., physical access to harvest specific species, culturally important harvesting locations, timing, seasonality, distance from community);	
• the traditional and cultural significance of identified resources;	
• the quality and quantity of identified resources (e.g., preferred species and perception of quality);	

• the current use of lands and water bodies for traditional purposes, including:
  • hunting, trapping, fishing, gathering or harvesting practices and activities for plants, fish, mammals, birds, medicines or other natural resources (e.g., such as hunting and trapping areas for fur-bearing animals, bait harvesting and fishing areas and berry and tea harvesting areas);
  • rotational harvesting practices and how they vary in time;
  • uses of riverbanks, shorelines, waterways and water bodies navigable by Indigenous Peoples, such as for travel and recreation (e.g., canoe route and portage trails), including entry and exit / landing sites for watercraft;
  • for social and ceremonial purposes as well as gathering or teaching grounds;
  • for traditional economic purposes (refer also to 9.3. Economic conditions); and
  • other current uses for traditional purposes identified by Indigenous communities.	

• context for traditional practices including:
  • the frequency, duration or timing of traditional practices;
  • access and travel routes for conducting traditional practices (e.g., physical access to harvest specific species, timing, seasonality, distance from community);
  • important features for the experience of the practice (e.g., connection to the landscape without artificial noise and sensory disturbances, air quality, visual landscape, perceived or real contamination, etc.); and
  • efforts by Indigenous communities to restore traditional practices.	

• locations of resources and traditional practices (include a map, if possible):
  • places where resources important for traditional and cultural purposes (e.g., plants, fish, mammals, birds, medicines and other natural resources) are located including species at risk, traditional foods, drinking water sources and navigable waterbodies;
  • places where resources are harvested including culturally important harvesting locations;
  • camps, cabins and staging areas, including those used for hunting, trapping and fishing;
  • gathering and teaching grounds for social or ceremonial purposes; and
  • for locations identified for traditional practices, identify whether it is used either as a permanent residence or as a seasonal / temporary location, and the number of people using each identified site or area.	

• the location of any Indigenous-led research or monitoring activities;	
• any traditional activities for economic purposes (refer also to Section 9.3. Economic conditions); and	

Description of the Tailored Impact Statement Guidelines Section	Applicable Section of the Impact Statement or Appendix
• other current uses identified by Indigenous communities.	
10.2.2 Effects to Current Use of Lands and Resources for Traditional Purposes	

The Impact Statement must:
• assess the potential effects on current use of lands and resources for traditional purposes, within the context of historical and current cumulative effects for all phases of the Project, including:
  • current and future availability and quality of country foods (traditional foods);
  • quality, quantity and distribution of resources available for harvesting (e.g., species of cultural importance, traditional and medicinal plants);
  • access to culturally important harvesting areas or resources, to the distribution and availability of harvested wildlife (e.g., wildlife avoidance), access to traditional territory and to / from the community and reserves;
  • the use of travel ways, navigable waterways and water bodies, including entry and exit / landing sites for watercraft, such as the Beaverhouse Lake boat launch;
  • experiences of being on the land (e.g., changes in air quality, noise exposure, effects of vibrations from blasting or other activities, increase in artificial light at permanent and temporary sites, fragmentation of traditional territory, visual aesthetics, odor, and any corollary wellness impacts as a result of these sensory changes);
  • sites of interest to communities including for commercial and non-commercial fishing, hunting, trapping and gathering and cultural or ceremonial activities and practices;
  • economic burdens of, and increased time for, travelling further to hunting, fishing, trapping, and gathering opportunities;	

• describe how information about effects to current land and resource use is integrated into section 10.1.2. including how:
  • changes to the access, cabins, travelways and harvesting and traditional land and resource use areas affects cultural values, mental health, spirituality or importance attached to physical and cultural heritage sites;
  • changes to traditional use of cultural landscapes including important travelways, waterways and harvesting areas associated with sacred, ceremonial or culturally important places, objects or things, use of place names, languages, stories and traditions;
  • changes to visual, auditory or olfactory aesthetics over the life of the Project and after decommissioning or abandonment of the Project affects traditional use; and
  • impacts to harvesting and traditional use affects teaching and knowledge transfer between generations;	

• describe how traditional land and resource use and cultural values informed the biophysical assessment and impact rating criteria;	
• describe potential effects from increased population from in-migration of workers on traditional hunting, fishing, trapping, harvesting and gathering activities;	
• describe potential effects on the transmission of traditional knowledge, language, community tradition of sharing and community cohesion linked to activities potentially affected by the Project;	
• take into account expectations pertaining to the preservation of landscapes, including nighttime landscapes and, if applicable, regulatory requirements and best practices in place concerning light pollution (the proponent needs to work with communities to ensure that any standards that are applied are protective of traditional uses and purposes and human health);	
• describe the methods used to collect information on traditional use of lands and resources by Indigenous communities;	
• describe how the traditions, perspectives, values and knowledge of Indigenous communities have been considered in determining the severity of the Project's contribution to current cumulative effects to environmental and socio-cultural conditions affecting Indigenous land and resource use (refer to Section 7.6 Cumulative effects assessment)	
• describe how the results of the biophysical assessment were integrated in the traditional land and resource use assessment and considered in the determining residual effects and the severity of impacts;	
• provide a detailed explanation of how comments from Indigenous communities and Indigenous knowledge informed the assessment of potential effects to current use of lands and resources for traditional purposes;	
• describe all reasonable alternatives considered that would avoid impacts on current use of lands and resources for traditional purposes considered during project development;	
• describe and assess the interconnections and impact pathways between the current use of lands and resources and health, social, and economic components, Indigenous knowledge, and Indigenous rights for each Indigenous community, including potential intergenerational impacts over the lifetime of the Project;	
• describe potential effects on current use on lands and water bodies in the study areas by Indigenous people for traditional economic purposes (refer also to 9.3. Economic conditions); and	
• other current uses and effects identified by Indigenous communities or other participants, if applicable.	
10.3 Rights of Indigenous Peoples	
10.3.1 Baseline Conditions	
The Impact Statement must: • identify and describe the Treaty and / or Aboriginal rights of Indigenous Peoples potentially affected by the Project, including historic, regional, and community context, the geographic extent of traditional territory, the purpose and importance of the rights to the rights-bearing communities (e.g., the practices, customs, beliefs, worldviews and livelihoods), and information on how rights have already been affected. The description should include maps, when available and permitted by the respective Indigenous communities, to illustrate the location of treaties, traditional territories and Métis harvesting zones;	
• document the nature and extent of the exercise of rights of Indigenous Peoples, potentially impacted by the Project, as identified by the Indigenous community(ies);	
• consider how the information requirements related to physical and cultural heritage, current use, Indigenous health, social, and economic conditions are applicable to the nature and extent of the exercise of rights; and	
• consider how the information requirements related to cumulative effects are applicable to the baseline conditions supporting the exercise of rights.	
• Indigenous communities must be involved in the baseline characterisation of conditions supporting the exercise of rights, as well as the scoping and assessment of the nature and extent of the exercise of rights of Indigenous Peoples.	
10.3.2 Impacts on Rights of Indigenous Peoples	
The Impact Statement must: document the Project's potential impacts on the exercise or practice of the rights of Indigenous Peoples or the rights arising from treaties in the project area, as expressed by potentially impacted Indigenous Peoples;	
describe the impact on the rights of Indigenous Peoples, taking into account the concept of the link between resources, access and experience;	
document the views of potentially affected Indigenous Peoples regarding the severity of impact that the Project could have on their rights and interests; and	
describe how the results of the traditional land and resource use assessment, the cultural heritage assessment, health and socio-economic assessment of Indigenous Peoples were integrated in the assessment of impacts on the exercise of rights of Indigenous Peoples and considered in the determining residual effects and the severity of impacts.	
10.3.3 Mitigation and Enhancement Measures	
The Impact Statement must: • describe measures to avoid or mitigate potential negative impacts to known or potential built heritage resources and cultural heritage landscapes. The proposed mitigation measures are to inform the next steps of project planning and design;	
• describe the proposed mitigation and enhancement measures for all potential effects to Indigenous Peoples, as well as for potential impacts on the rights of Indigenous Peoples, and identify if these are measures for which the proponent or other parties would be responsible;	
• describe all mitigation and enhancement measures proposed for potential effects to Indigenous Peoples and impacts on the rights of Indigenous Peoples, and elaborate on how these measures may vary for each Indigenous community or peoples;	
• describe if and how these measures will be integrated into the project design, if applicable;	
• include perspectives of the potentially impacted Indigenous communities, on the effectiveness of particular mitigation measures on such impacts;	
• describe collaboration with Indigenous Peoples to identify preferred mitigation measures for potential adverse impacts on Indigenous communities or their rights, as well as to optimize the Project's benefits for their communities;	

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• demonstrate how the timing of Indigenous activities on the land was considered when establishing the schedule for project activities;	
• provide any intervention and communication plans, as applicable, pertaining to heritage resources and structures, sites, and things of cultural, historical, archaeological, paleontological, or architectural significance, if there is a possibility of discovery during construction or development activities. This plan must include, at a minimum, the person to be contacted, intervention measures and the conditions that would lead to a shutdown and resumption of work;	
• describe the measures that will be implemented by the proponent for the potential impacts of the Project on the exercise of rights, including how the measures directly address the possible impacts of the Project on the exercise of rights and the scope of the measures;	
• describe the measures that would enhance or support the exercise or practice of rights in the project area (e.g., employment, procurement and monitoring measures);	
• describe how the proponent has addressed the suggestions and recommendations made by potentially affected Indigenous Peoples including where Indigenous knowledge was provided and considered in respect of the design of mitigation measures;	
• propose differentiated mitigation measures, if applicable, so that adverse effects including racism, discrimination and sexual harassment do not fall disproportionately on Indigenous communities and vulnerable subgroups, and they are not disadvantaged in sharing any positive effect resulting from the Project. These mitigation measures should be developed in collaboration with the potentially affected communities and subgroups;	
• describe how the GBA Plus results on disproportionate effects have been used to inform mitigation and enhancement measures;	
• describe predicted climate change considerations for VCs and incorporate climate change adaptation into reclamation planning;	
• describe the measures that would return the site to a state that is safe and productive for traditional use activities, such as hunting, fishing, and gathering of traditional medicines during the decommissioning and abandonment phases;	
• describe accommodation, mitigation and complementary measures for impacts to previously known heritage and structures, sites, and things of significance, or those identified in the course of impact assessment and other field studies; and	
• provide available evidence of the effectiveness for all mitigation measures related to potential effects to Indigenous communities. Where no evidence exists, describe plans to monitor the effectiveness of mitigation measures. The proponent is encouraged to share results with Indigenous communities and to monitor the effectiveness of mitigation measures in cooperation with Indigenous communities.	
Where no mitigation measures are proposed or mitigation is not possible, the Impact Statement must describe the potential adverse impacts on the rights of Indigenous Peoples, as identified by the Indigenous community(ies).	
In addition, the Impact Statement must include perspectives of the potentially impacted Indigenous communities on the effectiveness of particular mitigation measures on such impacts.	
11. EFFECTS OF POTENTIAL ACCIDENTS OR MALFUNCTIONS	
11.1 Risk Assessment	
The Impact Statement must: • identify hazards for each project phase that could lead to events of accidents and malfunctions related to the Project (e.g., structural failure of the open pit, crown pillar, tailings storage facility, or water diversion infrastructure) and provide an explanation of how these events were identified (e.g., information sources, recognized risk assessment methodology, professional expertise, similar project, participants' input); • take into account the lifespan of different project components, design of different project components, complicating factors such as weather or external events, and the potential for vandalism or sabotage;	Section 13.5
conduct an analysis of the risk of each hazard and adverse event (including likelihood and consequences) and describe the potential consequences (including the environmental, health, social and economic effects and effects to Indigenous Peoples);	Section 13.6 through Section 13.18
• describe the plausible worst-case scenarios and the more-likely but lower-consequence alternative scenarios, including; • the magnitude, duration and extent of effects; • the quantity, mechanism, rate, form and characteristic of contaminants, greenhouse gases and other materials released or discharged into the environment; • influence of local and regional terrain, topography and weather conditions (e.g., difficult access for interventions); • modelling for any contaminants spilled or released indirectly into water or air; • potential environmental, health, social and economic effects, including effects to Indigenous Peoples. With respect to human health specifically, consideration should be given to potential pathways of effects associated with surface water, air, country foods, and other relevant media, including short-term and long-term risks to human health; • relative locations of sensitive receptors (e.g., humans, fish and / or wildlife and their habitat, waterways, private drinking water wells); • timing related to sensitive receptors (e.g., migration and nesting periods of migratory birds, spawning periods for fish, hunting season, tourist season); • critical infrastructure, such as local drinking water treatment plants or facilities that can treat water sources affected by the Project, as well as the ability and capacity of the drinking water treatment plants or facilities to treat water sources affected by accidental releases from the Project during all project phases;	Section 13.6 through Section 13.18 Table 13-3
• identify and justify the spatial and temporal boundaries for the effect assessment associated with accidents and malfunctions. The spatial boundaries identified for effects from potential accidents and malfunctions will generally be larger than the boundaries for the project effects alone, and may extend beyond Canada's jurisdiction; and	Section 13.6 through Section 13.18 Table 13-3
• provide environmental sensitivity mapping that identifies site-specific conditions and sensitive receptors adjacent to project activities, including shores, streams and wetlands frequented by fish and / or migratory birds, and likely routes to them. Shoreline classification surveys and mapping must be conducted along major waterways where large spills are possible.	Appendix I-1 (Section 3), Appendix K-1 (Section 4 and 5)
11.2 Mitigation Measures	
The Impact Statement must: • describe the mitigation measures and safeguards that would be in place to avoid and prevent accidents and malfunctions, including project design choices and operational considerations, including engineering, safety and risk reduction standards, criteria and approaches to be used (e.g., spacing, fire protection, prevention of leaks of toxic chemicals, active fire suppression, explosion / overpressure minimization, and a spill prevention plan);	Section 13.6 through Section 13.18
• describe the proposed security measures to reduce the potential for vandalism or other malicious acts that could lead to accidents or malfunctions;	
• describe the mitigation measures for the potential adverse environmental, social and economic effects, along with implications for health effects, including effects to Indigenous Peoples, in the event of an accident or malfunction, such as emergency response and repair procedures that would be put in place;	Section 13.20
• describe long-term monitoring and recovery measures, including adaptive management plans, that would be implemented to manage effects to the environment and health, social and economic conditions, including effects to Indigenous Peoples, that take into account site-specific conditions and sensitivities, from accidents and malfunctions, including those to remediate affected lands and waters;	
• describe financial liability and compensation measures in place pursuant to regulations or the proponent's commitments, in case of potential accidents or malfunctions associated with the Project;	
• describe mutual aid arrangements in the event that the incident exceeds proponent resources and how to access these resources; and	
• describe the expected effectiveness of the mitigation measures, safeguards and response measures and systems	
11.3 Emergency Management	
The Impact Statement must describe an emergency response plan and as part of this plan must: • identify emergency planning and emergency response zones;	Section 13.18
• present preliminary emergency measures to respond to such events, including identifying associated response systems and capabilities;	Section 13.18
• take into account evacuation areas in the planning of emergency measures as well as the particularities linked to these areas (e.g., number of residents varying with the seasons, possible high number of individuals unfamiliar with the region, limited communication means in remote areas and with temporary residents);	Section 13.18

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• describe existing emergency preparedness and response systems and existing arrangements and / or coordination with the responsible response organizations in the spatial boundaries associated with the Project. The spatial boundaries identified for effects from potential accidents and malfunctions will generally be larger than the boundaries for the project effects alone;	Section 13.18
• describe how the proponent will integrate its response operations into an incident management system (for example, the Response Command System, ICS) when deploying a significant incident response effort;	Section 13.18
• describe the role of the proponent in the case of spill, collision, fire, explosion or other accidents or malfunctions associated with the Project;	Section 13.13 through Section 13.18
• describe emergency response training and exercise programs, including a description of the participation and training agreements with Indigenous communities or communities that could be impacted by accidents or malfunctions;	
• document spill response strategies for each type of spill scenario, including strategic locations of spill response equipment relative to likely accident and malfunction sites and / or likely pathways to sensitive environmental receptors;	Section 13.15
• describe emergency communication and public notification plans, community awareness plans and public reporting, including plans for translations into French or Indigenous languages;	

• describe emergency communication plans that would provide emergency instructions to surrounding communities, including Indigenous communities, and how these will be informed by the public and Indigenous communities. The proponent should consider including:
  • immediate urgent actions, such as notifying the public of security and safety concerns, instructions for on-site shelter or shelter-in-place, procedures and evacuation routes; and
  • longer-term actions, such as a general website and telephone helplines, updates on the status of incidents, injured animal reports, etc.;
	Section 13.18

• describe liaison and continuous education plans linked to emergency preparedness for surrounding communities that may be affected by the consequences of a significant incident, including for Indigenous communities;	
• explain how the proponent has made and will continue to make an outreach effort to ensure public and Indigenous communities understanding the risks associated with this type of project (e.g., providing non-technical information, providing information in local languages if requested); and	
• describe any waste management plan as it pertains to waste generated during an emergency response.	
12. EFFECTS OF THE ENVIRONMENT ON THE PROJECT	
The Impact Statement must: • describe how environmental conditions, including natural hazards such as severe and / or extreme weather conditions and external events, could adversely affect the Project and how this in turn could result in effects to the environment, health, social and economic conditions;	Section 14
• describe whether cumulative effects were considered;	
• provide details of planning, design and construction strategies intended to minimize the potential adverse effects of the environment on the Project;	Section 14
• provide water management plans and design flood of the Project infrastructure;	Section 14
• describe mitigation measures that can be implemented in anticipation or in preparation for effects of the environment on the Project;	Section 14
• indicate any commitment to design infrastructure to the 1 in 100 year, 24-hour storm event;	Section 14
• indicate what monitoring will be undertaken for ponds on site in consideration of storm events;	Section 14
• describe possible mitigation measures to address adverse environmental, health, social and economic effects resulting from effects of the environment on the Project;	Section 14
• describe measures to enhance positive environmental, health, social and economic effects, resulting from effects of the environment on the Project.	Section 14
• describe the Project's climate resilience and how the impacts of climate change have been integrated into the project design and planning throughout the life of the Project, including water management planning; and describe the climate data, projections and related information used to assess risks over the life of the Project;	Section 14.9
• identify the Project's sensitivities and vulnerabilities to changes in climate (both in mean conditions and extremes such as short-duration heavy precipitation events);	Section 14.9
• describe all known and relevant trends in meteorological events, weather patterns or physical changes in the environment that are expected to result from climate change, and incorporate this information into a risk assessment as contributing or complicating factors for accidents and malfunctions (e.g., increased risk of forest fires). Provide mitigation measures (both passive and active) that the proponent is prepared to take to minimize the frequency, severity and consequences of these projected effects;	Section 14
• identify any areas of potential wind or water erosion; and	Section 14.5.2, Section 14.6.2
• assess the potential effects of seismic events on facilities and specify the soil movement parameters that will be used with the probability of occurrence (e.g., 2% in 50 years) and the best practice codes and guides that are or will be used in the seismic effects analysis (e.g., National Building Code of Canada 2015, CAN/CSA-Z662 standard).	Section 14.8
13. CANADA'S ABILITY TO MEET ITS ENVIRONMENTAL OBLIGATIONS AND ITS CLIMATE CHANGE COMMITMENTS	
The Impact Statement must: • describe where the Project may enable Canada to meet its environmental obligations, the proponent's plans and commitments to ensure that positive contributions are respected; and	
• describe where the Project may adversely affect Canada's ability to meet its environmental obligations, the mitigation measures and follow-up programs related to those effects.	
14. EXTENT TO WHICH THE PROJECT CONTRIBUTES TO SUSTAINABILITY	
The Impact Statement must provide an analysis of the extent to which the Project contributes to sustainability. The analysis should be qualitative but may draw on quantitative data to provide context, and should follow the methodology outlined in the Framework: Implementation of the Sustainability Guidance document and must: • describe engagement with potentially affected Indigenous communities and outline measures and commitments that contribute to the sustainability of Indigenous livelihood, traditional use, culture and well-being: • include any description of sustainability as defined by Indigenous communities;	Section 15.8.4
• describe the project-specific context, including key issues of importance to Indigenous communities and the public that will inform the sustainability assessment;	Table 15.7-1

• describe how the sustainability principles were considered in:
  • the assessment of the potential effects of the Project, including setting spatial and temporal boundaries, and identifying mitigation measures and enhancements;
  • the planning and design of the Project and the selection of the preferred alternative means and alternatives to the Project;
	Section 15.7
	Table 15.7-1

• describe and document all uncertainties and assumptions underpinning the analysis;	Section 15.8.1
• describe how the precautionary principle was applied in cases where there may be risk of irreversible harm;	Section 15.8.1
• provide a summary of the positive and adverse environmental, social and economic effects of the Project, along with any implications for health effects, with emphasis on potentially affected Indigenous communities, local communities and disadvantaged populations; and	Section 15.1 to Section 15.3
• indicate how monitoring, management and reporting systems consider the sustainability principles and attempt to ensure continuous progress towards sustainability.	Table 15.7-1
15. FOLLOW-UP PROGRAMS	
15.1 Follow-Up Program Framework	
The Impact Statement must present a follow-up program that includes: • identification of VCs that warrant a follow-up program and rationale taking into account the guidance on follow-up programs cited above;	
• the expected outcome(s) and targets of the follow-up program and information describing how the proponent expects to achieve the expected outcome(s);	
• preliminary description of follow-up studies planned, as well as their main characteristics (list of parameters to be measured, planned implementation timetable, etc.);	

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• intervention mechanism used in the event that the effects to the environment or impacts on rights of Indigenous Peoples and cultures attributed to the Project are not as predicted;	
• mechanism to disseminate follow-up results among the concerned interested parties;	
• consideration of accessibility and sharing of data for the general population; and	
• opportunities for the involvement of Indigenous communities, stakeholders, local and regional Indigenous organizations in the follow-up program design and implementation and the development of a communication mechanism between these organizations and the proponent.	
15.2 Follow-Up Program Monitoring	
For the proposed follow-up framework, the Impact Statement must present the preliminary environmental, health, social and economic monitoring program, including, but not limited to the: • identification of regulatory instruments that include a monitoring requirement for the VCs;	
• description of the methodology for tracking environmental, health, social and economic issues;	
• description of the methodology and mechanism for monitoring the effectiveness of mitigation and reclamation;	
• description of the characteristics of monitoring where foreseeable (e.g., location of interventions, planned protocols, list of measured parameters, analytical methods employed, schedule, data management, human and financial resources required);	
a description of the indicators to be used to assess progress towards established objectives and a rationale for their selection	
• an explanation of how any differences in predicted effects vs actual measured effects will be attributed to either uncertainty related to predictions or to effectiveness of the mitigation measures	
• identification of the monitoring activities that could pose a risk to the environmental, health, social and economic conditions, and / or VCs and the measures and means planned to protect these conditions;	
• guidelines for preparing monitoring reports (number, content, timing, frequency, format, duration, geographic extent) that will be sent to the authorities involved; and	
• plans, including funding options, to involve Indigenous communities and local communities in monitoring, where appropriate.	
15.3 Compliance Monitoring	
Proponents are responsible for verifying whether the required mitigation measures were implemented. The Impact Statement must present a framework by which it will undertake compliance monitoring for follow-up programs. This should include, but not be limited to: • identification of those positions accountable and responsible for monitoring and ensuring compliance;	
• description of the proponent's intervention mechanisms in the event of the observation of non-compliance with the legal and environmental requirements or with the obligations imposed on contractors by the provisions of their contracts;	
• a description of how the monitoring results will be used to trigger the proponent's intervention mechanisms for effects that do not have compliance-based thresholds (e.g., CAAQs for common air pollutants); and	
• quality assurance and quality control measures to be applied to monitoring programs.	
16. ASSESSMENT SUMMARY	
The proponent must prepare a stand-alone plain language summary of the Impact Statement in both of Canada's official languages (French and English).	
The summary must include key maps or figures illustrating the project location and key project components.	
The Impact Statement must also include a series of tables summarizing the following information: • potential environmental, health, social and economic effects and the potential impacts on Indigenous Peoples;	
• potential mitigation and enhancement measures in relation to potential effects and impacts;	
• description of the residual effects of the Project;	
• cumulative effects and proposed mitigation measures to address them;	
• any other commitments made by the proponent or recommendations made by the proponent to other parties; and	
• identifies the effects falling within federal jurisdiction, as well as, direct or incidental effects and describes the extent to which the effects are significant (based on the characterization of residual effects). The effects within federal jurisdiction, and direct and incidental effects, are defined in section 2 of the *Act*.	

Notes:
A higher level of detail is provided for concordance of the Impact Statement with the Tailored Impact Statement Guidelines for areas of federal jurisdiction.
Abbreviations
NA: not applicable to this Project
GHG: greenhouse gas
SACC: Strategic Assessment of Climate Change
VC: valued component