

# Application Information Requirements Mining Sector Supplement

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**EAO**

Environmental  
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1.0	December 16, 2025	First version / not applicable	Chris Trumpy, Assistant Deputy Minister – Operations Division, Environmental Assessment Office

## A. HOW TO USE THIS DOCUMENT

This **mining sector supplement** represents common information needs for proposed mining projects that are subject a provincial environmental assessment. This document is intended to be used in conjunction with the Environmental Assessment Office's (EAO) [Application Information Requirements \(AIR\) Guidelines](#) (July 2025 v.2.0, or as updated from time to time).

The section headers below indicate to which section of the EAO's AIR Guidelines this sector-specific information should be added.

## B. INTRODUCTION

### Abbreviations and Acronyms (AIR Guidelines Section 'Abbreviations and Acronyms')

The Application must include a list of all acronyms and abbreviations used and their definitions, including:

- BAT – Best Available Technology
- ML/ARD – Metal Leaching/Acid Rock Drainage
- TSF – Tailings Storage Facility (or alternative name and acronym, if project specific)
- WRD – Waste Rock Dump (or alternative name and acronym, if project specific)

## C. PROJECT OVERVIEW

### Project Introduction (AIR Guidelines Section 1.1)

The Application must provide a high-level overview of the project, including:

- The type of mine;
- Whether the project is a new mine or modification of an existing mine based on the thresholds in Part 3 of the Reviewable Projects Regulation;
- Whether the project is located in an area or site of historical mining activity;
- The type of deposit, target materials, and mining and processing/milling methods;
- The product(s) that will be produced and shipped, and the market(s) for these product(s);
- The projected duration of the project's construction, operations, closure and post-closure phases and a description of activities during each phase; and
- The level of study completed for the project (e.g., preliminary economic assessment, pre-feasibility, feasibility).

## Project Components (AIR Guidelines Section 1.4)

The Application must provide a description of the project components (permanent and temporary) determined to be within the scope of the project in the Process Order, including figures of both on-and offsite facilities and associated activities.

If applicable, the Application must describe how existing/modified infrastructure will be used or will interact with the project.

The description must include, but is not limited to, the following as applicable:

- Open pit(s);
- Underground workings, ventilation raises, portals, adits, escapeways, and exhaust raises;
- Processing facilities, including crushing and conveying systems and concentrate handling;
- Tailings storage facilities (TSFs) and dams;
- Waste rock dumps / rock storage areas;
- Site water supply and management facilities;
- Source-control measures (e.g., cover systems) for water quality parameters of potential concern;
- Wells and potable water storage and supply;
- Water treatment and discharge infrastructure and facilities;
- Sediment control ponds;
- Ore stockpiles;
- Overburden, soil, and construction stockpiles;
- Borrow areas;
- Haul and transportation roads for workers, product, and/or supplies;
- Access and mine site roads;
- Power supply and distribution;
- Explosives facilities;
- Fuel storage and handling facilities;
- Ancillary buildings and other infrastructure (camps, loadout facilities, utilities, warehouse, laydown areas, offices, maintenance shops, sewage, septic, etc.);
- Work camps or other accommodations; and
- Any other relevant facilities.

## Project Activities (AIR Guidelines Section 1.5)

The Application must provide a description of the key activities occurring in the applicable construction, operations, closure, post-closure and decommissioning phases of the project, including the activities'

durations and proposed scheduling. Proposed scheduling should identify the time of year, frequency, and duration for key project activities. Any overlapping phases should be described. Describe which project facilities and activities will not be decommissioned.

If applicable, the Application can identify an early construction phase and describe any activities that are planned to be conducted prior to construction of the main components of the project (e.g. tree clearing or decommissioning/removal of existing infrastructure that must be removed).

The Application must also provide a summary of the changes that have been made to the project since submission of the Detailed Project Description, including the rationale for the changes.

The descriptions of key activities must include, but are not limited to, the following as applicable:

- Management of waste including controlling and treating waste discharges and maintaining and monitoring these facilities;
- Management of access to the mine, including methods, rationale and duration;
- Management, transport, storage, and handling of products produced; and
- Project-related traffic, including the types of vehicles, timing, frequency and duration of use.

## Alternative Means of Carrying out the Project (AIR Guidelines Section 1.8)

### General Considerations

The consideration of alternative means of carrying out the project must include, but is not limited to:

- Locating project facilities (on-site and off-site components);
- Mining methods;
- Mine waste disposal;
- Source control of mine contact water quality;
- Management and treatment of effluent discharges, including consideration of best available technology (BAT) and technology readiness, using the [Technology Readiness Assessment](#);
- Water sources and expected volumes for processing or milling;
- Air emissions and greenhouse gases, including consideration of BAT; and
- Workforce accommodation.

### New or Substantially Modified TSFs and Dams (new AIR Sub-section 1.8.1)

If the project includes a new or substantially modified<sup>1</sup> TSF or dam, the Application must include a description and assessment of the alternative means of undertaking the project with respect to options for tailings management that considers technology, siting and water balance.

This assessment must, following the provincial and federal guidance documents listed in *Table 3. Relevant Statutes, Policies, and Frameworks for Valued Components* (AIR Guidelines section 6.1):

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<sup>1</sup> “substantially modified” refers to a substantial departure from approval under the *Mines Act*, as described in the [Departure from Approval Guidelines](#)

- Present and compare best practices and BATs for tailings management for the project, along with options for managing water balance to enhance safety and reduce the risk (likelihood and consequence) of a TSF or dam failure during all phases of mine life (construction, operations, closure, post-closure);
- Present and compare technically and economically viable engineering solutions that are available to adequately address site conditions;
- Demonstrate that reasonable efforts were made to engage with potentially affected First Nations and that local Indigenous Knowledge received through that engagement is considered, with respect to the options presented and chosen;
- Provide a clear and transparent evaluation of the factors that supported the selection of the most suitable option;
  - Factors that will be taken into consideration in the evaluation include safety, consequences of failure, technical and financial aspects, land and water use objectives, and implications for environmental, health, social, heritage and economic values.
- Consider these evaluation factors in relation to tailings management options in both the short and long-term context;
  - Life cycle cost assumptions (construction, operations, closure and post-closure) must be included in the analysis of options.

### Conceptual Reclamation and Closure Plan (new AIR Section 1.9)

This is an additional section that is not included in the EAO's general AIR Guidance. This new section must include a conceptual reclamation and closure plan. Costing and detailed designs are not required. The conceptual plan must include, at a minimum:

- Description of how reclamation planning informed mine design including the general arrangement, major facility locations and design (e.g. design of waste rock storage, tailings storage, etc.), ancillary infrastructure location and design, and any other aspect of mine design;
- Land and water use objectives that are informed by pre-mining land and water use and capability metrics, as well as engagement with potentially affected First Nations, local communities and other stakeholders;
- Conceptual approach to progressive reclamation that will occur on site during operations, and how it will mitigate adverse effects on biophysical valued components (VCs) and/or First Nations' interests;
- Conceptual reclamation approach, prescriptions, success criteria and schedule for each mine facility, ancillary infrastructure and disturbance area to enable review of technical feasibility;
- Description of proposed soil salvage, including inventory of estimated salvageable soils, and supporting rationale if not all soils from disturbance footprints will be salvaged;
- Description of anticipated reclamation challenges, including soil inventory shortfalls or lack of representative examples of reclamation success for an ecosystem type, and the research programs that may be required to overcome these challenges;

- Description of how specific reclamation and closure plans for each mine component will mitigate adverse effects on biophysical VCs and/or First Nations’ interests;
- Description of projected ecosystem type capability losses, including potential mitigation measures and offset proposals; and
- Demonstration of how climate change has been considered in reclamation planning.

In addition to the information listed above, this section must include information on which First Nations were engaged (and how) with respect to the conceptual reclamation and closure plan, what the First Nations’ views were, and how those views have been taken into account in the proposed conceptual reclamation and closure plan.

## D. VALUED COMPONENTS ASSESSMENT METHODS

In addition to the VCs and subcomponents listed in the EAO’s AIR Guidelines, mining project proponents must include the following sector-specific requirements in their Application.

### Relevant Statutes, Policies and Frameworks (AIR Guidelines Section 6.1)

Add the following to **Table 3. Relevant Statues, Policies, and Frameworks for Valued Components:**

Valued Component	Relevant Statutes, Policies and Frameworks
Surface Water	<p>Additional statutes, policies and frameworks that may be relevant to the surface water VC include:</p> <ul style="list-style-type: none"> <li>• Policy for Metal Leaching and Acid Rock Drainage at British Columbia Mine Sites (July 1998)</li> <li>• Guidelines for Metal Leaching and Acid Rock Drainage at Mine Sites in British Columbia (August 1998).</li> <li>• Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials, MEND Report 1.20.1 (December 2009).</li> </ul>
All / General	<p>As part of developing the AIR and Application, the EAO recommends that proponents refer to other guidance materials that are not specific to any one VC and may apply more broadly:</p> <ul style="list-style-type: none"> <li>• <a href="#">Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators</a> (ENV 2016)</li> <li>• <a href="#">Manual of British Columbia Hydrometric Standards</a> (ENV 2018)</li> <li>• <a href="#">Policy for Metal Leaching and Acid Rock Drainage at Mine sites in British Columbia</a> (B.C. MEM &amp; B.C. MELP 1998)</li> <li>• <a href="#">Best Achievable Technology Assessment</a> (ENV 2021)</li> <li>• <a href="#">Technology Readiness Assessment (Ministry of Energy, Mines and Low Carbon Innovation and Ministry of Environment and Climate Change Strategy, August 2022)</a></li> <li>• Environment and Climate Change Canada’s <a href="#">Guidelines for the Assessment of Alternatives for Mine Waste Disposal</a> (version 2025-08-13 or as updated);</li> <li>• The EAO’s <a href="#">Application Information Requirements Template Tailings Management Requirements for Mining Projects Undergoing an Environmental Assessment</a> (August 2015 or as updated);</li> <li>• <a href="#">Best Achievable Technology Assessment to Inform Waste Discharge Standards Handout</a>; and</li> <li>• <a href="#">Best Achievable Technology Assessment Methodology for Mining Projects</a>.</li> </ul>

## Existing Conditions (AIR Guidelines Section 6.4)

Add the following to **Table 4. Existing Conditions Descriptions for Valued Components:**

Valued Component	Existing Conditions Descriptions
Groundwater	The Application must: <ul style="list-style-type: none"> <li>Provide a hydrogeological conceptual model, which represents the essential features of the groundwater system and its hydraulic behavior at steady state.</li> </ul>
Soil	The Application must: <ul style="list-style-type: none"> <li>For all project components and activities, describe the soil characteristics at removal and receiving locations, and the extent (surface area and depth) and volume of top and subsoil to be salvaged.</li> </ul>
Aquatic Resources and Freshwater Fish	The Application must: <ul style="list-style-type: none"> <li>Describe tissue concentrations in aquatic resources and fish, specifically those that could relate to bioaccumulation concerns and for fish species harvested for consumption; and</li> <li>Where project facilities and activities interact with current and historical mining activities, describe existing baseline (i.e. pre-project) effects occurring to freshwater fish and aquatic resources from the alteration, disruption, or destruction of aquatic habitat including effluent discharges to the receiving environment.</li> </ul>
Land Use and Resource Use	Where project facilities and activities interact with current and historical mining activities, the Application must: <ul style="list-style-type: none"> <li>Describe whether any abandoned or historical mines or mine related activities, including exploration, would or may interact with the project, the locations of these sites, the potential nature of those interactions, and if and how these sites are being managed (if publicly available).</li> <li>Provide an inventory of existing tailings, waste rock, and contaminated materials that are present on-site map the areas where these materials occur, and overlay this with the project's components and activities.</li> </ul>

## Assessing Negative Effects (AIR Guidelines Section 6.7)

Add the following to the section **6.7.1 VC-Specific Effects:**

For the air quality VC, the Application must:

- Describe the areas/zones where deposition of dust and particulate matter will occur from project-related activities.

For the surface water VC, the Application must:

- Provide a geochemical characterization of metal leaching and acid rock drainage (ML/ARD) potential for each geologic and mining-related material to be disturbed, produced, excavated, imported and stored during each phase of the life of the mine, including construction and post-closure;
- Demonstrate that the ML/ARD characterization program supports appropriate materials handling, source term<sup>2</sup> development, and mitigation and contingency plans for the protection of biophysical VCs;

<sup>2</sup> Geochemical source terms refer to representative chemical mass release rates for specific geologic materials, used to calibrate and predict drainage chemistry in water quality models.

- Include metal leaching under the range of pH values anticipated for drainage from project components and activities and consideration of other sources of contaminants including nitrogen from blasting residuals or cyanide from processing;
- Provide site-wide water balance and water quality models (incorporating appropriate sensitivity analyses and contingencies for water sources and discharges), that incorporate the results of the ML/ARD characterization program and groundwater numerical flow model(s) to delineate surface water-groundwater interactions and potential effects to both surface water quantity and surface water quality;
- Demonstrate that reasonable efforts were made to engage with affected First Nations on the overall site water balance and overall water management plan and that any local Indigenous knowledge received through that engagement has been considered; and
- Provide a receiving water quality and quantity prediction model (incorporating appropriate sensitivity analyses for a range of climate conditions) and use the results to identify potential effects on water users and biota. Results are to be compared to B.C. Water Quality Guidelines and where B.C. Water Quality Guidelines do not exist, to Canadian Council of Ministers of the Environment and Canadian Drinking Water Quality Guidelines.

For the groundwater VC, the Application must:

- Provide a hydrogeological conceptual model, which represents the essential features of the groundwater system and its hydraulic behaviour under stresses;
- Provide a numerical groundwater model (steady state and transient) that can simulate the existing groundwater flow conditions and predict the future groundwater conditions in response to planned or potential stresses, including but not limited to:
  - Dewatering of underground workings during operations;
  - Flooding of the workings and discharges at closure;
  - Drawdown on the local aquifer;
  - Losses of discharge to the local water bodies; and
  - Predicting seepage pathways (particle tracking).
- Provide site-wide water balance and water quality models, which must incorporate:
  - The results of the groundwater numerical flow model(s) to delineate surface water-groundwater interactions and potential effects to both surface water quantity and surface water quality; and
  - Appropriate sensitivity analyses and contingencies for water sources and discharges.
- The numerical model(s) must guide mitigations and contingency measures at the proposed mine.

For the soil VC, the Application must:

- Describe the spatial extent and characteristics of physical changes to soil, including the extent to which soil will be lost as a result of project components or activities, or will be salvaged and stockpiled for use in site reclamation and restoration;
- Provide a general description of site-specific limitations related to soil salvage and provide supporting rationale if not all soils from disturbance footprints will be salvaged; and
- Provide an estimated inventory of salvageable soils, classified by suitability to meet land and water use objectives.

For the vegetation VC, the Application must:

- Identify which project components and activities would be permanent, and areas where reclamation or restoration would not occur. The effects assessment must rationalize areas where reclamation or restoration would not occur and demonstrate consistency with other legislation and regulations.

#### VC-Specific Effects Management (new AIR Sub-section 6.7.2)

For the surface water VC, the Application must:

- Describe site-specific source control measures (e.g. cover systems) and other site-specific mitigation measures. Mitigation measures must be site-specific and must be listed as project components;
- Evaluate the effectiveness of the proposed mitigation measures, using either site-specific data, examples of analog sites with similar conditions, or a combination; and
- If a treatment technology is proposed as a primary mitigation method for water quality, a [Best Achievable Technology Assessment](#) and [Technology Readiness Assessment](#) may be required. Technologies assessed at Technology Readiness Level 7 or higher are generally deemed acceptable for environmental assessment.

For the groundwater VC, the Application must:

- Describe site-specific source control measures and other site-specific mitigation measures. Mitigation measures must be site-specific and must be listed as project components; and
- Evaluate the effectiveness of the proposed mitigation measures, using either site-specific data, examples of analog sites with similar conditions, or a combination.

For the soil VC, the Application must:

- Describe where soil materials would and would not be used for revegetation during site reclamation and restoration, and map and overlay this information with the project's components and activities; and
- Describe contingency measures that will be implemented if there is an anticipated shortfall of reclamation material.

For the wildlife VC, the Application must:

- Describe how and to what extent progressive reclamation will provide habitat for wildlife during operations, and the anticipated effectiveness of the mine reclamation at closure and post-closure to restore wildlife habitat.