Mackenzie Valley Review Board

Draft Environmental Assessment Initiation Guidelines for Developers of Major Projects

Information needed to begin an environmental assessment

2018

Note to Reviewers

The Review Board invites feedback on all parts of the draft Guidelines document, particularly sections that set out specific information requirements. We encourage reviewers to carefully consider the information requirements described in the draft Guidelines to:

- ensure that the information being requested meets the needs of your party for scoping;
- identify additional information that should be required; and
- highlight information that may not be needed for scoping or available at the beginning of an EA.

Throughout their review, reviewers should also consider to what extent the draft Guidelines would achieve the expected outcomes detailed in Section 1.1.

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Overview

The Mackenzie Valley Environmental Impact Review Board (the Review Board) is developing the draft *Environmental Assessment Initiation Guidelines for Developers of Major Projects* (draft Guidelines) to describe the information needed to begin an environmental assessment (EA). Once fully developed, the guidelines will set clear expectations for the type of information and level of detail that the Review Board requires from developers to begin an EA. By setting clear guidance and expectations for major projects that typically go through a full EA, the guidelines will help developers prepare the necessary information in advance to support an efficient start to the EA and enable the rest of the EA to be more focussed.

The draft Guidelines discuss the main types of information that are needed to begin an EA. This information is referred to as an EA Initiation Package, which will include:

- a project description;
- a description of the existing environment;
- the identification of potential impacts and mitigations;
- an engagement record and engagement plan;
- a developer's assessment proposal; and
- plain language summaries of the project proposal and the developer's assessment proposal.

In the Review Board's experience, information on these subjects is necessary for EA scoping to effectively set priorities for the rest of the EA, and for the EA process overall to be efficient and effective. In some EAs, information has been lacking. This is not necessarily because it is unavailable, or developers are not willing to provide it, but partly due to the lack of guidance about what information is needed, and when, during the EA process. The draft Guidelines aim to clearly describe the Review Board's information requirements so that developers can prepare the necessary information in advance. It will also help parties know what information to expect at the beginning of the EA scoping phase.

By having this information earlier in the EA process, the Review Board and parties to the EA will be better informed and able to meaningfully participate in scoping. This will make scoping more effective and enable a more thorough analysis of possible impact pathways at the beginning of an EA. This in turn will allow the Review Board—with input from parties—to identify impact pathways that do not need to be assessed in the Developer's Assessment Report (DAR) and prioritize pathways that matter most and that need further investigation in the EA. The result will be a shorter, more focussed and effective DAR. The rest of the EA can then focus on the major issues that could lead to significant impacts.

The Board's intention is not to require more information from developers, but rather to obtain the correct information at the right time to facilitate meaningful engagement, collaborative project planning, and to foster greater focus in the EA process. Table 1 provides a summary of how information could be organized differently.

Type of Information	**Recent EAs**	**Vision for Future EAs (if proposed information requirements are implemented)**
Project description	Some information in initial application, thorough information in DAR	Thorough information **earlier** in the EA process
Description of existing environment	Some information in initial application, thorough information in DAR	Thorough information **earlier** in the EA process
Identification of impacts/mitigations	Some information in initial application, thorough information in DAR	Thorough analysis of impact pathways **earlier** in the EA process
Developer's assessment proposal	Developer's proposed Terms of Reference at beginning of Scoping	**Same** timing. Proposed impact pathways to focus on in DAR and proposed assessment methods
Engagement record and engagement plan	Initial application	**Same** timing. **More focussed** on collaborative project planning and identifying impacts and mitigations

Table 1: summary of "what" information is required "when" in recent EAs compared to the structure proposed in the draft Guidelines.

By providing clear guidance on what information is expected to initiate early stages of the EA process, developers will be better equipped to avoid lengthy and costly delays related to insufficient project details. The draft Guidelines also emphasize the importance of early engagement (by developers) with Aboriginal organizations and the public as a means of collaborative project planning. Effective engagement by developers and meaningful consideration of feedback can also support informed and meaningful participation by parties, enable collaborative approaches to minimize impacts and maximize benefits, and reduce the timing and cost of EA process delays. See Section 1.1 for further discussion on the expected benefits of the draft Guidelines.

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Revisions

The draft *Environmental Assessment Initiation Guidelines for Developers of Major Projects* (draft Guidelines) are consistent with the law affecting the environmental impact assessment (EIA) process in the Mackenzie Valley and the current thinking and good practices for implementing EIA, specifically in the North, and generally in Canada. The Review Board expects to amend the draft Guidelines periodically as experience is gained through its implementation and as EIA practices evolve. Following implementation, the draft Guidelines may be amended to respond to:

- changes to the MVRMA or regulations that affect EIA in the Mackenzie Valley;
- changes to operational processes for EIA in the Mackenzie Valley; or
- emerging practices in project planning and development, impact assessment methods, etc.

Following implementation, the Review Board will review the draft Guidelines periodically and on an as-needed basis to consider improvements based on the experience of all organizations involved.

Date	Description
_____	Date of implementation

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Definitions and abbreviations

Term	Definition
Alternative means	An alternate project component or activity or way of carrying out the project, other than that being proposed, that is both technically and economically feasible.
DAR	Developer's Assessment Report
EA	Environmental Assessment
EIA	Environmental Impact Assessment: The EIA process can include preliminary screening, environmental assessment and environmental impact review.
EIR	Environmental Impact Review
EA Initiation Package	The document package providing the project description and other information required to begin an EA of a major project, as described in these guidelines.
Initial Application	The application for a regulatory authorization (such as a land use permit or water licence) that triggers a preliminary screening under the MVRMA. The Initial Application includes a project description, which the proponent typically needs to update after the EA before the permitting or licensing process can continue.
Mackenzie Valley	As defined in the MVRMA: "that part of the Northwest Territories bounded on the south by the 60th parallel of latitude, on the west by Yukon, on the north by the Inuvialuit Settlement Region, as defined in the Agreement given effect by the *Western Arctic (Inuvialuit) Claims Settlement Act*, and on the east by the Nunavut Settlement Area, as defined in the *Nunavut Land Claims Agreement Act*, but does not include Wood Buffalo National Park of Canada."
MVEIRB or "Review Board"	Mackenzie Valley Environmental Impact Review Board
MVLWB	Mackenzie Valley Land and Water Board
MVRMA	Mackenzie Valley Resource Management Act
Preliminary screening	An initial examination of a development proposal for potential significant adverse environmental, social, and cultural impacts, and potential public concern.
Responsible Minister	Any federal or territorial minister with jurisdiction relating to the proposed development.
Scope of Assessment	What the Review Board will examine during the EA. It includes the effects of the proposed development on the environment, priority issues, and how they will be examined.

Scope of Development	The parts of the proposed development, including the principal development and all other physical works or activities required for the development to proceed, as defined in the Terms of Reference.
Terms of Reference	A document that specifies what information the developer must provide to the Review Board in the Developer's Assessment Report, and sets out the scope of development and scope of assessment for the EA.
Valued Component	An element of the biophysical or human environment that may be affected by a proposed development and that is identified as important, such as having ecological, scientific, social, cultural, economic, historical, archaeological, or aesthetic importance.

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1. Introduction

Under the *Mackenzie Valley Resource Management Act* (MVRMA or the Act), the Mackenzie Valley Environmental Impact Review Board (Review Board or Board) is responsible for conducting environmental assessments (EAs) and environmental impact reviews (EIRs) in the Mackenzie Valley. The environmental impact assessment (EIA) process is designed to prevent significant adverse impacts on people and the ecosystem from proposed developments, and to ensure the views of Aboriginal people and the general public are considered in project planning.[1,2]

The Review Board's *Environmental Impact Assessment Guidelines* (EIA Guidelines) set out an overall framework that explains how the EIA process works from preliminary screening to EAs and EIRs.[3] The Review Board has also published *Socio-Economic Impact Assessment Guidelines* (SEIA Guidelines) and *Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment* (TK Guidelines) to reflect its expectations related to socio-economic impact assessments and the use of Traditional Knowledge during the EIA process.[4]

The Review Board has developed the draft *EA Initiation Guidelines for Developers of Major Projects* (draft Guidelines) to clearly communicate and provide guidance on the information required to begin an EA for a major project. The draft Guidelines will work together with the Review Board's existing guidelines (noted above) as many of the planning and engagement strategies discussed in the existing guidelines are also relevant for EA initiation.

1.1 Purpose

The purpose of the draft Guidelines is to establish standard information requirements for the beginning of an EA and provide better up-front guidance to proponents of major projects to support an efficient and effective EA process that focuses on the issues that matter most. The draft Guidelines describe the types of information, level of detail, and overall process for preparing the information needed to begin an EA.[5]

The Review Board has always required project-related information to begin an EA and to undertake EA scoping. However, information received by the Review Board in the past at the beginning of an EA has varied from project to project. The required information includes project-related information, as well as the developer's proposed assessment priorities and

[1] EIA refers to the overall environmental assessment process under the MVRMA, including preliminary screening, environmental assessment, and environmental impact review.
[2] "Aboriginal" is used in place of "Indigenous" in this document except when "Indigenous" appears in the title of a document, in an excerpt from another document, or a direct quote.
[3] Available at www.reviewboard.ca.
[4] Available at www.reviewboard.ca.
[5] The EA initiation guidelines would in no way limit the Review Board's authority to require information beyond what is described the guidelines.

methods. In the past when this information has been missing, the Review Board has relied on Terms of Reference, Developer's Assessment Reports (DARs), and rounds of information requests to try to fill in the details to move forward with the EA. However, relying on these EA mechanisms to get project-related details after EA initiation may cause EA process delays, disjointed project information packages, and excessively large DARs that may lack focus.

Having the information required by the draft Guidelines available at the *beginning* of an EA will contribute to several positive outcomes during the EA process:

- **Developers will have a better understanding of the type and quality of information required** to initiate an efficient EA process.
- **Developers can avoid potentially lengthy and costly delays** during the EA process by following the guidance to provide sufficient information at EA initiation and demonstrating how the results of early engagement were considered during project planning.
- **The Review Board, parties, and the public will have a clear understanding of the project**, the existing environment, potential interactions, and proposed assessment priorities, **which will allow more meaningful participation by parties and better evidence to inform the Board's scoping decisions**. As a result, **the EA scoping phase**, which results in a Terms of Reference that prioritizes issues to investigate and sets out instructions for the DAR, **will be more focussed and effective**.
- More effective scoping will **focus the DAR and information requests on** the assessment of **priority impacts** and mitigations and leave out impacts that are unlikely to lead to significant impacts.
- The **DAR can be shorter** because the project description will already be covered in the EA initiation package.
- By having a thorough understanding of the project from EA initiation and scoping, **the Board and parties can focus** their subsequent efforts and information requests **on impact predictions, significance of impacts, and mitigation measures** that may be needed to reduce or avoid impacts.
- **More focussed EA will benefit everyone** by making better use of limited capacity, getting to the heart of key issues, and avoiding less important issues that can be dealt with more appropriately during permitting and licensing.

In addition:

- With access to thorough information about a project and potential impacts early on at EA initiation, parties will be better able to make informed and timely decisions about how much they want to participate in the EA process and plan accordingly.
- Knowing more about the project and its context will allow the status of conformity with other processes, such as land use plans, to be clearer at the beginning of an EA.
- A better and earlier understanding of proposed projects may reduce the number of information requests in an EA, as well as the time and resources required to respond to information requests.

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1.2 Authority

The Review Board is created under Part 5 of the MVRMA to carry out EAs and EIRs, and to produce guidelines for the EIA process in the Mackenzie Valley. Section 120 of the MVRMA authorizes the Review Board to create guidelines respecting the process of environmental assessment established by Part 5:

> 120. Following consultation with first nations, the Tłı̨cho government and the federal and territorial Ministers and subject to any regulations made under paragraph 143(1)(*a*), the Review Board may establish guidelines respecting the process established by this Part (…).

1.3 How the draft Guidelines were developed

Content for the draft Guidelines was developed using both internal expertise and external input, and utilized resources such as:

- examples from other organizations who conduct EAs and related resource management organizations;
- findings from a thorough information gap analysis of past EAs;
- professional experience and emerging best practices; and
- early feedback from parties.

The Review Board also consulted relevant guidelines developed by the Mackenzie Valley Land and Water Board (MVLWB) including:

- MVLWB Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits;
- MVLWB Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories; and
- MVLWB Guidelines for Developing a Waste Management Plan.

Wherever appropriate, the draft Guidelines use existing information requirements and developers' best practices to form the basis of the EA initiation requirements.

1.4 Implementation and applicability

Once finalized, the Review Board will apply the draft Guidelines according to its mandate and legislative responsibilities under the MVRMA. If a major project proposal is referred to EA (see Section 2) the information requirements set out in the draft Guidelines will need to be met for the Review Board to proceed with the EA process. Major projects can include projects such as resource development projects and large infrastructure projects. For smaller projects, the scale of information required may depend on the context and nature of the project. In these circumstances, the Review Board will provide customized guidance to developers on the information it requires.

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Due to the variable complexity, nature, scale, and context of major projects that are referred to EA, the detailed information that the Review Board requires to initiate the EA process may vary. The Review Board may require information beyond the requirements of the draft Guidelines to initiate the EA process in some cases. The draft Guidelines should be considered the minimum amount of information the Review Board needs to begin an EA for a major project.[6]

To proactively prepare for the EA process, developers of major projects should consult the draft Guidelines when preparing project materials for permit or licence application(s), and before a preliminary screening body refers their project to EA. Developers are encouraged to contact the Review Board to ensure they understand the requirements of the draft Guidelines and how they might apply to a specific project proposal.

The Review Board intends to continuously work with parties and developers to develop and apply the draft Guidelines in a way that would achieve the outcomes listed in Section 1.1.

?? Summary of the EIA process

The EIA process in the Mackenzie Valley begins when a developer applies for a water licence, land use permit, or other regulatory authorizations. Preliminary screenings are conducted by the regulatory authority or government department that receives the application, such as the Mackenzie Valley Land and Water Board. Most applications go through a preliminary screening, and depending on their potential to cause significant adverse environmental impacts and/or potential public concern, they are referred to the Review Board for EA.[7,8]

The majority of development proposals (over 95%) only require preliminary screening and are not referred to EA or EIR.[9] However, most major projects, such as new mines, midsize or large hydroelectric projects, oil and gas production projects, or major changes to existing projects, are likely to trigger an EA. These major projects are the ones that the draft Guidelines would apply to.

For more information regarding the environmental assessment process and what to expect when participating in an EA, see the Review Board's *Environmental Impact Assessment Guidelines*.[10]

[6] The Review Board may request additional information from the developer prior to initiating an EA, or at any time during an EA.
[7] There are some exemptions, under section 119 and subsection 124(1) of the MVRMA.
[8] For more information regarding preliminary screening, see the Review Board's *Environmental Impact Assessment Guidelines* at www.reviewboard.ca.
[9] Environmental Impact Review is a similar process to EA, but is the highest level of scrutiny for a proposed development under the MVRMA. See the Review Board's *Environmental Impact Assessment Guidelines* available at www.reviewboard.ca.
[10] Available at www.reviewboard.ca.

3. EA Initiation Package

3.1 Summary of EA initiation requirements – EA Initiation Package

To begin the EA process, the Review Board will require:

- a project description, including management plans;
- a description of the existing environment;
- preliminary identification of potential impacts and mitigations;
- an engagement record and engagement plan;
- the developer's assessment proposal; and
- plain language summaries of the project description and the developer's assessment proposal.

In the draft Guidelines, this information is referred to collectively as the EA Initiation Package.

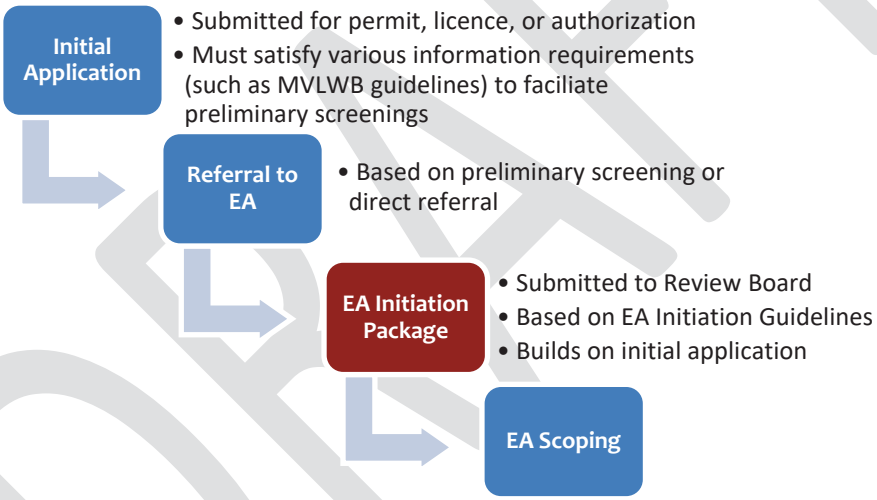

Figure 1: EA Initiation Package in the EA process

3.2 Format

Developers may organize and present the information required in the draft Guidelines in the format and manner most appropriate to the project and its context, as long as all information is clear and thorough. The developer should make every effort to present the EA Initiation Package in plain language. Where the developer uses management plans or other supporting materials to satisfy requirements of the draft Guidelines, the developer must provide an informative summary within the EA Initiation Package (such as the project description section). The summaries will include references to the supporting materials, which will be submitted as appendices.

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Where possible, developers should try to use different types of media (in addition to text materials) to present project information, such as video, 3D imaging, interactive presentations, models, and mapping. These resources should supplement text materials to help a wider audience understand project information in different ways.

Generally, developers should adhere to the following structure and format for their submissions:

- EA Initiation Packages must be submitted with informative tables of contents referencing all relevant headings, subheadings, and appended materials.
- EA Initiation Packages must include comprehensive tables of definitions and abbreviations for terms as well as abbreviations used throughout the EA Initiation Package.
- All maps must be presented in the required standard format with legible grids and suitable scaling. Maps must also include NTS Maps number, latitude and longitude references, titles, a north arrow, and relevant legends.
- The Review Board does not accept references to external electronic sources such as online databases or websites as a submission.
- A minimum of one electronic copy and three hardcopies must be provided, as well as copies of all multimedia resources. The Review Board may request additional hardcopies and other translated information in addition to the required plain language summaries.

For additional guidance related to document formatting and organization, refer to the Review □□□□□□□*Document Submission Standards*.[11]

□□ Project-Related Information Requirements

4.1 Project description

The project description should be detailed enough to effectively describe the entire proposed development, including its components, timeline, developer, alternatives, and management strategies. It should provide the Review Board and parties with a clear understanding of the proposed project. The project description information requirements described below are meant to guide developers towards the type of information the Review Board expects at the beginning of an EA to inform EA scoping. These information requirements do not limit the Review Board's ability to request additional details on a case-by-case basis.

The guidance provided below related to the project description is divided into three parts:

1. Project Overview
2. Project Components, Alternatives, and Plans
3. Plain Language Project Summary and Map

[11] Available at www.reviewboard.ca.

These three items form the requirements for the project description. The Project Overview and Project Components, Alternatives, and Plans sections should present more in-depth information to comprehensively describe the proposed development. The Plain Language Project Summary and Map section should function as a stand-alone summary resource that could be used during public engagement and scoping sessions and should include relevant details, maps, and figures. Appendices containing supplemental information (such as monitoring and management plans, copies of licence applications and supporting documents) may be attached and referenced throughout the project description. Summaries of referenced content should be provided in the main body of the project description.

Note to Reviewers

The Review Board invites feedback on all parts of the draft Guidelines document, particularly sections that set out specific information requirements. We encourage reviewers to carefully consider the information requirements described in the draft Guidelines to:

- Ensure that the information being requested meets the needs of your party for scoping;
- Identify additional information that should be required; and
- Highlight information that may not be needed for scoping or available at the beginning of an EA.

Throughout their review, reviewers should also consider to what extent the draft Guidelines, and the information required in this section, would achieve the expected outcomes detailed in Section 1.1.

4.1.1 Project overview

The project overview should provide general project information for the Board, parties, and public. Some of the information in the project overview will be further expanded in the section on project components, alternatives, and plans.

Developers are required to provide the following information as an overview of the project:

1. **General project information**
   a) *Project title*

   b) *Name and address of the developer*
      i) Names and contact information for responsible individual(s) in the organization

   c) *Project type*
      i) Identify the type of project proposal

- Identify the primary project type and any major accessory project components (such as open pit gold mining, all-weather road development, and truck and aircraft transportation).

ii) For all resource development projects, identify:
- nature of resource being proposed for exploration or extraction;
- proven and probable reserves and production capacity; and
- exploration, extraction, and/or processing method(s).

d) *Project location*

i) Describe the proposed project location in terms of its local and regional context.
- Provide maps, photos, and other depictions to show, at minimum, the location of the proposed development relative to other developments, land use areas, wildlife and historical conservation areas, cultural areas and communities.
- Include information on the political and administrative location (such as settlement areas and land use planning areas), land ownership, watershed or drainage region, traditional place names, and the developer's right to access the proposed development area. Maps should detail the project footprint (1:50,000 or more detailed), regional area, and other relevant information (see Section 3.2 for additional information).

e) *Project timeline*

i) Identify the timing of the proposed development, including any proposed or potential future phased development schedules. Details should include dates associated with all proposed project phases and seasonal operations, such as:
- mobilization
- construction
- operations
- closure and reclamation
- temporary and permanent closure
- other

ii) Details related to the proposed project timeline should be supported by process maps and tables to demonstrate the sequencing and timing of all project activities, components, and developments for the proposed life of the project.

iii) For proposed projects with indeterminate timelines (such as public all-season roads), developers should identify the phases of the project where applicable, as well as the management responsibilities that would apply to each phase.

f) *Labour force and human resources*

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i) Discuss the labour requirements, employee programs and policies, and workforce development opportunities for the proposed project. At minimum, details should include:
   - opportunities for employment and training;
   - expected workforce requirements and timelines for employment opportunities;
   - communities of focus for hiring opportunities and anticipated hiring policies (including hiring programs, details on work and transportation schedules);
   - employee assistance programs (such as career planning, employee counselling, family support, transition planning); and
   - workplace policies and programs (such as codes of conduct, workplace safety programs, cultural training programs).

2. Purpose of the project

a) *Objective*

i) Discuss project objective and the proposed use of any end-products (such as product sale as a raw material, finished material, intermediate product, or local use).

b) *Need for the development*

i) Discuss the need for the development including the benefits to local communities, the Northwest Territories, and Canada.

c) *Economic projections*

i) Discuss the economic projections for the proposed project, including:
   - capital and operating costs (by project phase, including temporary closure scenarios);
   - procurement strategies (including procurement priorities and sectoral breakdowns);
   - taxation and royalty revenues;
   - contributions to Gross Domestic Product; and
   - economic vulnerabilities (including forecasts of commodity prices where applicable).

ii) Identify any anticipated benefit agreements for the proposed project and provide non-confidential details related to their status and progress.

3. Project history[12]

a) *Regulatory history*

[12] The Review Board may require additional information related to past, concurrent, or foreseeable developments related to the proposed. Developers should endeavour to provide detailed information related to project history to allow the Review Board and parties to effectively identify all interdependent and/or linked undertakings related to the proposal or other developments.

i) Provide details related to previous and/or related projects (such as exploration programs), associated permits or licences, mineral claims, leases, and any additional information related to relevant project history.

b) *Site history*
   i) Identify current site or local infrastructure and equipment that would be used as part of the proposed development (such as adits, drill holes, buildings, roads) as well as any liabilities.

4. Project authorizations

a) Provide a list of all regulatory permits, licences, and any other authorizations required to carry out the proposed development and the status of those authorizations, as publicly available at the time of submission of the EA Initiation Package, including:
   i) Water licences and land use permits;

   ii) Status of conformity with applicable land use plan;
      - If the proposed project would occur in an area with an approved land use plan, the developer should demonstrate how it would comply with the land use plan. It is also helpful to clearly identify whether the proposed project conforms or conflicts with any applicable draft land use plan.

   iii) Surface and subsurface leases, land tenure;

   iv) Authorizations or permits from federal, territorial, or Aboriginal governments. For example:
      - Natural Resources Canada
      - Department of Fisheries and Oceans Canada
      - Environment Canada
      - Transport Canada
      - Government of the Northwest Territories
      - The Tłı̨cho Government
      - The Délı̨ne Got'ine Government

b) Discuss the proposed project's conformity with any current or prospective habitat management plans or protected areas in or near the development area (such as the Bathurst Caribou Range Management Plan or boreal caribou recovery strategies).

5. Description of the developer

a) Provide the following information about the developer (and its partners) responsible for the proposed project:

   i) A description of the developer, including any subsidiary companies, related corporations, and/or joint venture partners;

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ii) Evidence of the financial viability of the developer to cover the costs associated with an EA (including providing a DAR, holding engagement meetings, responding to information requests, participating in public hearings), as well as to undertake the project including closure and reclamation;

iii) A summary of the developer's corporate history and operational experience in Canada and the Northwest Territories;

iv) Details on how the developer would ensure that its contractors and subcontractors honour commitments made by the developer throughout the EA process;

v) Environmental performance records for the developer and its partners from prior exploration and development work related to the proposed project and any other projects in the Northwest Territories, or elsewhere, including discussion of regulatory compliance; and

vi) A description of any corporate policies, codes of practice, programs or plans concerning the developer's environmental, sustainable development, community engagement policies. Copies should be provided as appendices to the EA Initiation Package.

6. Traditional Knowledge

a) Provide a summary of the Traditional Knowledge resources identified, developed, or obtained during project planning. Include references to your engagement record, where relevant.

b) Describe how Traditional Knowledge was considered and incorporated into project planning.

c) Describe the steps taken to ensure that Traditional Knowledge was, and will continue to be, accessed and used in culturally appropriate ways that respect local protocols. Also describe how intellectual property would be protected as part of the proposed project's development, assessment, and undertaking.

4.1.2 Project components, alternatives, and plans

Project components and alternatives

Developers are required to provide a description of all activities (such as transportation) and physical characteristics (such as buildings and infrastructure) required to carry out the proposed project, as well as the alternatives considered during project development. In the context of a project description, these activities and characteristics are considered components of the overall undertaking. Project component information should include:

- a description of each component;

- the methods the developer proposes to operate and/or manage each component; and
- any operational contingencies.

Details on project components (such as dimensions, footprints, and relative locations on a site map) should be presented with accompanying figures, maps, and photos as appropriate. For clarity, each project component should be presented in a separate subsection.

Developers are required to provide detailed information on all components throughout all stages of the proposed project. For consistency, developers should also consider how information is presented in Section 4.1 in discussing both standard and project-specific components. Standard project components are those common to most or all projects, while project-specific components are those that are more unique to a project (see below).

Management plans and summaries

Project component information should also include informative summaries of any applicable management and monitoring plans. Enough detail should be provided in these plan summaries to describe how these plans relate to the operation, monitoring, and overall management of the related project component. Depending on the stage of project development, developers may only have conceptual monitoring and management plans or frameworks available. Although the Review Board recognizes that these are not finalized draft plans, they should still be provided and referenced to support content in the main body of the project description.

Copies of all management plans, including conceptual or pre-existing plans, should be provided for further reference as appendices. For additional guidance related to monitoring and management plans, including those not linked to individual project components, see Monitoring and Management Plans below.

Standard and project-specific components

Project components include both standard and project-specific components that should be detailed in the project description. Standard project components (such as transportation water, and water use) are those common to most or all projects, while project-specific components (such open-pit mining) are those that are more unique to a project type. Developers should consider these fundamental questions when identifying project components and describing their details:

- What activities and parts would the project consist of and how would they relate to each other?
- When and where would each component take place?
- What methods would be used?
- How were the components designed?
- How would the components be monitored and managed?

Developers will address these fundamental questions in a project description by discussing supporting methods, operational details, design and management plans, and more. This will

give the Review Board and parties a comprehensive understanding of the proposed project and all its associated components.

The list of standard and project-specific components below is an example of what developers should consider when describing components of a project. Each component is followed by a series of questions indicating the types of details that should be provided, at minimum, to form a thorough understanding of the project component. ***Developers should be prepared to provide specific details beyond what information may be suggested by the examples and questions below.***

Standard project components

Examples of standard project components include, but are not limited to, the following:[13]

a) Equipment

i) What types of equipment would be required and how would the equipment be used (such as type, size, weight, and function)?
ii) What are the projected emissions for all project equipment (such as vehicles, generators and heavy/light equipment), organized by project phase?
iii) What are the monitoring and management plans related to all equipment use, storage, maintenance, and disposal (such as operations and contingency plans, noise management plans, dust management, emissions management plans, energy efficiency plans, disposal plans, spill management plans)? How were they developed? How do they follow or improve on standard best practices in the Canadian North?

b) Transportation

i) How would the site be accessed and resupplied?
ii) How would personnel be transported on-site and off-site for project activities?
iii) What are the proposed transportation routes, traffic volume, schedules for all transportation methods (such as ground or air transportation) and how were they developed?
iv) What are the monitoring and management plans related to all project transportation (such as operational plans, dust management plans and noise management plans)? How were they designed? How do they follow or improve on standard best practices in the Canadian north?*[14]*

c) Buildings and infrastructure (such as camp, roads, airstrip, support structures, and mill)

[13] A complete list and description of all project components will directly inform the scope of development. In its final scoping determination, the Review Board will include not only the principal development, but also what other physical works or activities are accessory to the principal development; if the principal development is *dependent* on, *linked to*, or *proximal* to other physical works or activities, they will be deemed accessory to the principal development. For more information on the tests of dependence, linkage and proximity used by the Review Board, see p. 27-28 in the Review Board's *Environmental Impact Assessment Guidelines*.

i) What buildings and infrastructure are required as part of the project and how would they be used?
   - *Timing and project phase (such as seasonal, life of the project, or permanent)*
   - *Traffic volumes and/or operational capacity*
   - *Occupancy and use of buildings and accommodations (such as camp size)*

ii) Would any quarries be required to develop project infrastructure? If so, how much and what types of material would be required? How would they be operated and managed throughout the life of the project?

iii) How were infrastructure and accessory component sites (such as quarry site) selected and what considerations were included in decision-making (such as environmental considerations [e.g., wildlife, waterbodies, ground stability, ARD, permafrost], operational considerations)?

iv) What are the site, building, and infrastructure design plans? How were they developed? Are they proven to be effective in northern environments similar to the project area?

v) What are the monitoring and management plans to develop and maintain building and infrastructure components throughout the life of the project? How were they designed? How do they follow or improve on standard best practices or guidelines in the Canadian north?

d) Water and water management infrastructure

i) Where would water be sourced for the project? How would water be accessed and transported (such as water bodies, intakes, transport methods)? How much would be used for various project activities (such as camp operations, mill, and winter road development)? How would it be treated and recycled?

ii) How were the water source sites selected and how would they be monitored to meet operational needs, environmental considerations, and legislated requirements?

iii) What infrastructure (such as retention structures, diversions, and dykes) and equipment would be required to access and manage all water? How were they designed? How would they be managed?

iv) What are the monitoring and management plans related to all project interactions with water for the life of the project? How were they designed? How do they follow or improve on standard best practices or guidelines in the Canadian north?

e) Fuel and hazardous materials

i) What types of fuels and hazardous materials (such as diesel, jet fuel, lubricants, drill additives, and batteries) would be required as part of the project? What would they be used for, and in what quantities?

ii) How would all fuel and hazardous materials be transported to site, handled, stored, and disposed of?

iii) What are the monitoring and management plans for fuel and hazardous materials (including spill and contamination response plans)? How were they designed? How do

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they follow or improve on standard best practices or guidelines in the Canadian north?[15]

f) Power

i) How would project infrastructure and equipment be powered throughout the life of the project?
ii) What equipment, personnel, and fuel would be required to maintain power generation facilities and equipment?
iii) What are the monitoring and management plans for power generation facilities and equipment? How were they designed? How do they follow or improve on standard best practices or guidelines in the Canadian north?

g) Waste (such as camp waste, site waste, activity waste, and process waste)

i) What types of waste would be produced as part of the project, how would they be produced, and in what quantities?
- Sewage
- Grey water
- Combustible and non-combustible solid waste
- Hazardous waste and oil
- Contaminated soils, water, and snow
- Empty barrels/fuel drums
- Process water
- Waste rock
- Tailings
- Waste water
- Other (such as, contact water, groundwater)

ii) How would all wastes associated with the proposed project be managed, including collection, transportation, treatment, and disposal methods?
iii) What infrastructure and equipment would be required to manage waste? If landfarms or landfills are proposed, where would they be located, how were they designed, and how would they be managed and monitored throughout the life of the project?
iv) What are the monitoring and management plans for all waste? How were they developed? How do they follow or improve on standard best practices or guidelines in the Canadian north?[16]

h) Closure and reclamation activities

i) How and when would the project and project site(s) be decommissioned and remediated?
- Methods, technology, and management plans
- Equipment, infrastructure, and personnel requirements

[15] Consult INAC's *Guidelines for Spill Contingency Planning* available at www.enr.gov.nt.ca.
[16] Consult the MVLWB's *draft Guidelines for Developing a Waste Management Plan* and Water and Effluent Quality Policy available at www.mvlwb.com

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- Reclamation schedule (including progressive reclamation)

ii) What are the existing levels of contamination on-site, and expected contamination resulting from the proposed project?
- Nature of contamination (such as types, volumes, and environmental hazards)
- Wastes (such as types, volumes, and environmental hazards)
- Locations
- Management measures

iii) What are the remediation or reclamation objectives for the proposed project? How were they developed? How would progressive and final remediation or reclamation objectives and activities be monitored to evaluate short and long-term effectiveness and success?

iv) What are the monitoring and management plans for all closure and reclamation activities? How were they designed? How do they follow or improve on standard best practices or guidelines in the Canadian north?[17]

Project-specific components

Project-specific components are components unique to specific types of projects. If there are aspects of the proposed project that are not covered under the standard project components listed above, the developer should clearly describe all operational information and management methods for each project-specific component. Below is an **example** of project-specific content that may be needed to describe a natural resource project.

a) Natural resource development

i) What is the nature of the resource being proposed for extraction?
- Detailed description of the resource features:
  - physical nature of resource (such as characteristics of ore body or well)
  - geology and mineralogy of area
  - host rock characteristics
  - results of rock geochemical tests and methodologies
- Well type (such as production, injection, disposal) and classification (such as exploratory wildcat, exploratory outpost, and development)

ii) What type of exploration (such as drilling, bulk sampling, and trenching) activities would occur as part of the project and what is the exploration program plan?
- timeline
- geophysical, geological, and environmental conditions, surveys, and sampling
- drill plans (such as locations, depths, volumes, additives, and methodologies)
- mobilization and personnel requirements
- monitoring and management plans

iii) What resource development activities would occur as part of the project and what is the proposed resource development plan?

[17] Where applicable, consult the MVLWB/INAC *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories* at www.mvlwb.com.

- type of development (such as open-pit, underground, and oil drilling), methods, and the life of the development
- extraction and milling methods and rates of production
- storage and transportation of product (such as trucked, aircraft, and pipeline) and methods
- equipment, infrastructure, and personnel requirements
- stockpiles, volumes, and management methods (such as overburden, ore, waste rock)
- site plan (such as rigs, pits, quarries, mills, portals, ramps, associated infrastructure)

iv) What are the plans to monitor and manage all exploration and extraction activities? How were they designed? How do they follow or improve on standard best practices or guidelines in the Canadian north?

Consideration of alternatives

The alternatives discussed in this section should reflect the process that the developer took to explore feasible options with parties through engagement and collaborative project design, and how the proposed project evolved from conceptual design to preferred approach during project development. The Review Board acknowledges that select alternatives may be presented in a project description for further refinement through the EA process. However, substantial project changes should occur during early project development through pre-feasibility and engagement work, rather than during the EA process.

For each project component, briefly describe any technically and economically feasible alternative means of carrying out the development. Alternatives may include alternative technologies, designs, management plans, timing, location, methods, and more. The developer will describe:

- reasons for selecting preferred methods, designs, layout, management strategies, technologies, and other project characteristics;
  - where applicable, provide a preliminary cost/benefit analysis to further describe the rationale for the selection of the preferred alternative
- differences in the impacts on the environment (human and biophysical) that could result from the options considered, including impacts from vulnerabilities related to climate change;
- feedback during all engagement processes and how feedback was considered in selecting the preferred approach; and
- if and how the viability of options could be improved in the future through, for example, input from public and parties, technological innovation, research findings

Monitoring and management programs and plans

Developers are required to provide a list of all proposed management and monitoring plans, including any conceptual plans or planning frameworks that are under development or anticipated. The list of all proposed management and monitoring plans should include those

summarized and referenced throughout the discussion of project components, as well as those not previously discussed or specifically referenced in the project description, such as wildlife mitigation and monitoring plans, and aquatic effects monitoring plans.

For management and monitoring plans or programs not linked to specific sections of the project description, developers are required to include relevant summaries within each of the appended plans. As previously noted, copies of all plans should be provided as appendices to the EA Initiation Package. See Section 4.4 for discussion and expectations related to engagement plans.

For all plans, developers should follow best practice monitoring and management strategies and refer to relevant external guidance from regulators and administrative bodies, including:

- Waste Management
  - MVLWB's *Guidelines for Developing a Waste Management Plan (2011)*[18]
  - MVLWB's Water and Effluent Quality Management Policy (2011)[19]
- Spill Management
  - INAC's *Guidelines for Spill Contingency Planning (2007)*[20]
- Wildlife and Wildlife Habitat Management
  - GNWT's *draft Wildlife Mitigation and Monitoring Plan Guidelines (in development)*
- Aquatic Effects Management
  - INAC's *Guidelines for Designing and Implementing Aquatic Effects Monitoring Programs (2009)*[21]
  - Wek'èezhìi Land and Water Board's *Guidelines for Adaptive Management - a Response Framework for Aquatic Effects Monitoring (2010)*[22]
  - MVLWB's *Draft Guidelines for Developing Baseline Water Quality Monitoring Programs in the Northwest Territories (in development)*
- Closure and Reclamation
  - MVLWB/INAC's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (2013)*[23]

4.1.3 Plain language project summary and map

Developers are required to provide a plain language summary of their project description. The summary should provide an effective snapshot of the proposed development and highlight information that will be expanded on in more detailed sections of the project description.

Information in the summary should include, at minimum, the following:

[18] Available at www.mvlwb.com.
[19] Available at www.mvlwb.com.
[20] Available at www.enr.gov.nt.ca.
[21] Available at www.mvlwb.com.
[22] Available at www.mvlwb.com.
[23] Available at www.mvlwb.com.

- type of project
- timeline
- location and proximity to communities, planning and/or conservation areas
- main project components, including activities and physical infrastructure
- project history and related projects
- history of the developer

Developers are encouraged to use experienced plain language editors to develop the summary. The summary is for all parties that may be reviewing the project as well as the general public; it should be a standalone section of the project description. Translated versions of the summary and maps may be required. Please consult with the Review Board during the development of the document to confirm translation requirements.

The plain language summary should be accompanied by clear project maps that effectively illustrate all activities and associated components that are included in the proposed development, as well as the local and regional context of the proposed development. These maps should be at appropriate scales to illustrate project features in relation to the project area.

Maps should identify, at minimum:

- all areas of proposed development activities (such as transportation corridors, exploration sites and survey areas);
- location of any proposed infrastructure (such as temporary and permanent infrastructure, as well as existing and additional infrastructure);
- boundaries of the proposed land use permits, surface leases, or subsurface mineral tenure and, if applicable, identification of any other permit boundary areas;
- local and regional governance boundaries;
- common or traditional place names; and
- proximity to conservation areas, national and territorial parks, and areas of known cultural importance, traditional use, and recreational or other public use.

□□ □escription o□t□e e□isting en□ironment

The developer's description of the existing environment will provide information on environmental conditions in the project area. The existing environment includes both the biophysical environment, which includes features such as land, water and wildlife, and the human environment, including features such as socio-economics, traditional culture, and community wellbeing. Comprehensive environmental information is critical to understand how a project could interact with the environment, and how the potential impacts could be managed (the essential functions of an EA). This information also allows the developer, parties and the Review Board to conduct a deeper investigation of important parts of the environment and investigate how the project would interact with them.

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To prioritize which impact pathways to focus on during the EA and set the scope of assessment (see Section 4.3 and Section 5), developers will need to provide baseline information about the environmental conditions that exist in the project area. **Detailed guidance on baseline data collection is not provided in these guidelines**, but guidance is available through relevant authorities.[24] For example, the Government of the Northwest Territories Environmental and Natural Resources, in collaboration with the Land and Water Boards of the Mackenzie Valley, is developing draft *Guidelines for Developing Baseline Water Quality Monitoring Programs in the Northwest Territories*.[25]

For some environmental components, it can take more than a year to conduct the field research necessary to collect adequate baseline information across all seasons. To plan for and prepare the necessary baseline data in advance of an EA, the Review Board strongly encourages developers of major projects to engage government departments and Aboriginal organizations, as well as the Review Board well in advance of applying for preliminary screening.

To prepare the description of the existing environment, developers should consider the following:

- Existing site-specific information, such as findings from previous baseline studies, regulatory applications, publicly available data (such as government statistics and monitoring programs), and past community engagement. Developers should engage relevant parties early on to discuss whether historical site-specific information meets current information expectations (such as appropriateness of methods and models, compatibility, relevance, and applicability).
- Findings from project-specific studies conducted as part of project planning work, such as baseline research and community engagement. Developers should consult relevant guidance to ensure that enough of the right information is collected to adequately describe the existing environment (for example, identifying critical wildlife habitat or characterizing the range of natural variability for water quality and quantity).
- Through early engagement with communities, the developer should identify components of the environment that are important to Aboriginal organizations and the public, and ways that Traditional Knowledge can help better understand the environment in the project area. Early identification of these components can allow for earlier collection of baseline data and save time during the EA by providing insight into potential valued components to be carried forward in the EA process (see Section 4.4 for additional guidance related to public engagement and Traditional Knowledge).

[24] References to relevant guidelines for baseline data collection will be made available as they are compiled.
[25] Accessible through the MVLWB's Online Review System at http://lwbors.yk.com/LWB_IMS/Default.aspx or by contacting the Government of the Northwest Territories – Environment and Natural Resources. Currently out for review and comment.

- Where applicable, developers should clarify any differences between historical background conditions (before any industrial development occurred) and current baseline conditions.[26]

4.2.1 Components of the biophysical environment

Note to Reviewers

The Review Board invites feedback on all parts of the draft Guidelines document, particularly sections that set out specific information requirements. We encourage reviewers to carefully consider the information requirements described in the draft Guidelines to:

- ensure that the information being requested meets the needs of your party for scoping;
- identify additional information that should be required; and
- highlight information that may not be needed for scoping or available at the beginning of an EA.

Throughout their review, reviewers should also consider to what extent the draft Guidelines, and the information required in this section, would achieve the expected outcomes detailed in Section 1.1.

Developers are required to describe the biophysical environment in the area where the project would be located, as well as areas where project-related effects could occur. To clarify the scale of information presented, the developer should identify environmental conditions in both a local and regional context. Eventually, potential impacts will need to be examined at both the local and regional scales, including direct impacts and project contributions to cumulative impacts. Where applicable, the information provided should include current baseline and historical background data and trends.

Depending on the location, nature, and scale of the proposed project, the developer's description of the biophysical environment should include information on a comprehensive list of environmental components ranging from terrestrial wildlife, water characteristics, soils, vegetation, and climate to aquatic species, geological setting, landscape features, and more.

Most projects require descriptions of standard biophysical environment features, while components such as geological setting and resources may be more relevant to resource development projects. Ultimately, it is the developer's responsibility to provide details about all relevant environmental components in and around the operating, and potentially impacted,

[26] Historical background conditions are those that existed prior to any industrial development. Such conditions are generally the relevant reference conditions for cumulative effects assessments.

areas of the proposed project. It is also the developer's responsibility to clearly identify the sources of information used.

The list of biophysical environmental features below includes common components that should be described, at minimum, for natural resource development projects:

- geological setting and resources
  - description and physical nature of resource
    - characteristics of ore body
    - structural geology including identification of faults or fractures
  - geochemistry
    - ore and waste rock properties
    - geochemistry and characterization of contamination potential (such as potential acid rock drainage, metal leaching)
- surficial geology and soils
  - characterization of soil composition and soil stability
  - presence and characterization of permafrost
- climate and meteorology (project area)
  - temperature, precipitation, wind, humidity
  - air quality
- groundwater
  - hydrogeology
  - characterization of project area
  - ground water level
  - flow regime, direction, infiltration
  - influences of geologic structures
  - water type and quality
- surface water
  - location and characteristics of water bodies (such as rivers, wetlands, lakes)
  - description and uses of key waterbodies (such as aquatic life, drinking water, cultural uses)
  - watersheds and water drainage patterns
  - surface water balance
  - water quality
- biological environment
  - ecosystems
    - terrestrial
    - wetlands
    - aquatic
  - vegetation
    - species, abundance, distribution
    - endangered, rare, threatened species

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- fish and wildlife
  - species, population, distribution, seasonal variations, migration patterns, habitat
  - endangered, threatened, rare, or game species
  - ecosystem characteristics, species interdependence
- protected areas, wildlife corridors, buffer zones

4.2.2 Components of the human environment

Developers are required to describe the human environment in the area where the project would be located, as well as in other areas where project-related effects could occur (such as communities along transportation routes, where hiring would occur, or that use the project area for cultural or other uses). The developer should identify environmental conditions at both a local and regional context. Where applicable, the information provided should include both current and historical baseline data and trends.

The list below was adopted from the Review Board's *Socio-Economic Impact Assessment Guidelines* (SEIA Guidelines) and illustrates information that is typically required for descriptions of the human environment.[27] The Review Board's SEIA Guidelines also provide guidance on how to adequately describe baseline conditions.[28] These information requirements include information on the socio-economic baseline conditions, historical and current land use, as well as cultural and heritage resources. The developer is required, at minimum, to provide information on these parts to comprehensively describe the human environment. However, **it is the developer's responsibility to provide details about all relevant environmental components** in and around the operating, and potentially-impacted areas of a proposed project. It is also the developer's responsibility to clearly identify the sources of information used.

- general
  - population demographics (including in- and out-migration)
  - status of social, recreational, and physical infrastructure (including transportation)
  - housing statistics
  - cost of living and income levels
- economic
  - employment statistics
  - labour force characteristics
  - levels of training and education (status and opportunities)
  - level of existing industrial development
  - levels and types of business activity
  - characteristics of the traditional economy (including components, participation rates)

[27] See Appendix E in the Review Board's *Socio-Economic Impact Assessment Guidelines*, available at www.reviewboard.ca.
[28] See Chapter 3.3 "Profiling Baseline Conditions" in the Review Board's *Socio-Economic Impact Assessment Guidelines,* available at www.reviewboard.ca.

  - stated community priorities and concerns (such as feedback from engagement, community development plan, and community resilience plans)
  - economic or social development plans
- health and wellbeing
  - general community wellness (from resources such as community wellness reports and studies, community feedback on wellbeing, and results of early engagement)
  - health rates
  - crime rates
  - addiction rates
- culture, way of life, and historic and current land use
  - places of cultural and spiritual value
  - harvesting activities and their importance to the community
  - harvest species, levels, and importance of the traditional economy
  - traditional land or water use (including past, present, and intended future types of uses)
  - heritage resources and sites in the project area (such as archaeological, historical, or burial sites, spiritual places, trails, special landscape features) described in an archaeological assessment report[29] or traditional land use study
  - recreational land or water use (including user groups, types of uses)
  - other land or water use (such as tourism, resource extraction, infrastructure corridors)
  - community and regional land use plans

4.2.3 The Review Board's Socio-Economic Impact Assessment Guidelines

The Review Board's SEIA Guidelines provide detailed direction on the expectations and standards for assessing a project's impacts on the human environment during the EA process.[30] Although the Review Board does not require the developer to submit finalized SEIA results as part of the EA Initiation Package, the SEIA Guidelines recommend that a developer begin its SEIA work before starting the formal EA process. Early SEIA work allows the developer to:

- create a dialogue and build relationships with potentially-affected communities and other parties;
- identify and work to resolve socio-economic issues; and
- complete initial SEIA work, which will support the EA Initiation Package and allow the rest of the EA to focus on key issues.

Chapter 3 of the SEIA Guidelines outlines the steps that should be considered when conducting a SEIA. The chapter includes a description and helpful step-by-step process of how to plan and initiate an effective SEIA. Chapter 3 also provides guidance on variables developers should

[29] Proponents are encouraged to contact the Prince of Wales Northern Heritage Centre to obtain archaeological site data prior to completing these information requirements. Please refer to their *Guidelines for Developers for the Protection of Archaeological Sites in the Northwest Territories*.
[30] Review Board Socio-Economic Impact Assessment Guidelines (2007), available online at www.reviewboard.ca

consider when generating and compiling information to profile baseline socio-economic conditions.

Developers should consider that early engagement has the potential to sharpen the focus of the EA scope, reduce assessment and associated timelines, and improve the analysis of critical issues and development decisions.

4.3 Identification of interactions, potential impacts, and proposed mitigation measures

A fundamental purpose of EA is to identify and mitigate potential significant adverse impacts on the environment and causes of public concern from a proposed development. To do so, the Review Board and parties to the EA process must consider questions such as:

- How would the project change the water, air, or land?
- What would be the nature of project impacts to air, land, water, fish, and wildlife?
- How would the development affect surrounding communities, residents, and socioeconomic conditions such as employment?
- How would the development affect the culture, wellbeing, and way of life of Aboriginal people, as well as archaeological and cultural sites, harvesting, and traditional activities?
- How would project impacts interact with each other and with impacts from other projects?
- How could the potential impacts be mitigated?

To allow the Board and Parties to set priorities and establish the basic foundation for further investigations that may be needed during the EA, the developer must build on the descriptions of the project and the existing environment **at the outset of an EA** to provide:

- a preliminary description of project **interactions** with components of the biophysical and human environments;
- a cursory evaluation of **potential impacts** to the environments; and
- a description of proposed **mitigation measures**.

This preliminary identification and evaluation of interactions will *inform* the developer's assessment proposal (see Section 5). In this regard, developers should consider the following points when examining potential impacts and mitigation measures.

- It is the developer's responsibility to explain to the Review Board and potentially affected parties, in its opinion, where, how, and to what extent the project would interact with the biophysical and human environments.
- Potential impacts include those identified as issues of public concern, as well as those identified through engagement, professional experience, studies, and other resources.

- It is the developer's responsibility to provide convincing evidence that potential direct and indirect impacts from the project have been meaningfully considered and would be appropriately managed throughout the life of the project.
- Developers should consider what key issues and interactions with valued components they think should move forward in the EA (discussed further in Section 5). The selection of key issues and valued components should be based on:
    - findings from early public and Aboriginal engagement;
    - Traditional Knowledge;
    - scientific knowledge;
    - conditions of the existing environment;
    - predicted interactions with proposed project; and
    - professional judgement.

This information should be used to inform the details required for the developer's assessment proposal (see Section 5).

4.3.1 Preliminary description of potential impacts and mitigations

Note to Reviewers

The Review Board invites feedback on all parts of the draft Guidelines document, particularly sections that set out specific information requirements. We encourage reviewers to carefully consider the information requirements described in the draft Guidelines to:

- ensure that the information being requested meets the needs of your party for scoping;
- identify additional information that should be required; and
- highlight information that may not be needed for scoping or available at the beginning of an EA.

Throughout their review, reviewers should also consider to what extent the draft Guidelines and the information required in this section would achieve the expected outcomes detailed in Section 1.1.

Developers are require to provide a preliminary description of:

- how the project will interact with the environment;

- the potential impacts on the environment[31] that could result from the proposed development; and
- the mitigation measures proposed to reduce or avoid the identified impacts.

So that no interactions are overlooked, developers should ensure that descriptions of interactions are consistent with the details in Section 4.2 related to the existing environment. Developers should also ensure that potential impacts are not presented without an associated discussion of historical background and current baseline conditions. For each of the components of the biophysical and human environments listed in Section 4.2, the developer will:

a) List and briefly describe potential project interactions with the environment.
   i) Descriptions should include the consideration of potential direct and indirect impacts, including consideration of accidents and malfunctions and effects of the environment on the project (including climate change). Where applicable, provide copies of any risk assessments conducted.
   ii) For environmental components with no identified potential impacts, provide a rationale why, and describe how changing conditions or activities could affect the determination. If there is no interaction, explain why. If there is an interaction but no potential impact, explain why.

b) List and briefly describe any mitigation measures that would be used to prevent or minimize the identified impacts.
   i) Where applicable, developers should:
      - clearly indicate how the mitigation measures were developed (for example, through community engagement, best practices, regulatory standards), and how they would reliably and sufficiently mitigate the identified impacts (with references to case studies, proof of concept, relevant examples as applicable); and
      - refer to management and monitoring plans provided as appendices to the EA Initiation Package.

c) List and briefly describe any cumulative impacts that could result from the proposed project. The discussion of cumulative impacts should consider the cumulative impacts from past, current, and reasonably foreseeable future developments and activities, as well as natural environmental vulnerabilities and events (such as climate change, forest fires, and flooding), that could interact with project impacts.
   i) Potential cumulative impacts should be discussed for each project impact identified that could add to the effects of other developments and activities, as well as any adverse impacts of natural events or indirect impacts that the project's impacts could add to.

[31] The MVRMA definition of "impact on the environment" is: "any effect on the land, water, air or any other component of the environment, as well as on wildlife harvesting, and includes any effect on the social and cultural environment or on heritage resources."

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ii) For project impacts not expected to interact with potential cumulative impacts, provide a rationale why and describe how changing conditions or activities could affect the determination.

Tools to help describe impacts, interactions, and mitigation measures

Impact models to identify and explore linkages between the proposed development and the environment

Developers are required to use conceptual models (such as exposure pathways and impact models[32]) to support their descriptions of how components of the proposed development could interact with and affect components of the biophysical and human environments. These conceptual models should clearly identify linkages and interactions between project components and the environment. Conceptual models should be used to visualize and summarize linkages and should be used to complement the descriptive text required to meet the expectations under part (a) of this section. In addition to summarizing linkages, conceptual models can assist with identifying uncertainties between project components and the environment to allow for more focussed investigation of these uncertain interactions later in the EA process (such as in scoping, the TOR, and the DAR).

Figure 2, shown below, is an example of a pathway model for an impact on the biophysical environment.

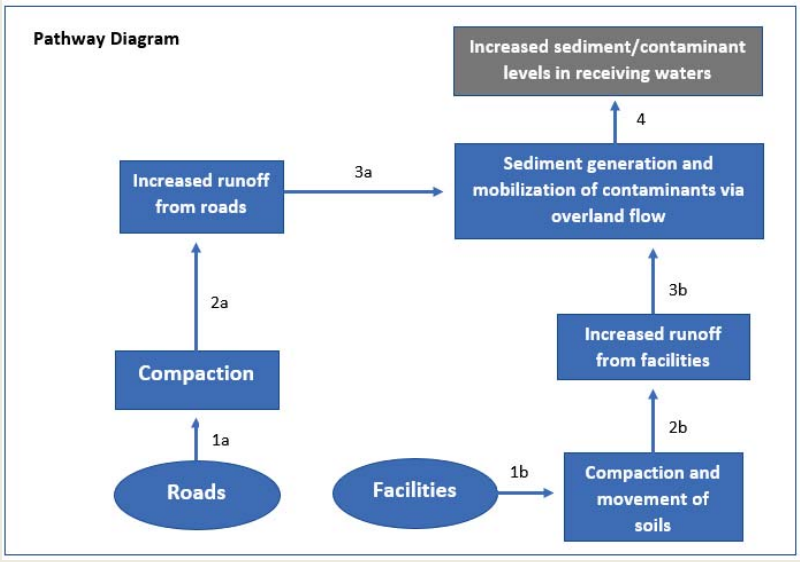

Figure 2: Example of a pathway model linking project components to water contamination.

[32] The Canadian Environmental Assessment Agency (CEAA) defines impact models as: "A formal description of a cause-effect relationship that allows the assessing of various components of that relationship through the use of an Impact Statement, a Pathways Diagram, and the validation of linkages and pathways." See CEAA's Cumulative Effects Assessment Practitioners' Guide available at https://www.ceaa-acee.gc.ca.

Tables to identify and summarize potential interactions, impacts, and mitigation measures

Developers should use tables to help identify and characterize potential interactions, impacts, and mitigation measures. Tables should only be used as a summary of the descriptive text details required under parts (a), (b), and (c) of this section (with cross-references to more detailed information and associated management plans). Appendix A provides examples of tables that could be used to summarize potential project interactions with components of the environment, as well as the identification of potential impacts, proposed mitigation measures, and references to associated management plans.[33]

4.4 Public engagement and Traditional Knowledge

Under subsection 114(c) of the MVRMA, part of the purpose of the EIA process is to ensure that the concerns of Aboriginal peoples and the general public are considered. As described in the MVLWB's *Engagement and Consultation Policy*, the Crown, the Boards, and developers all have responsibilities related to engagement and consultation.[34]

The purpose of engagement by developers is to allow them to explain their projects, evaluate whether concerns exist, begin to understand the concerns, and (where possible) improve project design or management strategies to address issues raised by parties. Adequate engagement will help ensure that potential impacts of proposed projects are understood and carefully considered before developers make planning decisions on their projects. This should happen early on during project development, when there is greater flexibility for project design, project changes are less costly, and the benefits of collaborative project planning can contribute to an effective and efficient EA process. Developers should ensure that they use engagement strategies that are appropriate for the preliminary identification of key issues to carry forward in the Review Board's assessment process.

Engagement should begin in early project planning stages, continue throughout the EA, and if the project is approved, over the entire life of the project. As part of preliminary screening requirements, developers must engage with potentially affected parties before submitting an authorization application. Likewise, if a project is referred to EA, the Review Board requires a record of engagement as part of the EA Initiation Package. For the regulatory or EA process to begin, developers must demonstrate that their early engagement efforts were reasonable and effective. This includes:

- engaging all relevant parties;

[33] For additional guidance on how to develop impact worksheets and tables for human environment components see Chapter 3 of the Review Board's *SEIA Guidelines*. Available at www.reviewboard.ca.
[34] The Review Board does not yet have its own official policy or guideline on engagement. Until it does, the Review Board has adopted the principles and approaches described in the MVLWB policy and guidelines, available at www.mvlwb.com.

- using engagement methods appropriate for the party being engaged;
- providing sufficient details related to the project proposal in an accessible format; and
- allowing sufficient time for parties to fully consider the information and engage with the developer.[35]

The amount of engagement a proponent does should reflect the size, scale and location of the proposed project and its potential impacts, as well as how much a given party may be affected by the potential impacts.[36] Prior to and during engagement, developers should consider the best ways to identify potentially-affected parties and engage different sub-groups such as women, youth, and Elders to achieve meaningful results.

To inform early engagement, developers should be prepared to share the kind of information that is required under the project description section of this draft Guideline, including the project overview, description of project components, and plain language summary with maps.

In addition to engagement being a requirement of the EIA process, developers should consider that the most expedient EAs for the Review Board tend to be those that have:

- had meaningful public engagement prior to initiating the EA; and
- demonstrated thorough consideration of issues raised by communities and, where feasible, project adjustments and collaborative project planning to address the issues;

Conversely, some of the most challenging EAs tend to be those where the developer has:

- not adequately engaged with potentially affected parties;
- ignored relevant issues, failed to address them, or identified them too late in the EA process; and
- provided information using only technical language, not in culturally-appropriate or accessible formats, and/or not prepared by qualified professionals.

4.4.1 Engagement record and engagement plan

Note to Reviewers

The Review Board invites feedback on all parts of the draft Guidelines document, particularly sections that set out specific information requirements. We encourage reviewers to carefully consider the information requirements described in the draft Guidelines to:

[35] For more information refer to the MVLWB's Engagement and Consultation Policy available at www.mvlwb.com.
[36] Refer to the MVLWB's Engagement and Consultation Policy to assist with determining appropriate levels of engagement, available at www.mvlwb.com.

- ensure that the information being requested meets the needs of your party for scoping;
- identify additional information that should be required; and
- highlight information that may not be needed for scoping or available at the beginning of an EA.

Throughout their review, reviewers should also consider to what extent the draft Guidelines, and the information required in this section, would achieve the expected outcomes detailed in Section 1.1.

Engagement record

Developers are required to provide an up-to-date record of engagement for the proposed project. The record will include, at minimum, the following details for each party engaged:

a) date, time, and location of engagement sessions;
b) participants in engagement sessions (including record of attendance, roles of participants);
c) materials presented (such as copies of presentations, summaries of content);
d) meeting minutes or summaries of discussion points and responses;
e) results of engagement sessions including;
    - a summary of issues raised and the identification of key issues or concerns, including project-environment interactions and potential impacts on the environment;
    - strategies employed to address the issues raised, the status of issues (such as resolved or unresolved), proposed strategies to address unresolved issues; and
    - all other information collected.
f) a summary of how feedback has been incorporated into the project and the developer's assessment proposal (including any adjustments to or collaborative development of project design elements, management strategies, conceptual monitoring programs, assessment priorities and methods).

Engagement records should be endorsed by all parties involved to ensure the accuracy and validity of the information reported.

Engagement plan

The developer will provide a comprehensive engagement plan. Engagement plans will include details on the proponent's overall engagement strategies, objectives, and the prospective engagement schedules throughout the EA, and (at least conceptually) the life of the project. This information will further describe:

a) specific engagement activities that will be undertaken;
b) methods for effective engagement;
c) the rationale for selecting the chosen activities and methods; and
d) contingencies should the prospective schedules or methods not be sufficient.

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The developer should develop engagement activities and methods collaboratively with each party. This will help ensure that participants agree with the strategies the developer plans to use and foster effective participation.

During the EA, the Review Board will encourage the developer to continue to engage parties and to place information regarding engagement activities and outcomes on the Review Board's public record.[37]

4.4.2 Traditional Knowledge and the Review Board's Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment

Under the MVMRA, the Board must consider any available Traditional Knowledge in its EA decisions. To ensure that Traditional Knowledge is meaningfully incorporated into EA, the Review Board requires developers to consider and incorporate Traditional Knowledge during project development and throughout the EA process. In this regard, developers should ensure that any relevant and available Traditional Knowledge is used in each section of their EA Initiation Package.

The Review Board has developed the *Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment*[38] as a resource that outlines the Review Board's expectations and processes for incorporating Traditional Knowledge in EIA. It describes where and how Traditional Knowledge can and should be considered in various steps of EIA, including guidance on how Traditional Knowledge should be collected, considered, protected, and represented during the EA process.

In addition to the Mackenzie Valley Land and Water Board's *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*, developers should consult the Review Board's *Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment* to ensure that work is started before an EA to meet process requirements and gain the full value of Traditional Knowledge during project planning.

Developers should inform themselves of and follow local protocols and procedures developed by Aboriginal organizations for the management of Traditional Knowledge, including its collection, use, review, interpretation, and protection.

[37] For more details regarding public engagement expectations and reporting requirements, please refer to the Mackenzie Land and Water Board's *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*. Available at www.mvlwb.ca.
[38] Available at www.reviewboard.ca.

Developer's Assessment Proposal

The developer's assessment proposal outlines the valued components and key issues that the developer identified during early project planning stages. It also outlines the developer's proposed methods to assess impacts on the valued components through the rest of the EA process. This information, along with project-related information required under Section 4, is used to help inform scoping and methods on how the issues should be assessed.

Why a "Developer's Assessment Proposal"?

Early in the EA process, the Review Board needs to determine the scope of the EA. Part of determining the scope of an EA involves defining the scope of development (what the developer proposes to do as part of the project), as well as the scope of assessment. A scope of assessment considers how a proposed project (scope of development) could interact with the environment, and establishes priority issues and valued components that will be investigated in depth during the EA. To determine the scope of assessment, the Review Board, parties and the public consider project information to discuss:

- *what* is being proposed (the project details);
- *which environmental* components and concerns are most important (the potential impacts and valued components); and
- *how* the developer proposes to investigate and assess potential impacts on the valued components identified (the assessment methods).

From these considerations, the Review Board issues of a Terms of Reference that establishes priority areas of investigation (impacts on valued components) and assessment methods. The developer will predict the potential impacts of the proposed project on these priority areas in a Developer's Assessment Report (DAR). Typically, the priority issues are organized in terms of 'Key Lines of Inquiry' and 'Subjects of Note' in the Terms of Reference. The Terms of Reference describes the minimum information that the developer is required to submit in its DAR.

In the past, the Review Board has relied on the developer's expertise to propose a Terms of Reference for the DAR. As project specialists, developers possess considerable project-specific knowledge and information from research and engagement during the project planning stages. As such, developers are well suited to propose initial assessment frameworks that identify key areas for investigation, and appropriate assessment methods. The developer's assessment proposal described here is intended to replace the developer's proposed Terms of Reference used in past EAs.

The Review Board expects the developer's assessment proposal to function as a starting point for discussing assessment priorities and assessment methods during scoping. By having this resource for review during scoping, the Review Board and parties will be able to better understand the developer's proposed focus and methods for conducting the EA. This allows them to refine the proposed assessment approach in a final Terms of Reference. Overall, having this information early in the EA process would:

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- **build on the rest of the EA initiation package and help inform the plan for the rest of the EA.**
- **capitalize on developers' project-specific expertise** in selecting key issues for investigation and appropriate assessment methods;
- allow the Review Board, parties, and the public to understand, from a preliminary standpoint, **what issues and valued components are being proposed** as the focus for assessment, and in turn the opportunity to identify gaps or discrepancies and refine the assessment priorities;
- allow the Review Board, parties, and the public to review and **refine the proposed methods** of assessment, ensuring that the discussion of methods happens early and well before the developer undertakes the assessment work of the DAR;
- encourage a more informed, accurate, and tailored Terms of Reference which would **improve the focus** and effectiveness of the subsequent DAR; and
- increase the overall efficiency and quality of the EA process **by improving early and informed participation** to plan the EA in a way that focuses on the big issues and will provide everyone with the informational basis for decisions about the significance of impacts and the need for mitigation measures**.**

5.1 Developer's Assessment Proposal - assessment of environmental impacts

Note to Reviewers

The Review Board invites feedback on all parts of the draft Guidelines document, particularly sections that set out specific information requirements. We encourage reviewers to carefully consider the information requirements described in the draft Guidelines to:

- Ensure that the information being requested meets the needs of your party for scoping;
- Identify additional information that should be required; and
- Highlight information that may not be needed for scoping or available at the beginning of an EA.

Throughout their review, reviewers should also consider to what extent the draft Guidelines, and the information required in this section, would achieve the expected outcomes detailed in Section 1.1.

Developers are required to provide a description of the *proposed* valued components to be carried forward in the EA, and an outline of the *proposed* methods to assess potential impacts on those valued components. The selection of proposed valued components and key issues for investigation should be based on:

- findings from early public and Aboriginal engagement;
- Traditional Knowledge;
- scientific knowledge;
- conditions of the existing environment;
- predicted interactions with the proposed project; and
- professional judgement.

As part of developer's assessment proposal, developers are required to provide, at minimum, the following:

a) a description of the proposed valued components for the EA and rationale for selecting each valued component (biophysical and human environment);
b) a description of the proposed key issues (project interactions) and questions prioritized in terms Key Lines of Inquiry or Subjects of Note; and
c) a description of the proposed assessment methods for all valued components and the investigation of key issues, including:
    - general assessment approach and methodology for each valued component, including assessment techniques, study boundaries (temporal and spatial), etc.;
    - information sources to be used including anticipated primary data collection (such as baseline and site-specific studies); and
    - timelines, assumptions, information gaps, uncertainties, and approach to addressing information gaps and uncertainties (such as additional studies required and study details).

5.2 Developer's Assessment Proposal – plain language summary

Developers are required to provide a plain language summary of their assessment proposal. Similar to the plain language summary required as part of Section 4.1, the summary should provide a clear snapshot of the proposed assessment focuses and assessment methods discussed in Section 5.1.

At minimum, the summary should describe:

- the proposed valued components to be carried forward in the EA;
- the proposed key issues and questions (related to project interactions) prioritized in terms of Key Lines of Inquiry or Subjects of Note; and
- the rationale for the selection of the proposed valued components and key issues.

Developers are encouraged to use experienced plain language editors to develop the summary. The summary is for all parties that may be reviewing the project, as well as the general public, and should be a standalone section of the developer's assessment proposal. Translated versions of the summary may be required. Please consult with the Review Board during the development of the document to confirm translation requirements.

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?? Concordance Table

As part of the EA Initiation Package, developers are required to provide a concordance table demonstrating where and how all the information requirements in the draft Guidelines have been satisfied. Regardless of the chosen format for the EA Initiation Package, the developer will ensure that the concordance table is easy to follow and clearly demonstrates how all of the information requirements in the draft Guidelines have been met. See Appendix B for an example of an EA Initiation Package concordance table.

7. Conclusion

The draft Guidelines outline a standard level information required to initiate an EA. The Review Board has produced the draft Guidelines to assist developers through the initial stages of the EA process, and to promote more effective and efficient EA overall.

By ensuring that critical project information is available outset of EA, the draft Guidelines will ultimately assist the Review Board, parties, and developers throughout subsequent EA stages, including prioritizing issues during scoping to focus the DAR and entire EA on issues that matter most.

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Appendix Table Tables to Summarize Interactions Potential Impacts and Mitigations

	Project components	Environmental Components	designated environmental areas (e.g., Parks, Wildlife Protected areas)	ground stability	permafrost	hydrology/ limnology	vegetation	surface and bedrock geology	sediment and soil quality	wildlife	other components:	Human	employment	general wellbeing	community health	population demographics	Traditional activities and harvesting	other components:
Construction	Road building				M		N		M	N			P	P	P	P	N	
	Quarrying			M	N		N						P	U	U	U		
Operation																		
Closure																		

Indicate in the matrix cell whether the interaction causes an impact and whether the impact is:
- P = Positive
- N = Negative and non-mitigatable
- M = Negative and mitigatable
- U = Unknown
- If no impact is expected please leave the cell blank

Interaction and Impact(s)	Valued Component(s)	Summary of Management Measure(s)	Associated Management Plan(s)
▪ Increased dust and sediment dispersal from vehicle traffic on site and access roads - Dust deposition on vegetation - Increased TSS in nearby water systems Suspended dust in work areas	▪ Air Quality ▪ Water Quality ▪ Fish Habitat Vegetation	▪ Year-round dust suppression program to reduce dust dispersion ▪ Sediment and run-off control measures along all roadways to limit sediment displacement ▪ Year-round road and vehicle maintenance plans to ensure integrity and performance of roadways and equipment ▪ Air and water quality monitoring and adaptive management plans to monitor and respond to changing conditions ▪ Vegetation monitoring plan	▪ See Sections 3.1, 4.5, and 4.6 of the Air Quality Management and Monitoring Plan ▪ See Sections 2-5 of the Equipment and Infrastructure Maintenance Plan ▪ See Section 4.4 and 5 of the *Conceptual* Water Quality Monitoring and Management Plan ▪ See Vegetation Monitoring Plan ▪ See Sections 4 and 5 of the EA Initiation Package

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Appendix B: Sample concordance table for EA Initiation Package information requirements

EA Initiation Package Information Requirements			
1.0 Project Description			
Section	**Description**	**Applicable Section in EA Initiation Package**	**Applicable Sub-Section in EA Initiation Package**
Part I Plain Language Summary	Developers are required to provide a plain language summary (the summary) of the project description. The summary should provide an effective snapshot of the proposed development and introduce details on the proposed project and the developer that will be further expanded in more detailed sections of the project description.	Section 1	1.1
Part II Project Overview	1. General project information: a) Project Title b) Name and address of the developer c) Project Type d) Project Location e) Project Timeline f) Equipment g) Labour Force and Human Resources	Section 2	2.1
Part II Project Overview	2. Purpose of the Project a) Project objectives, goals, use of end-products b) Need for project and benefits	Section 2	2.2
Part II Project Overview	3. Project History a) Regulatory History b) Site History	Section 2	2.3
Part II Project Overview	4. Project Authorizations a) Required permits, licenses, and authorizations b) Conformity with habitat management plans	Section 2	2.4

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Part II Project Overview	5. Description of the Developer	Section 2	2.5
Part III Project Components, Alternatives, and Plans	1. Project Components a) Transportation b) Buildings an Infrastructure c) Water d) Power e) Waste f) Fuel and Hazardous Materials g) Decommissioning and Remediation 2. Alternatives 3. Monitoring and Management Plans a) Waste Management Plan b) Spill Management Plan c) Wildlife Mitigation and Monitoring Plan d) Aquatic Effects Management Plan e) Closure and Reclamation Plan	Section 3	3.1. to 3.3
2.0 Description of the Existing Environment			
Section	**Description of Information Requirement**	**Applicable Section in EA Initiation Package**	**Applicable Sub-Section in EA Initiation Package**
3.0 Identification of Potential Impacts and Proposed Mitigation Measures			
Section	**Description of Information Requirement**	**Applicable Section in EA Initiation Package**	**Applicable Sub-Section in EA Initiation Package**
4.0 Engagement Record and Engagement Plan			

Section	Description of Information Requirement	Applicable Section in EA Initiation Package	Applicable Sub-Section in EA Initiation Package
5.0 Developer's Assessment Proposal			
Section	**Description of Information Requirement**	**Applicable Section in EA Initiation Package**	**Applicable Sub-Section in EA Initiation Package**

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