

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT
RESPONSE TO IAAC TECHNICAL INFORMATION REQUESTS

Question IAAC-06

Table of Contents

ABBREVIATIONS AND ACRONYMS II

QUESTION IAAC-06 1

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT RESPONSE TO IAAC TECHNICAL INFORMATION REQUESTS

Question IAAC-06

Abbreviations and Acronyms

EIS	environmental impact statement
MI	Manitoba Infrastructure
PERs	Project Environmental Requirements
QMP	Quarry Management Plan
VC	valued component

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT RESPONSE TO IAAC TECHNICAL INFORMATION REQUESTS

Question IAAC-06

QUESTION IAAC-06

EIS Guideline Reference: 3.1. Designated Project Associated Works and Activities; 3.2. Project Activities

EIS Reference: 6.3.1.4 Boundaries; 6.3.2.2 Geology Overview

Context and Rationale

The EIS guidelines identify rock quarries and borrow sites as associated works and activities and requires a description of rock quarries and borrow areas.

The EIS acknowledges potential project effects from quarries and borrow pits. The EIS states that the location of these project components as well as the volume and sources of aggregate needed for the Project are not known at this time, and bases the LAA for geology on potential project effects to groundwater, which could affect geology.

Quarry and borrow pit location and the volume of aggregate extracted may result in environmental effects to federal jurisdiction from the footprint of the project components including hauling requirements and associated increased SAR habitat fragmentation, increased wildlife mortality, risks to human safety (vehicle collisions), increased access, and potential impacts to current use of lands and resources for traditional purposes and to sites of importance for Indigenous peoples.

Information Requests

- a) Present an assessment of project effects associated with the location and size of quarries and borrow pits.
 - i. Identify and describe existing or potential quarry and borrow pit locations, including figures, and/or identify and discuss parameters that will be considered in identifying existing and potential borrow and quarry sites.
 - ii. Identify all potential pathways of effects to valued components from the construction, operation, decommissioning, and abandonment of quarries and borrow pits. Discuss mitigation measures and assess the significance of residual effects. Discuss associated monitoring and follow-up.

Response IAAC-06

- a) i) and ii)

The specific quarry and borrow pits to be used for the Project were not identified in the environmental impact statement (EIS) but the maps presented do identify potentially suitable locations that may be selected for Project use. Locations will be identified later in the design process and selected by

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT RESPONSE TO IAAC TECHNICAL INFORMATION REQUESTS

Question IAAC-06

contractors to best suit their needs. Maps identifying the known existing and potential quarry and borrow sites are provided in the EIS (Volume 4, Figure 9.2A-15, and Volume 5, Figure 11.1-1).

Specific construction and operation of quarries and borrow sources will be approved through a Manitoba permitting process (for provincial Crown lands) and will be the responsibility of the owner or lease holder, whose services would be contracted by Manitoba Infrastructure (MI). Quarry and borrow site development will not proceed prior to approval of work permit applications (if required) or the relevant casual quarry or quarry lease applications (as applicable) from Manitoba Conservation and Climate and/or Manitoba Agriculture and Resource Development. Permit applications for the development of new sites will include details on site plans including access road construction, clearing and grubbing, blasting, and gravel crushing and stockpiling of aggregate. The process will be part of formalizing the construction site plan that will be provided to Manitoba Infrastructure for review and approval prior to construction. Further information in the EIS is provided in Volume 1, Sections 2.4.2.7, 3.4.2.6, 3.4.3.5 and 3.7.2.

The need for new quarries and borrow pits to construct and maintain the Project will be identified by the contractor upon contract award. Any new quarries developed to produce materials for the Project will adhere to the environmental management and protection measures defined as part of the Project Environmental Requirements (PERs) (Volume 1, Appendix 3F) and pertinent plans including the Quarry Management Plan. These outline specific requirements for quarry site selection, development and management and are based on best practices and conditions of past permits received for similar work. Relevant PERs, include those requiring setbacks from sensitive directives to obtain appropriate quarry permits or leases via provincial departments, and requirements to comply with all legislation, licenses, authorizations and permits.

The Environmental Management Program is being developed to address potential Project effects to the various valued components (VCs) in the environmental assessment. Potential pathways of effects from the construction operation, decommissioning, and abandonment of quarries and borrow pits include:

- Sediments generated could be transported by runoff into surface water and affect fish and fish habitat, and present additional concerns if the material creates acid rock drainage.
- Vegetation removed could include rare or sensitive plants or represent important habitat for wildlife species.
- Excavations could directly affect cultural and heritage resources.
- Equipment and personnel at the sites could create sensory disturbance in the form of noise or vibrations that could affect nearby fish and wildlife species, residences, or use of lands for traditional purposes.
- Access to quarries and hauling materials and equipment to and from the Project site could increase traffic and potentially result in collisions and effects to roads and trails.
- The effects to plants and wildlife could affect for local residents and Indigenous peoples.

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT RESPONSE TO IAAC TECHNICAL INFORMATION REQUESTS

Question IAAC-06

While specific potential quarry and borrow pit sites have not yet been selected, the contractor will be responsible for the selection of new sites and operation of any sites approved by MI, and will have to demonstrate that proposed sites meet requirements identified in the PERs, Quarry Management Plan, and other applicable plans. The PERs (Volume 1, from Appendix 3F, Volume 1, Section 2.12), which will be a part of the construction contract documents, include requirements specific to quarries and borrow areas to mitigate effects. The following are key commitments pertinent to the information request that arise out of the PERs and the draft Quarry Management Plan (QMP) with respect to the information request and are expected to represent the minimum requirements associated with the separate permitting process for quarries and borrow areas:

- Quarry Site Selection:
 - No operator of a quarry is to establish or mine a quarry closer than 400 meters from a residence, unless the operator has established a vegetated berm or tree screen sufficient to shield the quarry from view from the residence.
 - With the exception of quarries that are contiguous with the road right-of-way, all quarry operations shall maintain a 100 meters buffer from the proposed road right-of-way. If no vegetated buffer or screen exists this distance shall be at least 150 meters.
 - Habitat occupied by protected species shall be avoided.
 - Quarry site selection shall consider the proximity of sensitive sites including waterbodies, wildlife, heritage resources and culturally important sites. Setbacks will vary depending on circumstances; however, selected areas are to be a minimum of:
 - 100 m from a water course or waterbody,
 - 100 m buffer from any large stick nest, eagle nest, heron rookery, or any other sensitive wildlife area,
 - 30 m from heritage resources or identified cultural sites,
 - 400 m from any residence,
 - 15 m from the property line, and
 - Other setbacks as required.
 - Prior to developing quarry sites, the potential for acid rock generation will be assessed. Sites found to contain acid generating rock shall not be developed or used.
 - As discussed in IAAC-05, potential sites will be tested for the potential to generate metal leaching, as well as acid rock drainage, and if an existing or potential quarry is found to have high potential, the quarry will not be used or developed.
- Quarry Development:

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT RESPONSE TO IAAC TECHNICAL INFORMATION REQUESTS

Question IAAC-06

- Designated Areas (including quarries) shall be identified for approval prior to development and the start of work. The Contractor shall submit details for proposed Designated Areas for review and acceptance by the Engineer in accordance with general conditions and contract documents. Submittals shall include marked up drawings, and coordinates of the proposed Designated Areas including access, and shall provide sufficient detail to demonstrate full compliance with these specifications (PER Section 2.1).
- Quarries shall be developed in accordance with the site plan submitted to the Engineer prior to the beginning of construction and, where applicable, the immediate quarry area plan provided to Manitoba Sustainable Development as part of the work permit (if required).
- The major components of the Work are as follows:
 - Access Road Construction
 - Clearing and Grubbing
 - Blasting
 - Gravel Crushing and Stockpiling of Aggregate
- The Contractor shall comply with all legislations, licenses, authorizations and permits respecting the Project and quarry.
- The Contractor shall not commence any mobilization or drilling activities until a casual quarry permit or quarry lease have been issued by the province of Manitoba (if required).
- The Contractor is responsible for maintaining the site and promoting surface water runoff to minimize ponding after rainfall events. In the event that ponding does occur, it shall be discharged or removed using effective erosion and sediment control devices and pumps as accepted by the Engineer.
- Quarry Operation:
 - Quarries shall be operated in accordance with all applicable licences, approvals, permits and/or leases.
 - Quarry operations shall not encroach within 15 meters of any property boundary adjoining, private, municipal, or crown leased land.
 - No operator of a quarry shall establish or mine a quarry closer than 150 meters from a Provincial Trunk Highway, or Provincial Road, unless the operator has established a vegetated berm or tree screen sufficient to shield the quarry from view from the road or residence. A quarry shall not be established within 400 meters of a residence.
 - A rehabilitation levy shall be paid by the lease holder for production of aggregate quarry mineral. This only applies to quarry minerals that are produced and removed from the quarry lease; no fee

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT RESPONSE TO IAAC TECHNICAL INFORMATION REQUESTS

Question IAAC-06

is required to be paid as long as the quarry mineral remains stockpiled on the quarry lease. (The current levy is 12¢ per tonne, as of 2018, and subject to change).

- The Contractor may be subject to operational restrictions if in close proximity to sensitive receptors, including but not limited to: wildlife, fish, residences or communities as stipulated in applicable permits or by the Engineer.
- The Contractor shall maintain the quarry site in a tidy condition and free from the accumulation of debris.
- Prior to preparatory work for each blast, the Contractor is required to submit a blast plan to the Contract Administrator including such information as:
 - The location, depth and area of each blast
 - Diameter, depth, pattern and inclination of blast holes
 - The type, strength, amount, column load and distribution of explosives to be used per hole, per delay and per blast, and
 - The sequence and pattern of delays and the description and purposes of any special methods to be adopted.
- Record Keeping and Reporting:
 - In accordance with Section 25 of the Manitoba Provincial *Quarry Minerals Regulation – M162*, the holder of a quarry shall provide the Mining Recorder with:
 - An annual statement of the total quantity of quarry mineral produced from the quarry
 - A royalty payment
 - A rehabilitation levy payment
 - The annual rent, no later than the 30th day following the anniversary date of the lease.
 - Only quarry minerals that are produced and removed from the quarry shall be included within the annual statement.
 - Prior to the commencement of mining, a work permit shall be obtained from the local Natural Resource Officer and notice of the commencement date shall be given to the Mines Inspector.
 - The Contractor shall maintain an accurate daily record of the quantity of material removed from the site and shall make this information available to MI and/or the Mines Inspector upon request. If the permit was applied for on the basis of a contract for the MI, material can only be used for the purposes of that project.

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT RESPONSE TO IAAC TECHNICAL INFORMATION REQUESTS

Question IAAC-06

- Decommissioning Plan:
 - A Decommissioning Plan shall be developed in accordance with all applicable permits, Legislation and Regulations and as approved by the Engineer.
 - Borrow pits will be left in a manner which promotes natural re-vegetation of the site:
 - In cases where seeding is required, and when conditions permit, seeding shall commence immediately upon completion of capping and trimming operations. When conditions do not permit immediate seeding, the Contractor will endeavor to ensure seeding is completed within the next growing season, unless otherwise authorized by the Engineer.
 - Seeding operations shall not be carried out under adverse conditions of high winds, frozen ground, or ground covered with snow, ice, or standing water.

The measures listed in the PERs and more fully described in the QMP will identify the approach required for developing new quarries and borrow area. Measures described in the QMP include guidelines to assess alternative quarry and borrow locations, as summarized above. A priority will be placed on using existing licensed and permitted quarry and borrow areas to minimize environmental effects; however, there may be a need to establish new sites. Volume 5, Figure 11.1-1 (Future Projects and Physical Activities) identifies potential borrow sites in the Project vicinity and quarry lease/exploration permitted sites in a pending status. The QMP and site-specific quarry development plans developed by the contractor(s) will be provided to MI.