

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

Question IAAC-19

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Abbreviations and Acronyms

EIS	environmental impact statement
IAAC	Impact Assessment Agency of Canada
km	kilometre
LAA	local assessment area
LMOC	Lake Manitoba outlet channel
LSMOC	Lake St. Martin outlet channel

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EIS Guideline Reference: 7.1.4 Groundwater and Surface Water

EIS Reference: 6.4.1. Scope of Assessment

Context and Rationale

The EIS guidelines require the proponent to explain its rationale for the location of the spatial boundaries used in the assessment.

The LAA for Groundwater is described as including a 20 km buffer around the LMOC and a five km buffer around the LSMOC, but no rationale is provided for the difference between the two channels.

Rationale to explain the extent of the groundwater LAA for the two channels is required to understand the information that contributed to defining these areas.

Information Requests

- a) Provide a scientifically based rationale for why a 20 km buffer has been selected for the LMOC groundwater LAA and a 5 km buffer has been selected for the LSMOC groundwater LAA to describe how these areas were defined.

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- a) To develop the Local Assessment Area (LAA) the buffers were selected based on local aquifer conditions, well locations and expected effects with a focus on possible effects to domestic well users. A buffer was selected that was conservatively chosen (considered large enough) to encompass the potential effects of the Project on the groundwater environment, as follows:
 - A 20 km buffer around the Lake Manitoba Outlet Channel (LMOC) was used – the rationale is that the expected effects from construction and operation of the channel will likely be less than 20 km. Aquifer conditions in the area requires groundwater to be pumped to depressurize the aquifer so that construction of the channel can proceed with a reduced risk of blowouts. The conceptual design predicted that effects from pumping could extend as far as 5 km away from the LMOC channel. However, this region has many domestic well users using this aquifer. Given the above conditions and adopting a conservative approach in recognition of those well users, a 20 km buffer was considered appropriate to encompass any Project effects that may extend beyond the initial estimate of effects on groundwater in this area.

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- A 5 km buffer around the Lake St. Martin Outlet Channel (LSMOC) was used – the rationale is that the expected effects from construction and operation of the channel will likely be less than 5 km. The expected effects on groundwater should be within 500 m of the channel and there are no domestic wells users in the area. The nearest groundwater well users are at Dauphin River First Nation, 5 km to 6 km north and northeast of the channel. The majority of the community wells are on the north side of the Dauphin River, which serves as a groundwater discharge, hydraulically isolating domestic wells on the north side. A few wells located on the south side (i.e., project side) of the Dauphin River are within the 5 km buffer. On the south side of the LSMOC there are no wells or communities and a 5 km buffer was deemed appropriate to encompass any Project effects on groundwater in this area.