Reset Questionnaire

LAKE MANITOBA
LAKE ST. MARTIN
OUTLET CHANNELS PROJECT

Groundwater Management Plan

Questionnaire

General Information (Please provide your contact information)

Name*

Community*

Mailing Address*

Phone Number*

Email*

*Required

Do you wish to self-identify as an Indigenous Person in Canada, such as First Nations, Métis or Inuit?

- ○ Yes
- ○ No

Manitoba welcomes responses from all to this questionnaire, including Indigenous individuals. Manitoba remains committed to meaningful and respectful Crown-Indigenous Consultation with Indigenous groups.

In addition to your responses, your personal information is being collected to be able to contact you for follow up if needed. Your responses will be collected and used to help support the provincial and federal environmental assessment process for the Lake Manitoba and Lake St Martin Outlet Channels Project, and will inform the Crown-Indigenous Consultation process and project planning. Responses and information collected through this questionnaire will be protected by Manitoba Infrastructure but may be shared with other provincial and federal regulatory bodies to meet environmental regulatory requirements.

Summary of Plan

The Groundwater Management Plan (the Plan) presented during consultation and engagement is considered draft and will not be finalized until input is obtained from potentially affected Indigenous groups and stakeholders. The Plan will be finalized once applicable feedback has been received, final design details are determined, and environmental approval conditions are available. This questionnaire is intended to be completed after reviewing the Plan. It is recommended that the report is read as a whole so that sections or parts should not be read out of context.

The purpose of the Plan is to describe measures to take to avoid or minimize adverse effects on groundwater from construction and operation of the Lake Manitoba and Lake St. Martin Outlet Channels Project (the Project).

The objectives of the Plan are to:

- Present an understanding of the hydrogeological conditions in the Project areas
- Present groundwater depressurization plans for construction and operation scenarios
- Identify potential impacts on groundwater supply wells and required mitigation measures
- Describe the planned monitoring to confirm effectiveness of mitigation measures

Please note, the frequency of water quality monitoring outlined in the Plan, and Aquatic Effects Monitoring Plan, has been determined based on environmental and engineering consultant advice and is subject to change based on monitoring results and feedback received through consultation, engagement, and regulatory activities..

Part 1 – Introduction

1. The Groundwater Management Plan (Sections 7 and 14) describes methods that may be used to avoid or minimize effects on groundwater quality and quantity from the Project. What concerns do you have regarding groundwater effects from the Project? Select all that apply:

   ☐ Impacts to wells and drinking water
   ☐ Impacts to wetlands
   ☐ Interactions with surface water
   ☐ Other _____

   Please explain:

2. Do you know of any groundwater discharge areas[1] in the Project area? These may be noticed by areas of poor ice condition or visible springs:

   ○ Yes
   ○ No

   If yes, please explain identify on the map below (Figure 1) where these areas are located:

[1] A groundwater discharge area is an area where groundwater moves out of the aquifer to the surface through springs or seeps

Part 2 – Lake Manitoba Outlet Channel

3. If you obtain drinking water or livestock water from wells, are all those wells flowing or pumped? Are they installed into bedrock (limestone/carbonate aquifer)? Please provide details of well construction/depth, location, pumped or natural flow in Table 1 below:

Table 1: Respondents Well Information

Well Construction/Depth	Location	Pumped or Natural Flow

4. Does the quality or quantity of your well water change seasonally or in relation to weather conditions?

   ○ Yes

   ○ No

   Please explain:

5. The Plan (Sections 7 and 14) discusses Project impacts on groundwater supply wells and potential mitigation measures. These mitigation measures are also outlined in Table 2 below and will be implemented on a case-by-case basis with affected well users.

Table 2: Mitigations for Domestic and Livestock Wells

Type of Well	Mitigation	
	Short Term	**Long Term**
Domestic wells	Water tanks/alternate water supply	Lower existing pump intake if feasible
		Supply new pumps
		Drill new wells or extend existing well
Artesian livestock wells	Transfer water from construction dewatering/depressurization wells to dugouts	Lower existing pump intake if feasible
		Supply new pumps
		Drill new wells or extend existing well

Do you feel these mitigations will be effective? Please explain:

Are there any additional mitigations that you would like included? Please explain:

6. The operation of the Lake Manitoba Outlet Channel will not alter the groundwater flow direction towards the lakes but some groundwater will be captured through depressurization wells and drains and transported to the lakes through the Lake Manitoba Outlet Channel. Do you have any concerns with this approach to managing groundwater discharge?

   ○ Yes

   ○ No

   If yes, please share your concerns:

7. Several parameters to assess groundwater quality for the Lake Manitoba Outlet Channel are outlined in Table 5 of the Plan. The Canadian Council of Ministers of the Environment and Manitoba Water Quality Standards, Objectives and Guidelines provide guidance for what parameters should be monitored for surface and drinking water quality: Are there any additional parameters that you would like to see included? Please explain:

8. During **construction** of the Lake Manitoba Outlet Channel, continuous monitoring of **groundwater levels** will occur and monitoring of **groundwater quality** will occur annually in the spring, summer, and fall as described in the Plan. Do you think this is robust enough to understand the potential impacts of the Project?

   ○ Yes

   ○ No

If yes, please explain:

9. During **operation** of the Lake Manitoba Outlet Channel, continuous monitoring of **groundwater levels** will occur and monitoring of **groundwater quality** will occur annually in the spring, summer, and fall during the first two years post-construction as described in the Plan. This duration may be extended if needed. Do you think this is robust enough to understand the potential impacts of the Project?

   ○ Yes
   ○ No

   If yes, please explain:

Part 3 – Lake St. Martin Outlet Channel

10. The Plan (Sections 7.1 and 14.1) outlines potential Project effects, including the risk of exposing the aquifer during excavation of the Lake St. Martin Outlet Channel and causing groundwater discharge into the channel. To mitigate this risk, groundwater will be pumped (depressurization) to lower the local groundwater level in the aquifer. Do you think this is robust enough to manage these construction impacts?

    ○ Yes
    ○ No

    If no, please explain:

11. Lowering the local groundwater level will have an effect to areas within 1 km of the Lake St. Martin Outlet Channel. The closest wells to the Lake St. Martin Outlet Channel are 5-6 km away. Given this information, do you have concerns with drinking water supplies near the LSMOC?

    ○ Yes

    ○ No

    If yes, please share your concerns:

12. Several parameters to assess groundwater quality for the LSMOC are outlined in Table 10 of the Plan. The Canadian Council of Ministers of the Environment (CCME) and Manitoba Water Quality Standards, Objectives and Guidelines provide guidance for what parameters should be monitored for surface water and drinking water quality: Are there any additional parameters that you would like to see included? Please explain:

13. During **construction** of the LSMOC, continuous monitoring of groundwater levels will occur and monitoring of groundwater quality will occur annually in the spring, summer, and fall as described in the Plan. Do you think this is robust enough to understand the potential impacts of the Project?

    ○ Yes

    ○ No

    If yes, please explain:

14. During **operation** of the LSMOC, continuous monitoring of groundwater levels will occur and monitoring of groundwater quality will occur annually in the spring, summer, and fall during the first two years post-construction as described in the Plan. This duration may be extended if needed. Do you think this is robust enough to understand the potential impacts of the Project?

- ○ Yes
- ○ No

If yes, please explain:

Conclusion

15. Are there any Project activities or effects outlined in the Plan that you feel affect your ability to practice traditional use activities?

- ○ Yes
- ○ No
- ○ Not applicable

If yes, please identify the component and explain how your ability to practice traditional use activities (including fishing, hunting, trapping, and gathering/plant harvesting) is affected:

16. Are there any Project activities or effects outlined in the Plan that you feel will have positive or negative impact on the health and socio-economic conditions (e.g., economy and culture) in the area?

- ○ Positive
- ○ Negative

Please explain:

17. Groundwater monitoring reports will be developed on an annual basis. Manitoba Infrastructure is planning to share this information with community leadership. Do you feel this is sufficient?

- ○ Yes
- ○ No

If no, how frequent should these reports be prepared? _____

18. How else would you like to receive this information?

- ○ Email
- ○ Mail
- ○ Website
- ○ All of the above

19. As Manitoba Infrastructure is working with a number of Indigenous groups and communities on the Project, how would you like to be involved in follow-up and groundwater monitoring?

20. Was the information in the Plan presented in a manner that was easy to understand?

- ○ Yes
- ○ No

If no, please identify what information requires further clarification:

21. Do you have any general comments or questions?

- ○ Yes
- ○ No

Please explain:

SUBMIT AND EXIT THE QUESTIONNAIRE

Thank you for your feedback. Please remember to complete the map below before submitting your questionnaire.

We want to hear from you.
Share your thoughts by highlighting or adding sticky notes to the map provided below.

Need help?