

DESIRE WITHOUT KNOWLEDGE IS NOT GOOD

Proverbs 19:2

Joint Opening Statement of the **Manitoba Eco-Network**
and
Our Line in the Sand

Manitoba Clean Environment Commission Public Hearing regarding Sio Silica
Corporation's proposed Vivian Silica Sand Extraction Project

Prepared by: The Public Interest Law Centre
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AQUIFERS ARE CENTRAL TO COMMUNITY WELL-BEING

“Water is central to the well-being of our natural environment, our families and our communities.”¹

“The Carbonate Aquifer . . . is the largest freshwater aquifer in Manitoba and serves as the prime groundwater source for south-eastern Manitoba.”²

“In the simplest terms, the Panel’s concerns focus on the ongoing sustainability and availability of high quality drinking water in Manitoba.”³

- Healthy, sustainable aquifers are essential for the community and the Province.
- The stakes are high.

¹ Government of Manitoba, “Manitoba’s Water Management Strategy” (November 2022) at 2, online:

<https://www.cttam.com/common/Uploaded%20files/General%20Uploads/Manitoba%20Water%20Management%20Strategy.pdf>.

² Manitoba Clean Environment Commission, “The Pembina Valley Water Cooperative Supplemental Groundwater Supply System” (2007) at 9-10. [emphasis added]

³ Manitoba Clean Environment Commission, “The Pembina Valley Water Cooperative Supplemental Groundwater Supply System” (2007) at iii. [emphasis added]

PROTECTING CURRENT AND FUTURE GENERATIONS: *THE ENVIRONMENT ACT*

- The Clean Environment Commission's mandate flows from *The Environment Act* and its Terms of Reference.

1(1) The intent of this Act is to develop and maintain an environmental protection and management system in Manitoba which will ensure that the environment is protected and maintained in such a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for this and future generations, and in this regard, this Act

(a) is complementary to, and support for, existing and future provincial planning and policy mechanisms;

[...]

(c) provides for the recognition and utilization of existing effective review processes that adequately address environmental issues; [...] [emphasis added]

- The CEC is **not bound** by the impoverished assessment countenanced by the Department.

A CEC ROADMAP FOR AN EFFECTIVE REVIEW PROCESS

“What we did find is that there is insufficient information available in respect of the sustainability of the water resources in the area. That lack of information made it impossible for us to determine whether the proposed project would be without long-term environmental concerns.”⁴

“To approve this Project prior to the development of an integrated understanding of how the aquifer fits with its surroundings is not in line with sustainable development guidelines. Furthermore, it would establish a right to the aquifer’s water under The Water Rights Act and also set a precedent for further development of the aquifer, prior to the appropriate study and consultation having taken place.”⁵

⁴ CEC, “The Pembina Valley Water Cooperative Supplemental Groundwater Supply System” (2007) at iii. [emphasis added]

⁵ CEC, “The Pembina Valley Water Cooperative Supplemental Groundwater Supply System” (2007) at 49. [emphasis added]

CUMULATIVE EFFECTS AND CLASS 2 PROJECTS

“In light of the possible influences of the Project on the surrounding water bodies and landscape described in the previous paragraph, cumulative effects should be considered in future assessments of this and any other development. The ecosystems in the area are currently affected by other developments and activities in the region and consideration of the additive effect of another impact needs to be addressed.”⁶

“The panel advises that a cumulative effects assessment be included as a requirement in the forest management plan guidelines and that the scope, content and presentation be prescribed by Environmental Approvals Branch in line with current practices under The Environment Act.”⁷

- The proponent cannot claim surprise that cumulative effects are engaged.

⁶ CEC, “The Pembina Valley Water Cooperative Supplemental Groundwater Supply System” (2007) at 48. [emphasis added]

⁷ CEC, “Forest Management Plan Approval Process” (2020) at 44.

FUNDAMENTAL PROCESS CONCERNS IDENTIFIED BY INDEPENDENT EXPERTS

- With regard to the EA process, Arcadis concluded that the abbreviated temporal scope, substantively smaller spatial scope and exclusion of critical project components constitutes “project splitting”. Arcadis considers this to be a material deficiency with the Project Proposal.⁸
- “The work described in the proponent’s proposal only refers to a four-year planning horizon with about 1680 wells but ultimately could result in over 10,000 wells over 24 years.”⁹
- “Given this project would set a precedent in the province and could lead to other projects in the same region, the absence of an CIA is an important deficiency in Matrix’s opinion.”¹⁰
- “The Project Proposal and supporting documents do not include an assessment of cumulative effects. Given the wide range of land uses in the vicinity of the Project and the importance of the groundwater resource, this represents a substantive deficiency in the Project Proposal.”¹¹
- “The Proponent’s analysis of potential impacts lacks the level of rigor that would typically be required in Environmental Assessments of mining projects.”¹²

⁸ Arcadis Canada Inc., “Technical Review of Sio Silica Corporation’s Environment Act Project Proposal” (2022) at ES-1, 8-10 and 23.

⁹ Dr. Hartmut Holländer, Dr. Allan Woodbury, “Technical Review Sio Silica Corporation’s (formerly CanWhite Sands Corp.) Environment Act Project Proposal at 1, 7, 13.

¹⁰ Matrix Solutions Inc., “Hydrogeological Review of Sio Silica Corporation proposed Vivian Sand Project, Manitoba” (2023) at 15.

¹¹ Arcadis Canada Inc., *supra* at 25. [emphasis added]

¹² *Ibid* at 23. [emphasis added]

SIGNIFICANT ENVIRONMENTAL RISKS IDENTIFIED BY INDEPENDENT EXPERTS

- Extraction of the silica sand resource will result in a permanent change to the underground geology in the form of horizontal arrays of rooms and pillars in the sandstone geological layer.¹³
- It is apparent that the shale aquitard separating the two aquifers will be unsupported and collapse into the top of the sand extraction zone void within each sandstone production well cluster, resulting in enhanced and multiple direct interconnections of the aquifers.¹⁴
- Of fundamental consideration is how will the approximate 15 m to 25 m thick fractured and jointed limestone strata bridge over a potentially 32 m to 50 m wide cavern void, especially with an overlying weight of 25 m to 35 m of overburden tills and clays.¹⁵
- In Matrix's opinion, there are the two critical irreversible effects the project has on the hydrogeological system that could lead to indirect effects in the long-term: 1) degradation of the Winnipeg Shale Aquitard, and 2) increase in fracture density of the Red River Carbonate Aquifer.¹⁶
- The effect of the project is to increase vulnerability for contamination of both aquifers being actively and widely used for potable water supply.¹⁷

¹³ Arcadis Canada Inc., *supra* at 11.

¹⁴ KGS (2023) at 4. See also Arcadis Canada Inc., *supra* at ES-1. [emphasis added]

¹⁵ KGS, *ibid* at 1. [emphasis added]

¹⁶ Matrix Solutions Inc., *supra* at 7.

¹⁷ Matrix Solutions Inc., *supra* at 12.

HOW CAN THE CEC PROPERLY ASSESS POTENTIAL ENVIRONMENTAL RISKS?

- **No** full-scale test of a well extraction cluster prior to licensing.¹⁸
- **No** investigation of impacts related to groundwater quality in the event of “collapse of the shale barrier”¹⁹
- **No** commentary from Mines Branch in the Technical Advisory Committee (TAC) process
- **No** Cumulative Impacts Assessment
- **No** assessment of project implications in the context of Regional Groundwater Plans
- **No** filing of Stantec 2019, 2020 and 2021 Reports
- **Redactions** of most Stantec 2022 from the public record²⁰

¹⁸ MSSAC-IR-011 b); MSSAC-IR-022(a), Request I; Holländer and Woodbury, *supra* at 7.

¹⁹ Holländer and Woodbury, *supra* at 5.

²⁰ Arcadis Canada Inc., *supra* at 27 (Conclusion #16); MSSAC-IR-015 (c); MSSAC-IR-022(a), Request I.

PRECAUTION IS NEEDED

- “One of the aquifers (sandstone) is to be extensively mined with a new and unproven technology. Hence, it is important to be cautious.”²¹
- “Relative to other proven techniques, this uncertainty justifies adopting a more precautionary approach when developing and implementing project designs. This is particularly important given the need to protect local and regional groundwater resources.”²²
- “The importance of preserving the hydraulic isolation between aquifers is paramount in a precautionary approach with regards to potential migration of contaminants in the groundwater.”²³

²¹ Holländer and Woodbury, *supra* at

²² Arcadis Canada Inc., *supra* at 7.

²³ Matrix Solutions Inc., *supra* at 10.

DESIRE WITHOUT KNOWLEDGE IS NOT GOOD

“Desire without knowledge is not good, and whoever makes haste with his feet misses his way.”²⁴

*“...this project[,] with its risks to the only available fresh water source for the area, should not receive an Environment Act License. **The risk is too great.**”²⁵*

²⁴ Proverbs 19:2, English Standard Version

²⁵ Our Line in the Sand Manitoba, Public Comment Submission to Environmental Assessment and Licensing Public Registry 6119.00 (29 September 2021). [emphasis added]

THANK YOU