CanWhite Sands Silica Sand Extraction Environment Act Proposal – File No. 6119.00

The attached information can be placed in the public registry for the above project:

Technical Advisory Committee Comments on the Environment Act Proposal *(16 pages)*

Agriculture and Resource Development – Mining, Oil and Gas – Petroleum Branch, August 12, 2021

Conservation and Climate – Drainage and Water Rights Licensing, September 28, 2021

Conservation and Climate – Office of Drinking Water, September 28, 2021

Infrastructure – Highway Engineering, October 5, 2021

Conservation and Climate – Forestry and Peatlands, October 5, 2021

Conservation and Climate – Environmental Compliance and Enforcement, October 6, 2021

Agriculture and Resource Development - Wildlife, Fisheries and Resource Enforcement, October 6, 2021

Conservation and Climate – Air Quality, October 7, 2021

Municipal Relations – Community Planning, October 13, 2021

Agriculture and Resource Development – Groundwater Management, October 21, 2021

Health and Seniors Care – Population and Public Health, October 22, 2021

From: Mraz, Peter (ARD)
Sent: Thursday, August 12, 2021 3:59 PM
To: 'Jennifer.Winsor[redacted]
Cc: Williams, Lisa (ARD)[redacted]
Subject: RE: Environment Act Proposal for TAC Review - CanWhite Sands Corp. - Silica Sand Extraction Project - File
6119.00

The Petroleum Branch has no concerns with this proposal as it is outside the part of the province where there is any oil and gas activity.

From: Wiseman, Kylene (CC)[redacted]
Sent: September 28, 2021 10:52 AM
To: Winsor, Jennifer (CC)[redacted]
Cc: Hay, David (CC)[redacted]
Subject: FW: Environment Act Proposal for TAC Review - CanWhite Sands Corp. - Silica Sand Extraction Project - File 6119.00
Importance: High

Good morning Jennifer,

The Water Use Licensing Section, within the Drainage and Water Rights Licensing Branch, requires that CanWhite Sands Corp. submit an application for a Water Rights Licence for “other-mining” purposes to capture well drilling and groundwater extraction activities as described in the proposal.

Thank you,

Kylene Wiseman, P.Geo.

Drainage and Water Rights Licensing Branch

Conservation and Climate

Department of Conservation and Climate
Office of Drinking Water
1007 Century Street, Winnipeg MB, R3H 0W4
www.manitoba.ca/drinkingwater

September 28, 2021

To Jennifer Winsor, P.Eng.:

Re: Environment Act Proposal, File # 6119.00, Canwhite Sands Corp., Silica Sands Extraction Project, Response from the Office of Drinking Water

The Office of Drinking Water is responsible for regulating drinking water systems in the Province of Manitoba.

Based on the information available, the review by the Office of Drinking Water of Environment Act Proposal File #6119.00, Canwhite Sands Corp., Silica Sands Extraction Project, concluded that The Drinking Water Safety Act and associated regulations are not applicable for the proposed project scope of work.

However, the Office of Drinking Water has an interest in the protection of drinking water sources and potential drinking water sources. Regarding process wastewater discharge into the groundwater aquifer, the Office of Drinking Water will support recommendations from the groundwater section of the Water Branch of the Department of Agriculture and Resource Development targeting the protection of local groundwater.

The Office of Drinking Water regulates treated water quality for public or semi-public water systems, i.e., municipal wells. There may be public or semi-public water systems the Office of Drinking Water regulates, or private well water systems that the Office of Drinking Water does not regulate, that use the aquifer(s) as a raw water source. Appendix A of the proposal, Figure 1.4, identified various water users by location within the project site area including municipal wells.

The Office of Drinking Water adopts and follows the Guidelines for Canadian Drinking Water Quality from Health Canada. The guidelines include microbiological parameters, chemical and physical parameters, and radiological parameters. Supporting technical documents are available online on the Health Canada and Office of Drinking Water websites. Relevant parameters are applied to water systems regulated by the Office of Drinking Water. The Office of Drinking Water will not be applying drinking water standards to this project as it is not a regulated water system.

If you have any questions regarding this letter or our review, please contact us.

Sincerely,

Siobhan Burland Ross, P.Eng.
Acting Director,
Office of Drinking Water

From: +WPG969 - MIT Environmental Services Section (MI) [redacted]
Sent: October 5, 2021 10:32 AM
To: Winsor, Jennifer (CC) [redacted]
Subject: RE: Environment Act Proposal for TAC Review - CanWhite Sands Corp. - Silica Sand Extraction Project - File 6119.00

Good morning,

Please see comments from the following MI branches/sections:

Water Management, Planning and Standards:

No concern.

Capital Regional Operations:

- Permits will be required for any new or modified access points onto PR 302
- Permits will be required for any structures within the controlled area of PR 302
- Permission will be required for any water discharge or drainage ditches tying into the right of way of PR 302
- Agreements will be required with the Department for any slurry lines under/ above ground crossing or adjacent to PR 302. The application and information regarding these agreements can be found at: www.gov.mb.ca/mit/hpd/utilities.html

Roadside Development:

We have reviewed this EAP and the proponent/developers are required to provide the following:

- Written confirmation from our department that either drainage is not an issue or that the applicant has adequately addressed any potential drainage issues. The applicant will have to provide our regional Technical Services Engineer, Rob Crang, [redacted] or [redacted] with the sufficient information to ensure drainage from this development would not adversely affect the provincial highway system. If necessary, the regional engineer may request the applicant to submit a detailed drainage plan prepared by qualified experts. Please note that the cost of this study and any revisions to the highway drainage system directly associated with this proposed development will be the responsibility of the developer;

- We have some concerns that traffic generated by this development may have an impact on the traffic operations of PR 302 and PTH 15. Therefore, we require the developer to provide some preliminary traffic projections. Please contact Karen Toews [redacted]. Based on this information, our department will determine if a more detailed Traffic Impact Study is required. If required, this study is to be prepared by a qualified engineer and will determine what impact the traffic generated by this development will have on the traffic operations at this location and what, if any, on highway improvements will be required.

- Permission will be required from our regional office for the PR 302 mobile slurry and water line crossing. For permission information, please follow the following link: Highway Planning and Design | Manitoba Infrastructure | Province of Manitoba (gov.mb.ca)

- Permits will also be required for the temporary PR 302 trail crossing. For permit information, please contact Sheena Del Rosario at [redacted] or by email at [redacted]. Permit information and permit application forms can also be found at https://www.gov.mb.ca/mit/hpd/permits.html.

Please note the following statutory requirements affecting PR 302.

Statutory Requirements:

Under the Transportation Infrastructure Act, a permit is required from Manitoba Infrastructure to construct, modify, relocate, remove or intensify the use of an access. A permit is also required from Manitoba Infrastructure to construct, modify or relocate a structure or sign, or to change or intensify the use of an existing structure (including the alteration of existing buildings) within the **38.1 m** (125 ft) controlled area from the edge of the highway right-of-way.

In addition, a permit is required from the Manitoba Infrastructure for any planting placed within **15 m** (50 ft) from the edge of the right-of-way of this highway.

Thank you very much for the opportunity to review and comment.

From: Porteous, Marianne (ARD) [redacted]
Sent: October 5, 2021 4:07 PM
To: Winsor, Jennifer (CC) [redacted]
Subject: RE: Environment Act Proposal for TAC Review - CanWhite Sands Corp. - Silica Sand Extraction Project - File 6119.00

Hello,

No concerns from the Forestry and Peatlands Branch.

Manitoba

Memorandum

DATE: October 6, 2021

TO: Jennifer Winsor
Environmental Approvals
Conservation and Climate
1007 Century Street
Winnipeg MB R3H 0W4

FROM: Marguerite Reimer
Environmental Compliance and Enforcement
Conservation and Climate
1007 Century Street
Winnipeg MB R3H 0W4
[redacted]

SUBJECT: Environment Act Proposal – CanWhite Sands – Vivian Silica Sand Extraction Project (Client File No. 6119.00)

Environmental Compliance and Enforcement (ECE) has reviewed the above noted Environment Act Proposal and can provide the following:

1. ECE requests more information on the proposed containment to enclose the mining 'overs' material.

2. ECE recommends CanWhite investigate alternative disposal or end-use options for 'overs' material.

3. ECE recommends CanWhite investigate alternative disposal or end-use options for woody debris from site clearing.

4. ECE requests more information on the dewatering system and process.

5. ECE requests information on characterization of the water from the extraction and return processes and the risk of other contamination or additions to the water.

6. ECE requests more information regarding the UV treatment, such as:
    - Details and technical specifications of the proposed UV treatment system
    - Details of operational fail safes, such as:
        - Does the pumping shut down if the UV treatment loses power?
        - What kind of sampling regime will be used to ensure adequate treatment of the water has occurred?
        - Proposed schedule of maintenance and upgrades.

7. ECE recommends copies of the following plans be submitted to EAB for distribution for review and comment by the appropriate branches/departments prior to licence issuance:
    - Waste Characterization and Management Plan
    - Water Management Plan
    - Groundwater Monitoring and Impact Mitigation Plan
    - Progressive Well Abandonment Plan

8. ECE requests more information regarding the estimated noise level of the extraction operation 100 m from a residence and potential noise mitigation measures available.

9. ECE recommends the proponent develop and maintain a complaint management plan to track and respond to public complaints regarding the operation of the Development.

10. Hazardous Waste Generator Registration for the Development will be required if the Development anticipates generating and storing waste as per the Hazardous Waste Regulation M.R. 195/2015.

11. Above-ground petroleum storage facilities with a total storage capacity of 5000 L or more require a permit under the Storage and Handling of Petroleum Products and Allied Products Regulation M.R. 188/2001.
    - Please note that above-ground petroleum storage facilities with a total storage capacity of less than 5000 L do not require a permit under M.R. 188/2001, but are still subject to partial application of the regulation.

12. In the event of a fire, release, spill, leak or discharge of a pollutant or contaminant to the environment, immediately report the incident to Manitoba Conservation and Climate by calling the 24-hour Emergency Response Line at [redacted] Provide a report following the incident with details of the occurrence, clean-up actions and future mitigation of a similar event.

Manitoba

Memorandum

Date: Oct 6, 2021

To: Jennifer Winsor
Senior Environmental Engineer
Environmental Approvals Branch
[redacted]

From: Brian Kiss
Habitat Mitigation Biologist
Wildlife, Fisheries and Resource Enforcement Branch
[redacted]

Subject: File: 6119.0 – CanWhite Sands Corp. Silica Sand Extraction Project

The Wildlife component of the Wildlife, Fisheries and Resource Enforcement Branch has reviewed the Environment Act Proposal for File 6119.0 and would like to provide the following comments and inquiries:

General Comments:

- The amount of existing disturbance and fragmentation within the project area cannot be used to assess impacts to all species. Species of local importance like white-tailed deer can favor edge habitats, while golden-winged warbler may be concentrated along existing developments, since they are attracted to the vegetation structure that development can create. These species could be impacted regardless of the landscape's "disturbed" status, and need to be considered moving forward.

- All vegetation clearing and rehabilitation plans must consider protected golden-winged warbler and red-headed woodpecker habitat moving forward. Table 4-5 declares that there is a low-moderate probability of occurrence within the project area for golden-winged warbler and red-headed woodpecker, while the project site is situated within federal Critical Habitat squares for each of these species, and the Manitoba Conservation Data Centre contains documented occurrences for each of these species. There is no mention of Critical Habitat for these species included in the document. The proponent is responsible for maintaining habitat for these federally and provincially Threatened species, regardless of the assessment on Regional-level impacts.

- The proposal does not address invasive species or biosecurity. Invasive species known to occur in the area, including spotted knapweed, should have been identified, the potential for spread addressed, and proper mitigation tactics outlined.

Information Request:

- When will the Revegetation Monitoring Program be developed? We appreciate that golden-winged warbler habitat is mentioned, and that revegetation may be augmented using native seed mixtures and native plants where required, but more details are required:

    - A golden-winged warbler habitat management strategy should be developed that outlines how the specific habitat needs of this species will be maintained or provided as vegetation management and rehabilitation activities are carried out.

- How will red-headed woodpecker habitat be identified, and what actions will be taken to avoid potential impacts?

- Federally and provincially Threatened eastern whip-poor-will are also known to occur in the project area, and potential changes to their habitat as a result of project clearing and revegetation plans should also be considered moving forward.

- What revegetation monitoring protocols will be followed, and what will trigger progressive actions like reseeding and replanting?

- Will bulldozing or mulching equipment be used to clear drill sites, temporary drill access trails, and slurry/water lines? Woody material should not be deposited next to standing timber or shrubs, and piled in a fashion that will not impede wildlife movement.

- It is unclear how the well clusters will be connected. Vegetation should not be cleared between cluster sites, other than what is needed for drill access trails and flow lines.

- Please provide an Invasive Species Strategy that contains an assessment of species known to occur in the area, all preventative/control measures that will be taken, and monitoring protocols that will be followed to ensure that spread does not occur.

_____

Brian Kiss

cc. Todd Whiklo, Lead Wildlife Biologist –Eastern – [redacted]
Timothy Poole, Species at Risk Biologist – [redacted]

Manitoba **Memorandum**

DATE: October 7, 2021

TO: Jennifer Winsor
Environmental Approvals Branch
Manitoba Conservation and Climate
1007 Century Street, Winnipeg

FROM: Muntaseer Ibn Azkar
Air Quality Section
Environmental Approvals Branch
Manitoba Conservation and Climate
1007 Century Street, Winnipeg

SUBJECT: CanWhite Sand Corporation – Silica Sand Extraction Project (File 6119.00)

Air Quality Section has reviewed the above proposal and provides the following comments:

- It has been claimed in the proposal that the impact of the project on air quality is expected to be minor to negligible. What is the basis of this expectation? Has any air quality impact assessment/dispersion modeling study been done for this project?

- Have the emissions of various air pollutants from all potential sources including fugitive dust emissions been estimated or calculated for the project?

- Respirable crystalline silica content of particulate matter is a health concern for this type of operation. Was respirable crystalline silica considered a potential air pollutant in the air quality assessment study? Air Quality Section suggests that the proponent submit a detailed characterization of the particulate matter indicating silica content.

- Is there any plan to conduct an ambient air monitoring program at the facility's fence line during the sand extraction process?

Manitoba

Memorandum

DATE: October 13, 2021

TO: Jennifer Winsor
Senior Environmental Engineer
Environmental Approvals Branch
Manitoba Conservation and Climate
1007 Century Street
Winnipeg MB R3H 0W4

FROM: Larissa Sveinson
Regional Manager
Community Planning Branch
Municipal Relations
L01 – 20 First Street S
Beausejour MB R0E 0C0

PHONE NO: [redacted]

SUBJECT: Environment Act Proposal Review – File 6119.00
CanWhite Sands Corp. – Silica Sand Extraction Project
R.M. of Springfield

On behalf of Municipal Relations, I have reviewed the Environment Act Proposal for the CanWhite Sands Corp. – Silica Sand Extraction Project (File 6119.00) in the R.M. of Springfield, Pt. Sec. 20- and 29- and 30-10-8E.

According to the Environment Act Proposal, the proposed sand extraction activities are being reviewed under *The Environment Act* as a "mine" which is a Class 2 development pursuant to Section 3 of the *Classes of Development Regulation* under Group 5 "Mining."

The proposed extraction sites are located on privately owned lands zoned "MX" Industrial Extractive Zoning District, "MXH" Industrial Extractive Holding Zoning District, and "AG" and "AG-1" Agricultural General Zoning District in the RM of Springfield Zoning By-law.

Land use and development on private land falls under the authority of the local municipality and zoning by-law. Approval and associated conditions/requirements for any conditional use order that may be required are pursuant to the R.M. of Springfield Zoning By-law and applications would be made directly to the municipality.

Thank you for the opportunity to review.

Sincerely,

[redacted]

Larissa Sveinson
Regional Manager

Manitoba

DATE: October 21, 2021

Memorandum

TO: Jennifer Winsor, P.Eng.
Environmental Approvals Branch
Conservation and Climate

FROM: Groundwater Management Section
Water Branch
Agriculture & Resource Development

FILE: 5.07.04.02

Re: File 6119.00 Silica Sand Extraction Project – CanWhite Sands Corp.

In response to a request to review and comment on a proposal under the Environment Act: CanWhite Sands Corp. - Silica Sand Extraction Project - File 6119.00 the Groundwater Management Section has conducted a review of the Vivian Sand Extraction Project – Hydrogeology and Geochemistry Assessment Report, Environment Act Proposal, Appendix A, prepared by AECOM Canada Ltd. (the Consultants). The Hydrogeological and Geochemistry Assessment Report was prepared and submitted by the Consultants in support of pursuing the application for a Class-2 Mining - Environmental Act License. The proposed mining site located southwest of the hamlet of Vivian, Manitoba, and is approximately 26 km east of the City of Winnipeg from the border of the CanWhite mining claims. The main objective of the Hydrogeological assessment is to evaluate the potential impact to the quantity and quality of groundwater in the Red River Carbonate or Winnipeg Formation aquifers.

Comments: Environmental Act Proposal

The hydrogeological and geochemical assessment evaluated the first four years of operation (p.19). The project has a proposed 24-year life span. The current application is for extraction activities to the end of 2025. It would be prudent for any subsequent Notice of Alteration to include a thorough assessment of all previous monitoring and impacts, and include projections using observed data developed during operation.

Section 6.2.3 states that “Water level in the observation well network declined by up to 8.5 m (Winnipeg Sandstone) and 1.5 m (Red River Carbonate) at a distance of 89.3 m from the pumping well. Setbacks (Sctn. 1.4.1) include 100m from a dwelling and the dwelling’s drinking water well. Extraction wells will be operating simultaneously (Sctn. 1.1). What will be the effect on a domestic well water level at this separation distance with multiple extraction wells operating and what plans will be in place to mitigate negative effects for the water user? Will the 100 m separation distance be adequate.

Section 8.2 & 8.4 It is recommended that the groundwater monitoring network include monitoring wells in both the carbonate and the sandstone aquifers capable of determining water levels on a continuous basis, be used to determine flow direction, and capable of sampling groundwater quality. The network should contain a sufficient number of wells situated between the project and groundwater users to monitor and measure potential alteration to the groundwater. The Groundwater Management Section is in agreement with the plan to perform an on-the-ground “survey of existing water supply wells in advance of operations,

monitoring of groundwater quantity and quality during and following the Project operations, and responding to well owner complaints."

Comments: Appendix A: Vivian Sand Extraction Project – Hydrogeology and Geochemistry Assessment Report

Executive Summary & Section 1.4 indicate that the drawdown impacts will likely not require mitigation because "most pumps are installed at depths of 30 m or more". Recent well driller reports include a field for suggested pump intake depth settings. This information is provided by the well drilling company after a rudimentary pump test is completed and is used by pump installers. Within Canwhite's Local Project area wells completed in the sandstone in which well drillers have provided a pump intake depth the values range from 18' to 60' and driller recommended pump depth for the carbonate aquifer is between 20' and 80'. No recorded intake depths are 30 m or greater. The Consultant should reassess this statement.

Groundwater Information Network (GIN) was used as a primary data source for the water well inventory, which was further interpreted into hydrostratigraphic surfaces, groundwater elevations and gradients, boundary condition assignment, and employed for steady state calibration. Manitoba groundwater data on GIN is outdated for more than ten (10) years, is no longer considered as a qualified resource for groundwater level evaluation and well info dependent studies. Due to the GIN data stagnation, activities such as, new well constructions, well decommissioning, and other groundwater usage developments over the past decade, may differ the understanding of the hydrogeological conditions, model settings and the reference for calibration than what has been interpreted in this report. GWDrill should be considered instead.

Labelling on the graphs to aid understanding could benefit with the following:

Figure 3-1 PR HWY numbers are missing
Figure 6-1 Railway alignment to be removed, it is misread as "watercourse"
Figure 6-4 Pumping Rate/Barometric Pressure legend is missing
Figure 5-9, 10, 11 Equipotential lines are suggested to be added and labeled.

References – there are several instances that the reference provided in the text does not align with the reference in Section 9 including the incorrect year; for example references in 4.2.2.2. A reference should be provided for the discussion of fluoride in 4.2.3.5.

Section 1.2: Betcher and Ferguson 2003 should be referenced as Betcher and Ferguson, 2007, which estimated that there are 1,500 water wells in all of southeastern Manitoba that interconnect the Winnipeg Sandstone and overlying carbonate aquifer and not the 10,000 stated by the Consultant.

Section 4.2.3.6 provided information from three private water wells that were sampled for groundwater characterization. Two of the three analysis were most likely sampled after running through a water softener and are of little value in characterizing the carbonate water quality. It should be ensured that future water quality sampling is from a 'raw', untreated source.

Table 4.8 includes dissolved oxygen and ORP pre and post testing from select wells. However, it is not apparent whether there was water quality testing completed on the return water after sand separation during initial production testing (Sctn. 7.2.2). Knowing the DO concentration of the injection water may be beneficial in equilibrium modeling of the groundwater quality. It is also not apparent how bacteria could be introduced during separation and if it would present in the return water and whether UV disinfection would provide adequate treatment with the turbidity of the injection water has not been provided.

Section 6.4/ Figure 6-1 Model domain are along rivers/creeks is not an adequate practise for confined aquifer modeling. These rivers/creeks have a negligible effect on the groundwater flow in the Red River Carbonate and Winnipeg Sandstone aquifers. Confined aquifer model domain has to be based on the analysis of piezometric maps (Figure 9, 10, 11), equipotential lines are not shown or labeled.

Section 6.5 Free surface setting needs to be addressed.

Section 6.6.1 Recharge was assigned to Sandilands area uniformly; according to the surficial geology of Manitoba, organic deposit has the largest coverage over this area, however, its hydraulic property or category is not discussed in neither Section 5 nor 6. This is required to be addressed before assuming the uniform recharge.

Section 6.6.2 Source of DEM information should be provided. The assignment of specified head value in floodways and creeks was not discussed.

Section 6.6.4 Insufficient well boundary conditions: other wells below the requirement of water use license having dominant quantity within the model domain are also a vital component that determines the model mass balance. An estimate of average pumping rate based on the function of the well (domestic/irrigation/agriculture), and well distribution density assigning to the center of the section as a compound well to account the mass loss. Steady state calibration revisit is suggested.

Section 6.7 2534 snapshot head observations from GIN were adopted as the target for steady state calibration. In order to strategically feed for calibration, it is a necessary practise to show the statistics, such as observation intervals, formations, and ownership. Taking this as a basis, then weighing the data by quality, assigning maximum weight to data from provincial monitoring stations, etc.

Calibration guideline reference is missing in the report.

Appendix A3, Figure 6.2 shows the steady-state model generally over-predicts the observed hydraulic heads (average over-prediction: 3.27 m). The proponent defines that as “While simulated groundwater levels are generally in agreement with observed groundwater levels.." and " Results were considered reasonable as calibration statistics are within recommended guidelines." (Appendix A1, page 72). This statement is doubtable, since a numerical model should neither over-predict nor under-predict in general (the mean error should be near to 0). Additionally, the map (Appendix A3, figure 6.3) shows well that most of the observation wells in the conclusion area are also over-predicted. It is likely that the chosen recharge, hydraulic conductivities (and the mentioned uncertainties on the pump rates) and insufficient well boundary conditions are the reason for the errors. Some of the recharge rates seem to be at least at the upper limit. A detailed study on the recharge rates was not carried out.

Section 6.10 The impact of injection productions to the porosity and hydraulic conductivities of Sandstone is not discussed and reflected in the aquifer property change setting. Theoretically, K and porosity increases with the injection ongoing, more rapidly at the injection location, radially slower with increasing distance.

Figure 6-7 & 6-8 shows the drawdown observed in Sandstone aquifer are pulsing shaped with large spikes, which is not normal for constant rate continuous pumping.

Section 6.11 In addition to the comment made on Section 6.10, it is worthy to conduct a sensitivity test on Sandstone porosity to understand its impact to the well-head and model robustness in the prediction scenarios.

Appendix A, Part 4: Minor discrepancies in over burden material depths, drill date and well construction were noticed in some of the borehole logs (BRU 95-6, 95-7 & 95) in the EAP vs the well construction reports submitted by the driller to the Groundwater Management Section.

Please be advised that the review with respect to groundwater conditions is completed based on the information provided by the Consultant. The comments, conclusions & recommendations of the reviewers are solely based on the information provided by others and the Department cannot guarantee that the information that has been provided by others is accurate or complete.

Further Recommendations / Requirements

The claims area may include high static and flowing well conditions. The driller and operator must be prepared to handle flowing well conditions during drilling, operation and sealing. Wells that have high water levels may become flowing in the future and should be sealed as if flowing conditions are present.

It is recommended that the proposed Groundwater Monitoring and Impact Mitigation Plan be in place prior to operation and include monitoring to adequately assess potential impacts on groundwater users. It is recommended that an on the ground survey be conducted for all supply wells that potentially could be impacted. It would be prudent to sample well water for water quality to ensure it is not impacted.

The air used to lift the sand-water mixture must be free of lubricants, hydrocarbons or other chemicals that may impact water quality.

All extraction wells will re-inject water to the aquifer and so will require an Injection Well Permit from Agriculture and Resource Development Water Branch prior to construction.

Groundwater Management Section
Water Branch
Agriculture and Resource Development

Manitoba
Health and Seniors Care
Population and Public Health Branch
4th Floor, 300 Carlton Street, Winnipeg, Manitoba, Canada R3B 3M9
[redacted]
www.manitoba.ca

RE: Public Registry 6119.00 - Silica Sand Extraction Project - CanWhite Sands Corp.

Public Health has reviewed this proposal. The main potential health concern identified is a potential impact on drinking water. There was very little information on ground water use in the area in the report. However, the assessment in the proposal indicates that the potential impact would be very localized. Public Health does not have hydrogeological expertise so we are unable to comment on this assessment.

The following comments are provided for review by the ground water section of the Water Branch to determine if these would be concerns that would be worthwhile to raise:

- The proposal does not contemplate the impact of sustained drought on project operations and on the potential impacts on the drinking water. Could this information be added?
- Does this type of removal of sand result in sink holes or other ground instability? What is the history of using this methodology to mine sand?

Susan Roberecki, MD, FRCPC, MSc.

Medical Officer of Health, Environmental Health