

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPOSAL NAME: Stephenfield Provincial Park Wastewater Treatment Lagoon Upgrades

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CLASS OF DEVELOPMENT: 2

TYPE OF DEVELOPMENT: Wastewater Treatment Lagoon–Waste/Scrap

CLIENT FILE NO.: 651.20

OVERVIEW:

On March 21, 2013 the Department received a Proposal from Stantec on behalf of Manitoba Conservation and Water Stewardship, Parks and Natural Areas Branch pursuant to *The Environment Act* to upgrade the existing Stephenfield Provincial Park Wastewater Treatment Lagoon located on the southwest quarter of Section 36, Township 6, Range 7 WPM in Stephenfield Provincial Park. The proposed alterations to the development consist of construction of a new secondary cell, upgrades to the existing primary and secondary cells, and conversion of the existing secondary cell into a second primary cell. Treated effluent will continue to be discharged between September 15th and October 31st of any year into a discharge ditch that flows into the Stephenfield Reservoir on the Boyne River.

On May 30, 2013, Manitoba Conservation and Water Stewardship placed copies of the Proposal in the Public Registries located at Legislative Library, 200 Vaughan St., Winnipeg; Millennium Public Library, 4th Floor, 251 Donald St., Winnipeg; Manitoba Eco-Network, 3rd Floor, 303 Portage Ave., Winnipeg; Carman Town Office, 12 - 2nd Avenue SW, Carman. Copies of the Proposal were also provided to the Technical Advisory Committee (TAC) members. The Department placed public notification of the Proposal in the Carman Valley Leader on Thursday, May 30, 2013. The newspaper and TAC notifications invited responses until July 2, 2013.

On July 30, 2013, Manitoba Conservation and Water Stewardship forwarded requests for additional information from the TAC to the proponent's consultant. On August 28, 2013, the consultant submitted responses to the comments and requests from the TAC. On October 8, 2013, consultant's responses were distributed to the participating TAC for review and comment.

On November 8, 2013, Manitoba Conservation and Water Stewardship received further comments from the TAC. On November 12, 2013, Manitoba Conservation and Water Stewardship forwarded TAC comments to consultant. On January 3, 2014, Manitoba Conservation and Water Stewardship received responses from the consultant. On January 17, 2014, consultant's responses were distributed to the participating TAC for review and comment.

All additional information necessary for the review was placed in the Public Registries.

COMMENTS FROM THE PUBLIC:

No comments were received from the public.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE (TAC):

Manitoba Labour and Immigration - Office of the Fire Commissioner (June 24, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship – Environmental Program and Strategies Branch- Air Quality Section (June 19, 2013)

- *No concerns*

Manitoba Infrastructure and Transportation– Highway Planning and Design Branch, Environmental Services Section (June 10, 2013)

- *No concerns*

Manitoba Agriculture, Food and Rural Development - Land Use and Policy (June 4, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship - Water Control Works and Drainage Licensing Section (June 3, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship - Watersheds and Protected Areas Branch (July 2, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship – Environmental Compliance and Enforcement (July 4, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship - Lands Branch (July 2, 2013)

- *The Lands Branch notes that this is a Parks and Natural Areas initiative involving lands under the Administration and Control of Parks. The Conclusion, number 11 on page 25 should be considered as an additional component to the overall plan.*

Proponent Response (August 28, 2013)

- The Conclusion, item number 11 on page 25, will be considered as an additional component to the overall design.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Lands Branch.

Manitoba Conservation and Water Stewardship, Fisheries Science and Fish Culture Section, Fisheries Branch (June 21, 2013)

- *Fisheries Branch has reviewed this proposal to upgrades to the wastewater treatment lagoon at Stephenfield Provincial Park in SW 36-6-7 W. The upgrades include the construction of a new synthetic lined secondary cell, raising the synthetic liners in the existing two cells and relining the outfall ditch with imported clay or synthetic liner. The effluent release time will remain between September 15th and October 31st. The proponents indicate that appropriate sediment control measures will be implemented during the construction until the site has stabilized and the RM will monitor phosphorous and nitrogen.*
- *Stephenfield Reservoir provides year round habitat for a number of small bodied and recreationally important large bodied fish species (northern pike, yellow perch and walleye). It is important that the effluent meet or exceed Manitoba Water Quality Standards, Objectives and Guidelines and in this matter we defer to the recommendation of our colleagues in Water Science management. We would support the requirement for a post monitoring clause as well as a clause respecting the implementation of erosion and sediment control measures to ensure sediment does not enter the lake during lagoon construction and upgrade and the relining of the discharge ditch.*

Proponent Response (August 28, 2013)

- The requested post monitoring clause can be provided in the Licence as well as a clause respecting erosion and sediment control during construction.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Fisheries Branch.

Manitoba Conservation and Water Stewardship – Office of Drinking Water (June 28, 2013)

- *Two points which can be noted are:*
 - *The Stephenfield Regional Water Treatment Plant is located on the north side of the park and draws its raw water from the lake directly across from the lagoon outfall.*

- *The Town of Carman, located approximately 20 miles east of Stephenfield Provincial Park, draws the raw water for its public water system from the Boyne River.*
- *While the chance of major contamination of either water system from effluent from the lagoon system is small, an accidental major spill from the lagoons could potentially cause contamination of these water supplies. As such, Office of Drinking Water recommends contact information for both the Stephenfield Regional Water Treatment Plant and the Town of Carman Water treatment Plant be included in the operating manual for the Stephenfield Park lagoon system with instructions that ,in the event of a major spill from the lagoons, the operators of the two water treatment plants be informed.*

Proponent Response (August 28, 2013)

- The requested contact information for the two Water Treatment Plants mentioned will be included in the lagoon operating manual, with respect to a potential major spill

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Office of Drinking Water.

Manitoba Conservation and Water Stewardship, Water Quality Management Section, Water Science and Management Branch (June 12, 2013)

- *The following effluent standards should be in place for Stephenfield Provincial Park wastewater lagoon as per the Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011).*
 - *BOD₅ 25 mg/L*
 - *TSS 25 mg/L*
 - *Fecal Coliforms 200 MPN / 100mL*
 - *TP < 1 mg/L*
- *The Manitoba Water Quality Standards, Objectives and Guidelines Regulation requires new or expanding wastewater treatment facilities to meet a < 1 mg/L phosphorus limit. Can the proponent please indicate how the < 1 mg/L phosphorus limit will be achieved?*
- *Has the proponent considered an alternate discharge point or method of discharge? The Stephenfield Reservoir and the Boyne River are listed as vulnerable water bodies in the Nutrient Management Regulation (62/2008). Additionally, total phosphorous concentrations in the Boyne River at Carman have been increasing (Long term trends in Total Nitrogen and Total*

Phosphorus Concentrations in Manitoba Streams, Jones and Armstrong, 2001).

- *Can the proponent please provide a map with a line drawing of the discharge route?*
- *The Water Quality Management Section is concerned with any discharges that have the potential to impact the aquatic environment and/or restrict present and future uses of the water. Therefore it is recommended that the license require the proponent to actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director.*

Proponent Response (August 28, 2013)

- The effluent standards mentioned shall be met.
- The secondary cell will be isolated and tested prior to discharge. If the cell does not meet the phosphorus limit of < 1 mg/L then a calculated amount chemical coagulant such as alum will be added to the cell and dispersed using an outboard motor boat. The coagulated P will settle to the bottom in approximately a day and the cell will be retested. This procedure will be repeated until the acceptable limit is reached. Upon reaching the acceptable limit, the cell will be discharged. Test kits are available which could be kept on site.
- The proponent has considered an alternate discharge point to the east, directly downstream of the Stephenfield Lake outfall structure, as shown on the map in the EAP. However, this alternate location is significantly expensive due to the drop structure required on the downstream side. This alternative will be further considered at the design stage. The existing treated effluent discharge ditch drains from the existing secondary cell north 150 m into a small creek and from there 150 m north to Stephenfield Lake, as shown on the attached map.
- The Licence proponent will actively participate in any future watershed based management study, plan / or nutrient reduction program, as approved by the Director.

Further Comment (November 8, 2013)

- *The Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011) requires new or expanding wastewater treatment facilities to meet < 1 mg/L phosphorus limit or a demonstrated nutrient reduction strategy. The Manitoba Water Quality Standards, Objectives and Guidelines Regulation also requires facilities owned by the provincial government to meet <1 mg/L phosphorus.*

- *Can the proponent please assess effluent irrigation / land application of the effluent?*

The proponent has proposed to release effluent into the Stephenfield Reservoir using ALUM to meet a < 1 mg/L phosphorus limit. However, using a nutrient reduction strategy such as effluent irrigation / land application method can be another way to mitigate the effects of effluent on the Stephenfield Reservoir and equivalent to meeting <1 mg/L phosphorus limit.

The Stephenfield Reservoir is designated a vulnerable waterbody in the Nutrient Management Regulation (62/2008). In addition, it is usually considered more cost effective to protect source water than treat it for potability. From the Stephenfield Lake Watershed Management Plan: "Stephenfield Lake often experiences heavy summer algae blooms that negatively affect recreation and require expensive treatment for potable water supply at the Stephenfield Lake water treatment plant." (Reference: http://www.gov.mb.ca/waterstewardship/reports/watershed/stephenfield_wmp_2005-06.pdf).

Furthermore, an Environment Act proposal should include an assessment of nutrient reduction strategies. These strategies should include but are not limited to:

- *Effluent irrigation / land application*
- *Alternative lagoon design, operation and storage capacity including trickle discharge and vegetation harvesting*
- *Constructed wetlands*
- *Chemical treatment*

Proponent Response (January 3, 2014)

- The phosphorus limit of <1 mg/L will be met as previously confirmed in our letter of August 26, 2013.
- The treated effluent quality will be significantly improved after upgrading and will meet both organic and hydraulic loading requirements, which it does not currently meet. The upgraded treated effluent will not be a factor in causing heavy algae blooms as no treated effluent will be discharged during the summer. The use of alum for phosphorus reduction would only be if required, and it is not expected that it will be required at this time. There is no land owned by the Park were treated effluent could be used for effluent irrigation/land application. The operating cost for effluent irrigation/land application would be very substantial and it would be in addition to the upgrade costs outlined in the Stantec EAP document. Therefore, effluent irrigation/land application is not considered necessary or feasible.

- Again, we expect the nutrient levels to meet Provincial requirements as stated above. Therefore, nutrient reduction would not be required. A constructed wetland is not considered feasible as there is no Park land available and the capital cost would be prohibitive as this cost is in addition to the lagoon upgrade costs. Vegetation harvesting is part of the required operating procedures and the Park will remove vegetation if and as required. There are no alternative lagoon designs, including trickle discharge, that are considered appropriate or feasible for this lagoon. Chemical treatment, other than potentially alum for phosphorus removal, is not expected to be appropriate.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Water Science and Management Branch.
- The draft Licence includes effluent quality discharge criteria in accordance with the Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011).
- The draft Licence includes a clause that requires the Licencee to actively participate in any current or future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for the Stephenfield Reservoir and the Boyne River and/or associated waterways and watersheds.

COMMENTS FROM FEDERAL REPRESENTATION:

- The application of the *Canadian Environmental Assessment Act (the Act)* will not be required for this project.

PUBLIC HEARING:

- A public hearing is not recommended because no comments were received from the public for public hearing.

CROWN-ABORIGINAL CONSULTATION:

The Government of Manitoba recognizes it has a duty to consult in a meaningful way with First Nations, Métis communities and other Aboriginal communities when any proposed provincial law, regulation, decision or action may infringe upon or adversely affect the exercise of a treaty or Aboriginal right of that First Nation, Métis community or other Aboriginal community.

There is no aboriginal community nearby the lagoon and would be no infringement of aboriginal or treaty rights under Section 35 of the Constitution Act, 1982. Therefore, it is concluded that Crown-Aboriginal consultation is not required for the project.

RECOMMENDATION:

The Proponent should be issued a Licence for the expansion and operation of the existing wastewater treatment lagoon in accordance with the specifications, limits, terms and conditions of the attached draft Licence. Enforcement of the Licence should be assigned to the Environmental Approvals Branch until the liner testing has been completed and the Development is commissioned.

PREPARED BY:

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