

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Rural Municipality of La Broquerie
PROPOSAL NAME: Wastewater Treatment Lagoon Upgrade
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Wastewater Treatment Lagoon
CLIENT FILE NO.: 2833.20

OVERVIEW:

On December 19, 2014, the Department received an Environment Act Proposal (EAP) on behalf of the Rural Municipality of La Broquerie for the upgrade of an existing wastewater treatment lagoon located in the north half of 31-6-8 EPM in the Rural Municipality of La Broquerie. The upgrade consists of the addition of two aeration cells and a building to house an office, aeration system blowers, disinfection and nutrient reduction components as components of the wastewater treatment plant, and other related ancillary components for the upgraded wastewater treatment lagoon. The upgrade also includes raising the dykes of the two southmost cells of the existing wastewater treatment lagoon by 1.0 metre to increase storage capacity. Treated wastewater from the aerated wastewater treatment lagoon or wastewater treatment plant may be discharged between April 16th and October 31st inclusive of any year to the Seine River that flows to the Red River.

The Department, on January 29, 2014, placed copies of the EAP report in the Public Registries located at the Legislative Library, 200 Vaughn St., Winnipeg; the Millennium Public Library, 4th Floor, 251 Donald St., Winnipeg; and the Online Registry, <http://www.gov.mb.ca/conservation/eal/registries/index.html>, and provided copies of the EAP report to the TAC members. As well, the Department placed public notifications of the EAP in the Steinbach Carillon News on Thursday, January 29, 2015. The newspaper and TAC notifications invited responses until February 26, 2015.

On March 18, 2015, Manitoba Conservation and Water Stewardship forwarded five TAC correspondence items to the proponent's consultant for response. There were no comments or requests for additional information presented by the public.

On March 20, 2015, Manitoba Conservation and Water Stewardship submitted all ten of the responses from the TAC members to the appropriate Public Registries.

In a March 20, 2015 letter, the proponent's consultant provided responses to the TAC correspondences. The letter was forwarded to the participating TAC members on March 26, 2015 as appropriate. There were no additional requests for information.

COMMENTS FROM THE PUBLIC:

There were no comments from the public.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Environmental Compliance and Enforcement Branch – Conservation and Water Stewardship

- *The EAP indicates that effluent sampling will be completed prior to discharging the storage cells. However, during summer months it is proposed to discharge effluent directly from the sewage treatment plant to the Seine River, which we assume will be a continuous discharge. The EAP does not include discussion regarding sampling and monitoring during the direct discharge period to ensure compliance with effluent quality requirements.*
- *The EAP indicates likely infiltration into the wastewater collection system in spring and after high precipitation events, resulting in higher than average hydraulic loading but does not include any mitigation measures. Are there any measures in place or planned to address infiltration?*
- *Does the Rural Municipality have plans to extend the wastewater collection system to service existing rural developments, and if so, was this potential increase in hydraulic loading factored into the design?*
- *Conservation and Water Stewardship recommends a wastewater treatment lagoon be situated at least 300 meters from the nearest individual residence and 460 meters from any center of population. The proposed location of the new aerated primary cells is significantly closer to the nearest residence and the LUD of La Broquerie. Although the proposal indicates that with constant aeration, there are no concerns expected with the location of the expansion cells, the proponent should be prepared to implement additional mitigative measures should noise or odour become an issue for nearby residences in the future.*

Proponent Response – March 20, 2015:

- During periods of continuous discharge from the sewage treatment building the facility will follow the 2012 Federal Wastewater Systems Effluent Regulations regarding sampling frequency. The design flow rate is less than 2,500 m³/day and therefore a grab or composite sample will be taken monthly and at least 10 days after any other sample.
- The RM of La Broquerie is currently monitoring daily lift station readings to assess the need for infiltration reduction measures. The RM have addressed individual homeowners to prevent rainwater from being discharged into the sewer system through weeping tile to sump pump outfalls.
- The Community of La Broquerie obtains water from individual wells and water consumption data is not available. Based on past experience, water consumption will range from 250 – 350 L/person/day in Manitoba. It is assumed that water consumption rates would be on the high end for Manitoba communities because households are not charged for the amount of water used. The average per capita wastewater production rate is 372 L/person/day showing that the infiltration is likely not a significant portion

of the wastewater production as any municipal sewer system will experience some infiltration.

- The hydraulic loading calculations in the EAP separate the growth expected on the piped system from rural residents who will be serviced by truck haul only and not connected to the piped system.
- The aerated lagoon cells minimize odours by maintaining aerobic conditions in the cells year-round. The storage cells will contain effluent that has been aerated so the impact of spring ice break up and turn-over on the surrounding residents would have a lessened effect compared to the existing facultative lagoon with effluent stored over the winter. The aeration blowers have self-contained sound attenuation enclosures and the sewage treatment building will be insulated for additional noise reduction. If noise or odour becomes an issue for nearby residents, mitigation measures will be investigated and implemented as required.

Disposition:

- The draft Environment Act Licence contains clauses that requires that the Licencee shall, when discharging Storage Cell No. 2 or No. 4 to the discharge route, prior to each effluent discharge campaign obtain grab samples of the effluent and have the samples analyzed for:
 - a) organic content as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD₅) and expressed as milligrams per litre;
 - b) fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
 - c) total phosphorus content expressed as milligrams per litre;
 - d) total suspended solids content expressed as milligrams per litre;
 - e) unionized ammonia expressed as nitrogen (N) expressed as milligrams per litre;
 - f) total ammonia expressed as nitrogen (N) expressed as milligrams per litre;
 - g) pH; and
 - h) temperature.
- The draft Environment Act Licence contains clauses that requires that the Licencee shall, when discharging through the wastewater treatment building, take grab samples of effluent from the effluent monitoring station once each week and have them analyzed for:
 - a) fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample; and
 - b) total phosphorus content expressed as milligrams per litre.
- The draft Environment Act Licence contains clauses that requires that the Licencee shall, when discharging through the wastewater treatment building, take grab samples of effluent from the effluent monitoring station once each month and have them analyzed for:
 - a) organic content as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD₅) and expressed as milligrams per litre;
 - b) total suspended solids content expressed as milligrams per litre;
 - c) total ammonia expressed as nitrogen (N) as milligrams per litre;

- d) pH; and
 - e) temperature.
- The draft Environment Act Licence contains a clause that requires that the Licencee shall, during each effluent discharge campaign that occurs in the months of April and May and in the first fifteen days of the month of June, take grab samples of effluent from the effluent monitoring station once each day and have them analyzed for:
 - a) total ammonia expressed as nitrogen (N) as milligrams per litre;
 - b) temperature; and
 - c) pH.
 - The draft Environment Act Licence contains a clause that requires that the Licencee shall, for a period of at least three years following the commencement of operation of the aerated wastewater treatment lagoon or wastewater treatment plant under this Licence, during each effluent discharge campaign that occurs in the months of April, May and June, obtain samples of water from the Seine River upstream and downstream of the Seine River's confluence with the lagoon discharge ditch and have them analyzed for:
 - a) total ammonia expressed as nitrogen (N) as milligrams per litre;
 - b) field temperatures; and
 - c) field pH.
 - The draft Environment Act Licence contains a clause regarding odour nuisance.

Environmental Services Section – Infrastructure and Transportation

February 2, 2015

- *MIT has reviewed the proposal under the Environment Act noted above and we do not have any concern.*

However, should any of the works change or the existing access requires any work, under The Highways and Transportation Act, permits are required from MIT for:

- *any new, modified or relocated access to PR 210 (Main Street) or PR 302;*
- *any structures (including advertising signs, wells, septic fields, etc.) on, under or above the ground within the 38.1 meter (125 if) Controlled Area adjacent to PR 210 (Main Street) or PR 302;*
- *discharging of water or other liquid materials into a ditch of PR 210 (Main Street) or PR 302; or*
- *placing any trees or plantings within 15.2 metres (50 feet) of the edge of right-of-way of PR 210 (Main Street) or PR 302.*

Proponent Response – March 20, 2015:

- If any works are proposed within the Controlled Area around PR 210 or PR 302, a permit will be obtained from MIT.

February 19, 2015

- *In addition to the comments sent on February 2, 2015, MIT's Water Management, Planning and Standards Branch has the following concern: The proposed lagoon expansion is situated upon lands west of the existing lagoon, between the lagoon and a local waterway known as Drain "A" (see attached). Drain "A" is a designated provincial waterway for operational and maintenance purposes.*

While there is no Right-of-Way along Drain "A", Water Management recommends that in order to provide access to the east side of the drain for maintenance and operational purposes, the outside toe of the lagoon dikes not be any closer than 10 metres from the top of the embankment of Drain "A". This offset distance is also being requested for the area of the aeration building and the truck turnaround area.

We also recommend against any construction within 10 metres of the top of the embankment of Drain "A".

Any works within, or discharge into Drain "A" will require that the proponent apply for a Provincial Waterway Authorization, in accordance with Section 14(4) of The Water Resources Administration Act.

Proponent Response – March 20, 2015:

- No construction will occur 10 m from the top of the embankment of Drain "A".

Office of Drinking Water – Conservation and Water Stewardship

- *No concern respecting drinking water quality or safety. The EAP notes the lagoon treated effluent discharge will be to the Seine River, which is not used as a source for any drinking water system.*

Office of the Fire Commissioner – Family Services and Labour

- *The Office of the Fire Commissioner recommends that a building permit and an occupancy permit be obtained for the office & sewage treatment building. The Authority having jurisdiction for building and occupancy permits is the RM of La Broquerie.*

Proponent Response – February 19, 2015:

- A building and occupancy permit will be obtained from the Office of the Fire Commissioner.

Parks and Protected Spaces Branch – Conservation and Water Stewardship

- *No concerns.*

Water Control Works and Drainage Licensing Section – Conservation and Water Stewardship

- *Any water control works (drains, culverts, dykes, dams, etc.) associated with this project will require licensing under the Water Rights Act – an application is attached for the proponent’s convenience. Any inquiries in this regard may be directed to the local Water Resource Officer. Their contact information may be found at:*

http://www.gov.mb.ca/conservation/waterstewardship/licensing/pdf/areas_of_focus_jan_23_12.pdf

Proponent Response – March 20, 2015:

- Prior to construction of any new culverts or drains, an application to the Manitoba Water Stewardship would be submitted, if required.

Air Quality – Environmental Programs and Strategies – Conservation and Water Stewardship

- *The proposal is not expected to have a significant impact on air quality provided that the measures cited are implemented.*
- *The odour clause is suggested to be included in the License.*

Disposition:

- The draft Environment Act Licence contains a clause regarding odour nuisance.

Municipal Government

- *No concerns.*

Lands Branch – Conservation and Water Stewardship

- *No concerns.*

Water Science and Management Branch – Conservation and Water Stewardship

February 11, 2015

- *The following effluent standards should be in place for the RM of La Broquerie wastewater treatment lagoon upgrade as per the Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011).*
 - *cBOD 25 mg/L,*
 - *TSS 25 mg/L,*
 - *Fecal Coliforms or Escherichia coli 200 MPN / 100mL,*
 - *Total phosphorus <1 mg/L,*
 - *Ammonia concentrations as outlined in Table 1 of Manitoba Water Quality Standards, Objectives, and Guidelines using Equation 3 and based on effluent pH.*

<i>Effluent pH</i>	<i>Effluent, Total Ammonia expressed as N, (mg/L)</i>
6.50	48.83
6.60	46.84
6.70	44.57
6.80	42.00
6.90	39.16
7.00	36.09
7.10	32.86
7.20	29.54
7.30	26.21
7.40	22.97
7.50	19.89
7.60	17.03
7.70	14.44
7.80	12.14
7.90	10.13
8.00	8.41
8.10	6.95
8.20	5.73
8.30	4.71
8.40	3.88
8.50	3.20
8.60	2.65
8.70	2.20
8.80	1.84
8.90	1.56
9.00	1.32

- *For discharges occurring in April from an aerated lagoon a testing frequency should be required in accordance with the frequency required for similar sized wastewater treatment plants. The Water Quality Management Section recommends that for discharges in April, the Proponent be required to collecting a daily grab sample of the effluent at the final discharge point, during the discharge period, and analyse for:*
 - *pH*
 - *temperature (field)*
 - *total ammonia (expressed as mg/L of N)*
- *The average total ammonia as N in the Seine upstream of the lagoon is low (0.116 mg/L) and the average un-ionised ammonia as N in April is*

(0.0012 mg/L) The Water Quality Management Section recommends that for a period of 3 years the proponent be required to collect grab samples for total ammonia as N, temperature, and pH upstream and downstream of the lagoon in the Seine River.

- *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 Responses – March 20, 2015:

- To address the total ammonia as N being discharged from the facility, an acid feed will be installed to allow pH adjustment in the effluent. By completing the pH adjustment during times of continuous discharge, the effluent will be in compliance with Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011) using Equation 3 based on effluent pH.
- During periods of continuous discharge from the sewage treatment building the facility will follow the 2012 Federal Wastewater Systems Effluent Regulations regarding sampling frequency. The design flow rate is less than 2,500 m³/day and therefore a grab or composite sample will be taken monthly and at least 10 days after any other sample.
- The proponent will actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director.

March 26, 2015

- *To ensure the discharge is meeting ammonia guidelines as per the Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011). The Water Quality Management Section recommends that for discharges in April, the Proponent be required to collect a daily grab sample of the effluent at the final discharge point, during the discharge period, and analyse for:*
 - *pH*
 - *temperature (field)*
 - *total ammonia (expressed as mg/L of N).*

Disposition:

- The draft Environment Act Licence contains clauses that requires that the Licencee shall, when discharging Storage Cell No. 2 or No. 4 to the discharge route, prior to each effluent discharge campaign obtain grab samples of the effluent and have the samples analyzed for:
 - a) organic content as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD₅) and expressed as milligrams per litre;

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 - c) total phosphorus content expressed as milligrams per litre;
 - d) total suspended solids content expressed as milligrams per litre;
 - e) unionized ammonia expressed as nitrogen (N) expressed as milligrams per litre;
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 - f) organic content as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD₅) and expressed as milligrams per litre;
 - g) total suspended solids content expressed as milligrams per litre;
 - h) total ammonia expressed as nitrogen (N) as milligrams per litre;
 - i) pH; and
 - j) temperature.

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 - a) total ammonia expressed as nitrogen (N) as milligrams per litre;
 - b) field temperatures; and
 - c) field pH.

- The draft Environment Act Licence contains a clause that requires that the Licencee actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director.

PUBLIC HEARING:

A public hearing has not been requested.

CROWN-INDIGENOUS CONSULTATION

The Government of Manitoba recognizes it has a duty to consult in a meaningful way with Indigenous communities when any proposed provincial law, regulation, decision or action may infringe upon or adversely affect the exercise of the Indigenous rights of that community.

This project involves the construction and operation of an expanded wastewater treatment lagoon on a portion of land owned by the Rural Municipality of La Broquerie. No impact is anticipated on Indigenous rights and it is concluded that Crown-Indigenous consultation is not required for the project.

RECOMMENDATION:

Issue an Environment Act Licence in accordance with the attached draft. Enforcement of the Licence clauses that relate to construction of the new cells should be assigned to the Environmental Approvals Branch until testing of the soil liners of each new cell and each

altered previously existing cell has been completed. The Licence should be jointly enforced by the Environmental Approvals and the Environmental Compliance and Enforcement Branches as appropriate and as each component of the Development is implemented.

PREPARED BY:

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January 14, 2016

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