

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Rural Municipality of Macdonald
NAME OF DEVELOPMENT: R.M. of Macdonald – Community of Sanford
Wastewater Stabilization Pond Expansion
CLASS OF DEVELOPMENT: Two
TYPE OF DEVELOPMENT: Wastewater Treatment Lagoon
CLIENT FILE NO.: 1921.10

OVERVIEW:

The Proposal was received on June 12, 2015. The advertisement of the proposal was as follows:

“A proposal was filed by the Rural Municipality of Macdonald for the expansion of Sanford’s existing wastewater treatment lagoon that is located on NW-17-8-1 EPM in the Rural Municipality of Macdonald. The proposed development consists of the following: converting the existing secondary cell to a primary cell; converting the existing primary cell to secondary cell; and construction of an additional storage cell that will be located adjacent to and east of the existing two-cell wastewater treatment lagoon. Treated wastewater from the wastewater treatment lagoon will be discharged between June 15th and November 1st of any year via Kosc Coulee to the La Salle River.”

The Proposal was advertised in Winnipeg Free Press on Saturday, August 8, 2015. It was also placed in the Legislative Library, the Millennium Public Library and in the online public registry.

The Proposal was distributed to TAC members on August 6, 2015 with a comment due date of August 24, 2015.

The closing date for comments from members of the public was September 8, 2015.

COMMENTS FROM THE PUBLIC

No public comments were received.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE

Manitoba Conservation and Water Stewardship –Water Use Licensing Section

No concerns

Manitoba Conservation and Water Stewardship -Water Control Works and Drainage Licensing Section

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/officer_areas_of_focus_30mar2015.pdf

Disposition: The above information was forwarded to the project consultant for information purposes on October 19, 2015.

Manitoba Conservation and Water Stewardship –Parks and Protected Spaces

No comments or concerns.

Manitoba Conservation and Water Stewardship –Wildlife and Fisheries

No wildlife related concerns.

Manitoba Infrastructure and Transportation- Highway Planning and Design Branch

No concern.

Office of the Fire Commissioner

No concerns or comments.

Manitoba Agriculture, Food and Rural Development- Crops

No concern.

Manitoba Conservation and Water Stewardship –Lands

No concerns

Manitoba Conservation and Water Stewardship- Office of Drinking Water

No concerns.

Manitoba Conservation and Water Stewardship –Air Quality

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

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

Manitoba Conservation and Water Stewardship- Environmental Compliance and Enforcement

- *A recent inspection indicates that there may be a former truck haul area at the lagoon. The Environment Act Proposal indicates that this lagoon does not receive truck-hauled sewage or wastewater. If this is the case the former truck haul station should be removed or assessed.*
- *It is acknowledged within the Environment Act Proposal that a petroleum-impacted soil treatment facility was located on the land at which the expanded lagoon cell will be constructed. Plans are to remove existing petroleum-impacted soils and use as fill or cover at the adjacent Sanford waste disposal ground.*

A request for approval to dispose of this soil at the Sanford waste disposal ground was made by Stantec on behalf of the Rural Municipality of Macdonald on April 10, 2015. It was accompanied by a Stantec report entitled Soil Sampling Program at the Sanford Soil Treatment Facility, Rural Municipality of Macdonald, Manitoba which indicated that the petroleum content of some soils exceeded Manitoba's Criteria for Acceptance at a Waste Disposal Ground. Therefore, the Department issued the attached May 15, 2015 letter stating that further soil treatment would be required. The proponent is requested to provide further information and/or rationale that would justify use of the subject soil at the waste disposal ground.

Manitoba Conservation and Water Stewardship concurs that stripping 600 mm of soil within the former soil treatment cell area will likely ensure that petroleum-impacted soils have been removed prior to construction of the new lagoon cell. The Department requests that a site decommissioning report including confirmatory soil sampling be submitted for approval in accordance with section 7.0 of Manitoba's Treatment and Disposal of Petroleum Contaminated Soil guideline.

Additional Information Request: A request for additional information was sent out to the project consultant on October 19, 2015.

Project Consultant's Response (received on January 22, 2016):

- A letter dated December 23, 2015 from Ms. Yvonne Hawryliuk, Environment Officer to Mr. Grant Baker, Manager of Public Works for the R.M. of Macdonald, summarized the information on the quality of the petroleum-impacted soils, which is located on the lands where the expanded lagoon cell will be conducted and concluded that further treatment, sampling and testing is required on these soils for PHC Fraction F2. This letter has been attached for your reference.

- The R.M. of Macdonald will continue to treat the petroleum-impacted soils during the spring of 2016 and will sample and test the soils before the construction of the new lagoon cell. Once the additional treatment, sampling and testing of the soils are completed, the R.M. of Macdonald will submit the results to CWS. If the results indicate that these soils meet the applicable CCME guidelines the R.M. will reapply to utilize these soils as cover in the adjacent waste disposal grounds. The R.M. of Macdonald will continue to treat the soil until these soils meet the CCME guidelines.
- Ultimately, this should not impact the construction of the expanded lagoon, as there is a sufficient amount of time to continue to treat, sample and test the soils before construction of the expanded lagoon, which is expected to take place during the summer/fall of 2016. The upper 600 mm of soil within the soil treatment area will still be stripped prior to the construction of the new secondary cell.

Disposition:

- The above information from the Proponent's consultant was forwarded to the Environmental Compliance and Enforcement Section (ECE) on February 12, 2016 and no further comment was received from ECE.
- A clause has been added in the draft licence that states that the Licencee shall treat the petroleum-impacted soils on the lands where the expanded lagoon cell will be constructed, shall sample and test the treated soils, and shall report the test results along with a site decommissioning report to the Director, in writing or in a format acceptable to the Director, for approval prior to the construction of Secondary Cell No. 2 as identified in Schedule "A".

Manitoba Conservation and water Stewardship- Approvals Branch

- It was mentioned in the Environment Act Proposal (EAP) that the lagoon does not receive outside truck hauled wastewater and septage. During a recent site inspection of this wastewater treatment facility by our Environment Officer, it appeared that there is an existing truck dump access ramp in a state of compromised structural integrity. Therefore, please update the engineering drawing(s) with the existing truck haul location, submit to us a decommissioning plan of the truck dump access ramp, and provide us an engineering report on the structural integrity of the liner where the truck dump access ramp is currently located. In addition, please update your engineering drawing(s) with the liner information on the existing Primary Cell No 1 and Secondary Cell No. 1.
- According to the EAP, the scope of the project includes converting the existing primary cell to secondary cell. As the Community of Sanford wastewater treatment facility was commissioned around 35 years ago, it is our understanding that there will be significant amount of sludge in the existing primary cell. Please submit to us a sludge management plan.

- Please submit to us a decommissioning plan for the existing discharge pipe and gate valve located on the south dyke of the existing Secondary Cell No. 1. Please update your engineering drawing(s) accordingly.
- Please update your engineering drawing(s) with splash pad details.
- Please comment on whether you are considering using thrust block(s) to support installations of proposed gate valves.
- Please comment on the construction method that will be used for installation of intercell pipes. Please update your engineering drawing(s) accordingly.
- Treated soil to be used as cover at the waste disposal ground must meet industrial guidelines. Please follow the web link below.

http://www.gov.mb.ca/conservation/envprograms/contams/pdf/guidelines/criteria_acceptance_contaminated_soil_licensed_grounds_e.pdf

Additional Information Request: A request for additional information was sent out to the proponent's consultant on October 19, 2015; in addition, a web link with information on the use of treated soil as a cover material for the waste disposal ground was forwarded to the project consultant for information purposes on October 19, 2015.

Project Consultant's Response (received on January 22, 2016):

- **Decommissioning Plan for Existing Truck Dump Ramp:** The condition of the clay liner around and underneath the existing truck dump ramp is unknown at this time. From the review conducted by WSP during the spring of 2015, the dyke slope around the truck dump ramp is partially eroded and therefore the clay liner is potentially eroded as well. We propose the following actions to decommission the existing truck dump ramp and to satisfy the requirement of a 1 m clay liner.

During the construction of the expanded lagoon, the existing primary cell will be lowered, exposing the area around the truck dump ramp. At that time, the truck dump ramp and all associated material will be removed and disposed and the existing clay liner will be reviewed to determine the depth of this liner. The partially eroded dyke slope will then be repaired to a 4H:1V slope utilizing the high-plasticity clay.

The attached engineering drawings C02-ISS2 and C03-ISS2 have been updated with the location of the existing truck dump ramp, as well as the liner information for the existing primary and secondary cells.

Disposition: The draft Environment Act Licence contains a clause that requires that the Licencee shall remove the existing truck dump ramp in the Converted Secondary Cell No. 1 and shall repair any damaged clay liner under the existing truck dump ramp located in the Converted Secondary Cell No. 1 in accordance with the proposal submitted on January 22, 2016. The Record drawings should be updated accordingly.

- **Sludge Management Plan for the Existing Primary Cell:** The Sanford Lagoon has been in service for the past 35 years and has only received domestic wastewater over its lifespan. At the time when the EAP was submitted, there was no indication from the R.M. of Macdonald and from the site reviews done by WSP that there was a significant amount (greater than the dead storage depth of 0.3 m) of sludge build-up within the existing primary cell. Consequently, no sludge depth survey was conducted on the primary cell to calculate the amount of sludge within the cell.

Without properly quantifying the amount of sludge in the cell, an appropriate sludge management plan cannot be enacted. Thus, we propose the following plan to identify and measure the sludge in the existing primary cell. With the construction of a new secondary cell and the conversion of the existing secondary cell to a primary cell, this will allow the existing primary cell to be properly lowered and drained as much as possible. Once this cell has been drained, a proper sludge depth survey can take place to identify the depth and quantity of sludge. After the quantity and depth of sludge is identified, an appropriate sludge management plan can be enacted.

If the quantity and depth of sludge is found to be significant (greater than 0.3 m depth), this cell can be removed from service, as the remaining two cells can easily accommodate the wastewater generation from the current population of Sanford. With this cell removed from service, it can be appropriately de-sludged.

Disposition: The draft licence will contain a clause that will require the licensee to submit a report on impact of sludge buildup on the total operating depth of the wastewater treatment lagoon along with a complete assessment of options for the beneficial reuse of sludge including details of the sampling and analysis results, and proposed actions relative to the ultimate disposal of the sewage sludge.

- **Decommissioning Plan for the Existing Discharge Pipe and Gate Valve at the South End of the Existing Secondary Cell:** The existing south discharge pipe will be capped on both ends of the pipe and the valve will remain in a closed position. Drawings C02-ISS2 and C03-ISS2 have been updated accordingly.

Disposition: The above proposal is acceptable.

- **Splash Pad Details:** Drawings C02-ISS2 and C03-ISS2 have been updated accordingly.

Disposition: The submitted design drawings are acceptable.

- **Thrust Block Details:** All new gate valves are supported by a 600 mm x 600 mm x 150 mm concrete block. Drawings C02-ISS2 and C03-ISS2 have been updated

accordingly.

Disposition: The above design consideration for the proposed thrust block details is acceptable.

- **Installation of Inter-Cell Pipes:** The new inter-cell pipe connection will be installed similarly to any new pipe installation. A trench shall be excavated and the bottom of the excavation shall be maintained in a condition to permit the proper installation of the pipe. Once the piping and gate valve are installed to specification, clay bentonite is placed and compacted a minimum of 150 mm around the new piping where it passes through the 1 m clay liner, and the trench is backfilled with clay material and compacted in 150 mm lifts to 95% Standard Proctor dry density. Drawings C02-ISS2 and C03-ISS2 have been updated accordingly.

Disposition: The above explanation and amendments are acceptable.

Project Consultant's Response (received on March 14, 2016):

This letter intends to address and clarify a paragraph in the EAP regarding the hauling of outside septage and wastewater to the Sanford Lagoon. The 4th, 5th and 6th lines in the 2nd paragraph of Section 3.1, Pg. 5, reads:

“This lagoon does not receive truck-hauled septage or wastewater. The Oak Bluff Lagoon is the designated municipal lagoon to receive outside truck-hauled wastewater and septage.”

This should read as follows:

“This lagoon does not receive outside truck-hauled septage or wastewater. The Oak Bluff Lagoon is the designated municipal lagoon to receive outside truck- hauled wastewater and septage.”

The existing Sanford Lagoon receives truck-hauled wastewater from only the Community of Sanford. The Lagoon receives the liquid portion of the wastewater from the Community's low-pressure sewer system via a lift station and forcemain. The solids portion of the wastewater collects in septic tanks, which are emptied and hauled to the Lagoon once a year during the summer months.

Disposition: The above stated amendments are acceptable.

Additional Information Request: A request updating the design calculations for organic loading with the organic loading contribution from septage was sent out to the project consultant on March 15, 2016.

Project Consultant's Response (received on March 18, 2016):

- The current total daily average organic loading is 66.53 kg-BOD5/day, slightly up from the previous calculated total of 65.60 kg-BOD5/day.
- Utilizing the future design parameters, listed in the aforementioned table, the daily average organic loading rate for the solids portion of the wastewater is calculated to be 46.59 kg-BOD5/day. The daily average organic loading rate for the liquids portion of the wastewater is calculated to be 67.16 kg-BOD5/day. As a result, the future total daily average organic loading is 113.75 kg-BOD5/day, slightly up from the previous calculated total of 112.42 kg-BOD5/day.
- The converted primary cell is sized to a liquid surface area of 3.625 ha at its maximum operating depth. This corresponds to an organic treatment capacity of 203 kg-BOD5/day. Thus applying the future organic loading rate of 113.75 kg-BOD5/day, the converted primary cell will be at 56% capacity, when the Community of Sanford reaches a population of 1460.
- Another factor to consider is the maximum allowable amount of tanks to be emptied into the converted primary per day. It is considered that the maximum allowable organic loading is 56 kg-BOD5/day per ha. As previously stated, the converted primary cell has a liquid surface area of 3.625 ha and each tank contributes 11.5 kg-BOD5. As a result, the maximum amount of tanks that can currently be emptied into the converted primary cell per day without violating the maximum organic loading is 14 tanks. In the future, the number of tanks that can be emptied into the converted primary cell per day is 11 tanks.

Disposition: The above calculations were based on an assumed septage strength of 5000 mg/L based on a study of septage strength at another community. The generally accepted design value for septage strength is 7,000 mg/L. I am confident that the difference between the assumed values is not going to significantly impact the overall treatment capacity of the Community of Sanford's wastewater treatment lagoon system. Consequently, the design calculations submitted by the Proponent's consultants are acceptable. However, it is expected that future design consideration of septage strength lower than the suggested design value will be based on studies carried out on the septage generated within the project's wastewater collection system's footprint. The other explanations and amendments are acceptable.

The draft Licence contains clauses that require the proponent to maintain organic load on the primary cell within 56 kilograms per hectare per day and to assess compliance with this clause if the maximum daily discharge of septage exceeds 24,750 litres (approximately 11 septic tank loads). The draft licence requires the proponent to maintain hauling records.

PUBLIC HEARING

No requests for a public hearing were made, and a public hearing is not recommended.

CROWN-INDIGENOUS CONSULTATION

The Government of Manitoba recognizes that 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.

The proposal involves the modification and expansion of an existing two-cell wastewater treatment lagoon which is located on land owned by the Rural Municipality of Macdonald. The facility has been designed to improve the environmental performance of the existing lagoon. No impact is anticipated on Indigenous rights and it is concluded that Crown-Indigenous consultation is not required for the project.

RECOMMENDATION

It is recommended that the Development be licensed under The *Environment Act* subject to the limits, terms and conditions as described on the attached draft Environment Act Licence.

It is further recommended that enforcement of the Licence be retained by the Environmental Approvals Branch until construction of the wastewater treatment lagoon is completed. Enforcement of the licence then should be assigned to the Winnipeg Region of the Environmental Compliance and Enforcement Branch.

Prepared by:

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