

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPOSER:** Rural Municipality of Grey  
**PROPOSAL NAME:** Community of Fannystelle Sewer Collection System and Wastewater Treatment Lagoon  
**CLASS OF DEVELOPMENT:** 2  
**TYPE OF DEVELOPMENT:** Wastewater Treatment Lagoon  
**CLIENT FILE NO.:** 5418.00

### **OVERVIEW:**

On July 23, 2009, the Department received an Environment Act Proposal (EAP) on behalf of the Rural Municipality of Grey for the construction and operation of a sewer collection system and wastewater treatment lagoon to serve the Community of Fannystelle and nearby areas of the Rural Municipality of Grey. The proposed wastewater treatment lagoon would be located in NW 13 - 9 - 3 WPM in the Rural Municipality of Grey. Treated wastewater from the wastewater treatment lagoon would be discharged between June 15<sup>th</sup> and October 31<sup>st</sup> of any year into a municipal drainage ditch that flows west into a municipal drainage ditch that flows north into Bryson Drain East that flows east into Meakin Creek that flows east into the La Salle River.

The Department, on July 31, 2009, placed copies of the EAP report in the Public Registries located at 123 Main St. (Union Station), the Millennium Public Library, the Manitoba Eco-Network and the Rural Municipality of Grey office and provided copies of the EAP report to the Canadian Environmental Assessment Agency (CEAA) and Technical Advisory Committee (TAC) members. As well, the Department placed public notifications of the EAP in the Carman Valley Leader and the Headingley Headliner on Friday, August 7, 2009. The newspaper and TAC notifications invited responses until September 8, 2009.

On November 13, 2009, Manitoba Conservation forwarded requests for additional information from the TAC and the public to the proponent. The proponent's December 18, 2009 responses to the requests were then provided to the TAC and the public for review and comment on December 29, 2009.

There were no additional comments from the TAC.

### **COMMENTS FROM THE PUBLIC:**

#### **Darin Wach – NW 13-9-3WPM**

- *I would like to express the following concerns regarding the above proposal:*
  1. *When was the initial request made for the lagoon?*
  2. *Decreased Property Values: As it is unlikely that anyone will want to purchase a dwelling next to a lagoon for reasons such as smell, aesthetics and traffic.*
  3. *Smell*

4. *Lack of public consultation prior to securing financials.*
5. *As I live on the quarter section of the proposed lagoon, I am somewhat disappointed that I have to first hear about the construction in a notice found in the "Headliner". The RM of Grey has left it up to Manitoba Conservation to advertise the proposal rather than informing its own citizens which seems unethical.*
6. *Conflict of interest: The proposed site is on property owned the previous councilor of the RM of Grey. The report does not include detailed information on the other "proposed" lagoon site locations which leads to questions regarding ethics and proper site location for the residents. It seems unreasonable to assume that there were no additional locations that were suitable. For this, a proposed per-acre purchase price or "compensation" of the proposed site should be made publicly available. Also, real-time property assessments should be made by the lagoon owner on surrounding properties conducted by a third party with no vested interests in the proposal.*
7. *I am somewhat disappointed that you were unable to return my call after leaving voice mail.*

*At this time, this resident's position is AGAINST the Lagoon.*

#### Proponent Response

1. *"When was the initial request made for the lagoon?"* – The lagoon project was approved by the town Council on May 21, 2008.
2. *"Decreased Property Values: As it is unlikely that anyone will want to purchase a dwelling next to a lagoon for reasons such as smell, aesthetics and traffic."* – The lagoon was located beyond the minimum distance setback requirements by Manitoba Conservation, to reduce impacts to local residents.
3. *"Impacts of Smell."* – The lagoon would generate some odours for a short time each spring during the thawing or turn-over period, however prevailing winds from the east are not expected to cause odours to drift toward the nearest resident (450 metres to the east). The Community of Fannystelle is located approximately 2 km to the south west of the lagoon, hence the prevailing winds are not expected to cause a significant odour problem to the community.
4. *"Lack of public consultation prior to securing financials."* – The proponent held a public forum for the project after financial commitments had been made.
5. *"Conflict of interest."* – The lagoon site selection was made by the RM Council and was based on the results of the geotechnical testing of 3 potential sites and availability of the land.

#### Disposition:

- Limits, terms and conditions of the draft Environment Act Licence provide operating criteria regarding organic load, odours, containment and quality of treated wastewater that are conventional for wastewater treatment lagoons in Manitoba.

## **COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

### **Conservation – Environmental Services**

- *Are there any proposed clean outs to be installed in the forcemain? Detailed as-built drawings including all clean outs, any appurtenances and a GPS track line should be required to be submitted upon completion of the forcemain.*
- *Common practice employed is to empty septic tanks in rural areas in the last 45 days the lagoon allows truck haul in the fall. Will the proposed lagoon have the organic treatment capacity to accept all truck haul for the year in that short timeframe as opposed to the proposed 135 days? Please confirm that volumes and numbers referenced are for septage from septic tanks and not holding tanks.*
- *Please identify the source for the listed 200 L/person/year for rural areas. Experience would dictate that the entire septic tank would be drained when the pump truck comes on site, on average once every two years, which would equate to a minimum of 2590 L/tank, based upon minimum current regulatory requirements. A more commonly sold tank in MB is the 3364 L/tank for a 3 bedroom home.*
- *The hydraulic loading listed for the restaurant is listed as 34 L/person/day with only 20 persons in the 20 year design life. Please confirm the design is only to serve 20 meals a day in the restaurant.*
- *Please expand upon the method by which the lagoon liner will be created, is the intention only to scarify the top 150mm of the cell floor? What process will be used to identify silt pockets during construction, and is this the responsibility of the consultant or the contractor?*
- *Please clarify the proposed elevation of the cell bottom(s) in relation to the existing prairie?*
- *Other Environmental programs with Manitoba Conservation require ballasted packers with minimum soil contact pressure of at least 2400 kPa, this proposal section 2.6.13.4 references 1700 kPa.*
- *Also a question directed to EALB staff: due to the proposal being for an in-situ clay liner with no reworking of the 1 metre liner, do you require additional boreholes to confirm soils in the floor of the cell?*

### **Proponent Response**

- There are no proposed clean outs to be installed in the forcemain. Record drawings will be submitted upon completion of the forcemain.
- The primary cell of the lagoon has been designed for the maximum organic loading anticipated from rural septic tanks. After reviewing wastewater production data for the service area, projections for the rural wastewater production do consider septic tanks in the calculations and not holding tanks.
- The 200 L/person/year used for rural areas refers to septic tanks, which are estimated to be cleaned once every 3 to 4 years, according to USEPA guidelines. Typical tank

sizes are also assumed to be approximately 2,800 L, however can range from 1,900 L to 5,700 L for a typical rural dwelling. The lagoon will be designed with the hydraulic capacity for 230 days storage, while the summer period only 135 days, hence the lagoon could withstand considerably greater hydraulic summer loading and will be discharged prior to November 1<sup>st</sup>.

- Based on information provided by the client, the local restaurant is estimated to serve an average of 20 guests per day throughout the 20 year design life. Currently the restaurant is closed.
- During construction of the in-situ clay lagoon liner, the cell floor will be scarified to a depth of 150 mm and then compacted with a minimum of eight passes of a sheepsfoot roller. Random soils testing will be done on the cell floor to a minimum depth of 1 m, which includes field observation and testing, as well as laboratory testing to determine hydraulic conductivity of the samples. The soils testing will be the responsibility of the consultant to confirm the soil conditions in the lagoon cells. The cutoff walls in the dikes will penetrate 1 m below the top of the cell floor liner. Any silt pockets encountered will be excavated and removed.
- It is estimated that the cell floors will be approximately 1.2 m below existing grade, however exact elevations will be determined based on cut and fill of the lagoon cells in the final design.
- Based on experience in lagoon construction, a minimum foot pressure of 1,700 kPa from a sheepsfoot roller has proven adequate for achieving the minimum standard proctor density required. In addition, soil density testing is completed throughout construction to assure that soil compaction to the minimum standard proctor density of 96% is achieved. Any test results below the specified value have to be re-worked and re-compacted.

Disposition:

- Limits, terms and conditions of the draft Environment Act Licence provide operating criteria regarding organic load, odours, containment and quality of treated wastewater that are conventional for lagoons in Manitoba.
- The draft Environment Act Licence contains Clauses that identify requirements for soil liner sampling, analysis and reporting of results. The various components of the soil liner(s), be they constructed or in-situ, will be inspected, sampled and analyzed as specified by the designated Environment Officer.

**Conservation – Parks and Natural Areas Branch**

- *The Branch has no comments to offer.*

**Conservation – Sustainable Resource and Policy Management Branch**

- *No concerns.*

**Conservation – Wildlife & Ecosystem Protection Branch**

- *No concerns.*

**Culture, Heritage, Tourism and Sport – Historic Resources Branch**

- *No concerns.*

**Infrastructure and Transportation**

- *We have reviewed the above mentioned project requested in your letter of July 31, 2009 and we have no objection regarding the proposed development. However, we would like to raise the following comments for consideration:*

1. *Based on the project proposal, the sewer mainlines and forcemain will be placed in the right-of-way of PR 248. The proponent should be informed that a permit is required from Manitoba Infrastructure and Transportation (MIT) for any construction (above or below ground level) within 38.1 m (125 ft) or for any plantings within 15.2 m (50 ft) from the edge of right-of-way of PR 248.*
2. *All rights-of-way should be returned to an acceptable condition.*

*If additional information or clarifications on these requirements are needed, the applicant can contact Ms. Karen Toews, A/Senior Access Management Analyst at telephone number (204) 945-0324 or Mr. Prokopis Papadimitropoulos, Regional Technical Services Engineer at telephone number (204) 781-7586.*

**Proponent Response**

- The proponent understands the requirement for a permit from MIT in relation to installing sewer mainlines and forcemain in the right-of-way of PR 248. When the project proceeds to the design stage, an application for permit will be submitted to Manitoba Infrastructure and Transportation.
- The proponent understands the requirement for returning all rights-of-way to an acceptable condition after construction works have been completed.

**Disposition:**

- General terms and conditions of the draft Environment Act Licence identify the need for the Licencee to obtain all necessary provincial and federal permits and approvals for construction of relevant components of the Development prior to commencement of construction.

**Science, Technology, Energy & Mines – Mines Branch**

- *No concerns.*

**Water Stewardship**

- *The Water Rights Act indicates that no person shall control water or construct, establish or maintain any “water control works” unless he or she holds a valid licence to do so. “Water control works” are defined as any dyke, dam, surface or subsurface drain, drainage, improved natural waterway, canal, tunnel, bridge, culvert borehole or contrivance for carrying or conducting water, that temporarily or permanently alters or may alter the flow or level of water, including but not limited to water in a water body, by any means, including*

*drainage, OR changes or may change the location or direction of flow of water, including but not limited to water in a water body, by any means, including drainage. If a proposal advocates any of the aforementioned activities, an application for a Water Rights Licence to Construct Water Control Works is required. Application forms are available from any office of Manitoba Water Stewardship.*

- *The proponent needs to be informed that if the proposal in question advocates any construction activities, erosion and sediment control measures should be implemented until all of the sites have stabilized.*
- *The Lake Winnipeg Stewardship Board has recommended that all small wastewater treatment facilities, including municipal lagoons, should meet a phosphorus limit of 1.0 mg/L. The proposed phosphorus limit of 1.0 mg/L is consistent with efforts underway across Manitoba and in upstream jurisdictions to reduce nutrient loads to Lake Winnipeg and its watershed. In the Lake Winnipeg Stewardship Board's December 2006 report to the Minister of Water Stewardship, the Board provides several strategies on how nutrient reduction could be achieved for small wastewater treatment facilities (see recommendations 14-20).*
- *On page 4, 2.6.3.1, the proponent indicates the Fannystelle lagoon could be discharged at a rate of 0.0019 m<sup>3</sup>/sec over a two month period.*
- *Manitoba Water Stewardship is concerned with any discharges that have the potential to impact the aquatic environment and/or restrict present and future uses of the water.*
- *Manitoba Water Stewardship recommends that an Environment Act Licence shall include the following requirements:*
  - *The discharge period is a two (2) month period.*
  - *The proponent shall actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director, Water Science and Management Branch, Manitoba Water Stewardship.*

#### Proponent Response

- The proponent understands the requirement for Water Rights Act in relation to water control works. It does not appear that this proposal advocates any of the activities listed in the letter from Manitoba Water Stewardship. When the project proceeds to the design stage, the need for Water Rights License application for this project will be re-verified and if so required a License shall be solicited.
- Erosion and sediment control measures will be implemented as necessary. As indicated in Section 4.3 of the Environment Act Proposal (EAP), the specifications would state that the contractor is responsible for erosion control. At the time of preparing the specifications, more detailed description of the procedures to be followed by the contractor would be provided.
- As indicated in Section 2.6.10.2 of the EAP, the phosphorus level in the treated effluent could be tested prior to discharge and alum could be spread in the lagoon to

reduce the level of phosphorus in the treated effluent to 1.0 mg/L, if required.

- The Fannystelle lagoon can be discharged at a slower rate to 0.0019 m<sup>3</sup>/sec over a two month period, if it is required by the Environment Act Licence. The proponent would also be willing to participate in any future watershed-based management study, plan/or nutrient reduction program, approved by the Director, Water Science and Management Branch, and Manitoba Water Stewardship for the protection of the aquatic environment and water resources for present and future use.

**Disposition:**

- Limits, terms and conditions of the draft Environment Act Licence provide construction requirements and operating criteria regarding organic load, odours, containment and quality of treated wastewater that are conventional for wastewater treatment lagoons in Manitoba.
- The draft Environment Act Licence contains a Clause that requires that the Licencee discharge the wastewater treatment lagoon at a rate that optimizes the opportunity for nutrients in the effluent to be assimilated in the discharge route prior to reaching the La Salle River while not challenging the normal operation of the wastewater treatment lagoon.
- The draft Environment Act Licence contains a Clause that requires that the Licencee shall actively participate in any current or future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for the La Salle River, the Red River or Lake Winnipeg and associated waterways and watersheds.
- The draft Environment Act Licence contains a Clause that requires that the Licencee shall, during the first year of operation of the Development following the construction of the wastewater treatment lagoon that discharges must occur, obtain two representative grab samples of the effluent during each effluent discharge campaign. The grab samples shall be obtained near the start of each discharge and near the end of each discharge, and shall be analysed and reported in accordance with Schedule "B" that is attached to the draft Licence

**COMMENTS FROM FEDERAL REPRESENTATION:**

**Canadian Environmental Assessment Agency**

- *Based on the responses to the CEAA survey, application of The Canadian Environmental Assessment Act with respect to this proposal will not be required. Health Canada would be able to provide expert advice on certain topics if requested.*

**PUBLIC HEARING:**

A public hearing was not requested.

**RECOMMENDATION:**

Issue an Environment Act Licence in accordance with the attached draft. Enforcement of the components of the new Licence that relate to soil liner characteristics should be assigned to the Environmental Assessment and Licensing Branch until all soil testing has been completed.

**PREPARED BY:**

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