

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** Local Government District of Grahamdale  
**PROPOSAL NAME:** Moosehorn Sewage Lagoon  
**CLASS OF DEVELOPMENT:** 2  
**TYPE OF DEVELOPMENT:** Wastewater Treatment Lagoon  
**CLIENT FILE NO.:** 4117.00

### **OVERVIEW:**

J. R. Cousin Consultants Ltd. filed, on December 19, 1995, a proposal on behalf of the L.G.D. of Grahamdale for the construction and operation of a new 2-cell non-standard wastewater treatment lagoon. The lagoon facility will have a higher rate of seepage loss than normally expected. It will be located approximately 1.6 km southwest of the Community of Moosehorn in the southwest quarter of Section 30-26-7 WPM. The treated wastewater would be discharged between June 15 and November 1 into a drainage ditch that empties into Watchhorn Creek and eventually into Lake Manitoba.

The Proposal identifies the soil conditions at the site as thin layer (0.2 to 1.8 metres) of silty clay till overlaying silty clay till hardpan. The Proposal indicates that the soils at the site are only marginal in quality and probably could not be compacted to provide a standard lagoon soil liner with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/s. As a result the Proponent has filed the Proposal for a non-standard lagoon. The Proposal is to construct a cut-off wall on the inside slopes of the outer dikes with compacted till soils with a hydraulic conductivity of  $1 \times 10^{-6}$  cm/s. The constructed bottom elevation of the cut-off wall will vary depending upon the elevation of the hardpan layer but will penetrate at least 0.3 metres into the hardpan. The cut-off wall will continue to the top of the dikes. The Proponent proposes to construct groundwater monitoring wells around the lagoon.

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

Three private citizens responded to the public notification registering concerns with the Proposal. As well letters were received from the Moosehorn Swim Club, the Moosehorn Heritage Museum and the Moosehorn Community Club. The following is a summary of the concerns expressed:

Mr. Ron Dalmyn  
Winnipeg, Manitoba

- requests a Public Hearing;
- not one Manitoba sewage treatment lagoon is capable of properly treating septage;
- Manitoba lagoons cannot treat the effluent from a low pressure system;
- the ratio between organic and hydraulic loading is way out;
- the lagoon is too big;
- the bottom of the second cell will have been completely destroyed by the elements before being used.

Mr. Gary Cook  
Moosehorn Manitoba

- opposed to the Moosehorn wastewater treatment lagoon.

.....2/

Mr. Clarence Kiesman  
Moosehorn Manitoba

- will fish traveling from Lake Manitoba be edible;
- what is the danger of fish getting a disease and spreading it to other fish; contamination of wells;
- what impact will withdrawals from the monitoring wells have on the capacity of private wells in the area;
- could the lagoon be located elsewhere and not discharge into the swimming area.

Ms Ruth Goldsmith  
Moosehorn Manitoba

- requests a Public Hearing;
- concerned for the effects of household chemicals that will be released into the swimming area;
- concerned for the impact on fish;
- what is a non-standard lagoon.

L. Meads  
Moosehorn Swim Club

- Moosehorn Manitoba
- what will be the bacteria levels in and effects on people using the swimming areas;
  - requests an alternative discharge route.

Ms Elsie Kiesman, et al.  
Moosehorn Heritage Museum  
Moosehorn Manitoba

- concern for health and safety of people using swimming area;
- impacts on economy from tourists using the Watchorn Provincial Park;
- concern for suitability of fish as a food source;
- sub-standard lagoon should not be acceptable.

K. Kelm  
Moosehorn Community Club  
Moosehorn Manitoba

- concern for the impacts on a swimming area;
- concern for the time of discharge.

Disposition:

The public concerns about the Proposal have been referred to the Proponent for review and response. The consultant provided a letter of response to the comments, questions, and concerns about the Proposal. The consultants response was provided to all original concerned citizens. A two week period was provided for the citizens to submit any outstanding concerns, questions, or comments. No further responses were received.

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

#### **Rural Development**

The proposed lagoon site appears to be an acceptable location from a land use perspective.

.....3/

#### **Naturals Resources**

- The proponent should study engineering measures available to reduce the seepage rate to within the accepted standard. If this was done already an explanation of the results should be given to justify the present design.
- An estimate of the chemical and bacteriological composition of the seepage water as compared to the groundwater should be known.
- A test hole to determine actual till thickness on site and static water level in the underlying aquifer is advised.
- Nitrate and nitrite be added to the list of groundwater monitoring parameters and the proponent consider monitoring throughout the lagoon's life.
- A contingency plan of action be prepared to address (1) seepage that would affect groundwater; and (2) how effluent would be managed if flooding were to occur when the lagoon's capacity is full.
- It is recommended, where possible, that chlorination of the sewage not occur.
- A spring discharge of two weeks would not be acceptable as this would occur during the spring spawning period. The time period stated for after June 15 is more appropriate.
- The Proponent should provide comments about any potential impacts to effluent discharge would have relative to the public swimming area.
- Construction of the lagoon is recommended after August 1 to allow breeding wildlife to complete their reproductive cycle.

#### **Agriculture**

No response received.

#### **Highways**

- Any installation of sewer lines across PTH 6 or PR 237 would be subject to review by Highways.
- Highways should be notified of any malfunction of the treatment lagoon resulting in the discharge of contaminated effluent into the Highway drainage system.

### **Historic Resource**

No concerns with project's potential to impact heritage resources.

### **Industry Trade & Tourism**

No response received.

### **Health**

No concerns from the viewpoint of potential impact on human health.

### **Labour**

No response received.

### **Sustainable Development Unit**

No response received.

### **Environmental Quality Management**

#### **Terrestrial Quality Management**

Lagoon should be constructed using a synthetic liner.

.....4/

#### **Water Quality Management**

- A June 15 discharge should adequately protect the aquatic life in the receiving stream from high levels of un-ionized ammonia;
- It is advisable that if large stands of cattail, bulrush, or other aquatic plants develop downstream of the discharge point, periodic harvesting and removal of vegetation should occur;
- If the soil conditions are not adequate for lagoon construction, then the facility should be adequately lined to prevent leakage;
- Nitrate/nitrite be add to the groundwater monitoring variable list.

### **Environmental Operations**

- Details of the monitoring wells should be provided;
- Engineering supervision of construction should be either a commitment in writing or a requirement of the Licence;
- The inlet configuration should be properly secured to prevent solids plugging during the period when it will not be in use;
- The discharge period should consider the use of the receiving waterway for swimming areas;

### **Canadian Environmental Assessment Agency**

- Western Economic Diversification will be conducting an environmental assessment under *The Canadian Environmental Assessment Act.*

- Environment Canada provided specialist comments on the project. Environment Canada commented on the risk from excessive exfiltration from the lagoon in view of the non-standard design. Environment Canada concluded stating “if the system operates properly, and there is an ongoing well monitoring program as described to demonstrate there is no groundwater contamination, the proposed lagoon system should produce an effluent that meets effluent quality parameters usually recommended by Manitoba Environment. If exfiltration is a problem then the proponent will have to assume the responsibilities necessary to correct it.”

**Disposition:**

The public concerns about the Proposal have been referred to the Proponent for review and response. The consultant provided a letter of response to the comments, questions, and concerns about the Proposal. The attached draft licence addresses the TAC concerns.

**PUBLIC HEARING:**

A public hearing is not recommended.

**RECOMMENDATION:**

The attached draft Licence be issued. Enforcement should be retained by the Approvals branch until soils test is completed.

**PREPARED BY:**

D. Peterson, P. Eng.  
Manager  
Municipal & Industrial Approval

Telephone: (204) 945-7012  
Fax: (204) 945-5229