

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** Rural Municipality of Hanover  
**PROPOSAL NAME:** Blumenort Wastewater Treatment Lagoon  
Expansion  
**CLASS OF DEVELOPMENT:** 2  
**TYPE OF DEVELOPMENT:** Aerated Wastewater Treatment Lagoon  
**CLIENT FILE NO.:** 1957.20

### **OVERVIEW:**

On April 29, 2002, the Department received an Environment Act Proposal (EAP) on behalf of the Rural Municipality of Hanover, proposing the expansion and operation of the existing Blumenort wastewater treatment lagoon located in W 1/2 of 33-7-6 EPM. The proposed expansion, consisting of three aerated cells and two storage cells, will be located in E 1/2 of 32-7-6 EPM. The existing lagoon cells located in W 1/2 of 33-7-6 EPM will be converted to storage cells. Granny's Poultry Co-Operative (Manitoba) Ltd. (Granny's Poultry) has entered into an Industrial Services Agreement (ISA) with the Rural Municipality of Hanover for off-site wastewater treatment. This Agreement is a component of the Environment Act Proposal. Granny's Poultry would file a separate Notice of Alteration respecting pre-treatment of wastewater generated at its site. In addition to receiving piped wastewater, the expanded lagoon will be capable of receiving truck hauled septage and wastewater via a controlled access spillway at the lagoon site. Treated wastewater from the lagoon will be discharged to the Youville Drain between June 15<sup>th</sup> and October 31<sup>st</sup> of any year via drainage ditches located on land owned by the Rural Municipality of Hanover. The EAP included a request for a Preliminary Steps Environment Act Licence for topsoil stripping and stockpiling.

The Department, on April 30, 2002, placed copies of the EAP report in the Public Registries located at 123 Main St. (Union Station); the Centennial Public Library and the Jake Epp Public Library in Steinbach and provided copies of the EAP report to the Canadian Environmental Assessment Agency, the Clean Environment Commission, and TAC members. As well, the Department placed public notifications of the EAP in the Winnipeg Free Press on Saturday, May 4, 2002 and the Steinbach Carillon on Monday, May 6, 2002. The newspapers and TAC notifications invited responses until May 31, 2002.

On May 3, 2002, the proponent submitted a signed Environment Act Proposal form and relevant supplementary information specifically requested therein.

On May 21, 2002, Preliminary Steps Environment Act Licence No. 2550 PS was issued to the Rural Municipality of Hanover.

On May 21, 2002, Manitoba Conservation received a letter and additional information from the proponent regarding clarification and updating of information relevant to the industrial pre-treatment system.

Two requests for a public hearing regarding this EAP were received, one dated May 28, 2002 and the other dated May 31, 2002. In letters dated June 24, 2002, the authors of these requests were advised that a decision not to recommend to the Minister that he cause the Clean Environment Commission to hold a public hearing or public meeting had been made.

On June 7, 2002, Manitoba Conservation received information pertaining to the modifications to the conceptual design of the storage capacity of the lagoon.

On June 21, 2002, Manitoba Conservation submitted responses from the TAC members and the public to the appropriate Public Registries.

On June 21, 2002 Manitoba Conservation forwarded pertinent comments that had been received from the public and the TAC to the proponent. Additional information that would address the concerns presented in the comments was requested from the proponent.

On July 25, 2002, the proponent submitted a response to Manitoba Conservation to the concerns presented.

On July 29, 2002, Manitoba Conservation distributed the proponent's response to the originator of the TAC requests for additional information.

On August 9, 2002 the originator of the TAC requests for additional information indicated that the new information had been reviewed and had generated no comments.

On September 13, 2002 the proponent submitted a Notice of Alteration respecting the EAP. The Notice of Alteration provided information clarifying the intended operating depths and liner characteristics of the proposed cells as well as a request to alter the discharge period.

On September 16, 2002 the information regarding the request to alter the storage period was forwarded to TAC representatives for review and comment. The information pertaining to the operating depths and locations of the liner of the proposed cells was to confirm design aspects that were not clearly presented in the information initially presented.

On September 17, 2002 representatives of Manitoba Conservation attended a meeting with the proponent and their technical representation to review a draft Licence. The draft Licence was reviewed in its entirety at the meeting and the proponent was invited to prepare written correspondence to address any aspects of the draft Licence that required further consideration or discussion.

On September 26, 2002 the TAC provided comments regarding the request to alter the discharge period, indicating that there were no objections to extending the discharge period to April 1 - November providing the ammonia levels do not exceed acute and chronic water quality objectives.

On September 27, 2002 a letter response was provided to the proponent, indicating that the changes to the operating depths and locations of the liner of the proposed cells were considered insignificant and would be incorporated to the Licence.

On November 5, 2002 the proponent submitted comments regarding the draft Licence that was reviewed at the September 17, 2002 meeting. A letter response, reflecting on the aspects of the draft Licence that required further consideration or discussion, was provided to the proponent.

**COMMENTS FROM THE PUBLIC:**

<b><u>Name</u></b>	<b><u>Address</u></b>	<b><u>Date</u></b>	<b><u>Comment(s)</u></b>
Braun, Marion	Box 228 RR1 Ste. Anne, MB R5H 1R1	02/05/28	- Requesting an opportunity to discuss concerns in a public forum involving the Clean Environment Commission
Gavin Wood Law Office  (representing Braunsdale Holsteins Ltd.)	2 <sup>nd</sup> Floor 387 Broadway Wpg, MB R3C 0V5	02/05/31	- Requesting that a public hearing be held to consider the appropriateness of the proposal; - Presenting concerns that are related to decisions made by the proponent and that are not specifically related to any physical environmental issues regarding the EAP and the proposed changes to the existing wastewater treatment lagoon and its operation.

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**COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

**Historic Resources**

- *No concerns.*

**Transportation and Government Services**

- *No concerns.*

**Sustainable Resource Management Branch**

**Regarding the Environment Act Proposal:**

- *There is concern regarding cumulative impacts of lagoon and wastewater effluent to the Seine River Diversion and the Red River. The proposal describes two scenarios for the Seine River Diversion: dry years with no fish habitat and wet years when fish habitat would not be harmed due to substantial dilution by runoff. There is, however, no mention of intermediate scenarios when flow in the diversion has been sufficient to attract and support fish from the Red River, yet low enough to ensure that in all years, during effluent release, suitable water quality is maintained to adequately protect fish in the diversion and the Red River;*
- *The proponent has projected that both phosphorus and nitrogen are anticipated to be very high in the effluent discharge. A significant proportion of the total nitrogen will be ammonia, which has the potential to be toxic to aquatic life. Due to the quantity of effluent discharge entering the Seine River Diversion the Province of Manitoba commissioned Dillon Consultants to develop a water quality model to assist municipalities and others in determining the impact of their effluent discharges on the Seine River Diversion and the Red River. Although the Dillon report is referred to by the proponent it does not appear that the model was used to fully evaluate the impact of the current and projected loading;*
- *The Dillon report found nitrogen and phosphorus levels of the Blumenort lagoon to be significantly higher than other lagoons discharging into the Seine River Diversion. Since the proponent projects that the phosphorus and ammonia concentrations will continue to be high it is recommended that an expanded effluent monitoring program be included as a requirement of the Environment Act licence. In addition to the standard lagoon effluent monitoring requirements the following variables should also be monitored during each lagoon discharge event:*
  - *Total phosphorus*
  - *Ortho-phosphorus*
  - *Total Kjeldhal nitrogen*

- *Nitrate/nitrite*
- *PH*
- *Temperature*
- *Oil and grease;*
  
- *The following sampling protocol should be utilized: Effluent discharge site - three samples to be collected the beginning, middle and end of discharge period. These can be used to create one composite sample. An accredited laboratory should be utilized for sample analysis. The discharge volume should also be reported;*
  
- *Data should be collected for a minimum of a five-year period, at which time the Director will determine whether a continuation of the monitoring program will be required.*
  
- *It is recommended that the proponent be required to develop a nutrient removal strategy over the next two years, in preparation for the potential requirement for nutrient reduction at this facility;*
  
- *Discharges from the lagoon should be free from oil and grease residues that cause a visible film or sheen upon the water or any discoloration of the surface adjoining shorelines, or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. This should be a license clause;*
  
- *Consideration should be given to coordinating the discharge timing of the lagoons in the Seine River Diversion watershed to reduce accumulative impacts on aquatic life;*
  
- *The proponent should actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director, for Youville Drain, Seine River Diversion, Red River or Lake Winnipeg, and associated waterways and watersheds;*
  
- *Loading calculations do not include an allowance for truck haul waste although a truck haul ramp is specified. The proponent should provide an estimate for truck haul loading since it is significant although small in comparison to other loads;*
  
- *No specifications are given for riprap protection for the storage cells. Riprap should be required for all cells. The current system has suffered serious erosion in all cells and any new construction should have riprap installed. Due to the current damage the existing berms should be reworked, shaped and compacted;*
  
- *Discharge piping and interconnect piping should be large enough to allow reasonable equalizing and discharge time periods. This has been an operational problem with the present facility that exists to this day. The inlet/outlet pipe erosion protection should be concrete or concrete/riprap combination as opposed to the conventional riprap that has not been very durable; and*
  
- *Consideration should be given to the location of the blower building and the use of maximum noise suppression in view of the public concern for this site.*

Disposition:

- Other than the two fisheries studies of the diversion described in Section 5.3.2 of the IEA, there is no information available regarding fish utilization of the structure at various flows. No further evaluation is therefore possible to be able to define at what point flows in the diversion would no longer be capable of supporting a fish population. This value would be the critical level at which fish would be present at potentially minimal dilution levels;
- The IEA discusses the Dillon report "Seine River Diversion Water Quality Model Final Report September 2001" in detail in Section 5.3.2.1 and notes that in spite of the conservative assumptions built into the model, which encompasses the range of current and 20-year projected operations of the Blumenort lagoon, the Dillon report still concluded that the cumulative discharge of the Seine River Diversion "would not cause exceedance of water quality objectives in the Red River".
- It currently takes about five days to release all the effluent from the storage cells at the Blumenort lagoon. With this in mind, the proposed monitoring program will need to be modified to satisfy sample-handling protocols. pH and temp should be obtained at the time of sampling. Nitrate/nitrite, total Kjeldhal nitrogen and total phosphorus can be preserved and held for 28 days, and therefore the samples for these parameters could be combined into a single sample, as suggested. Ortho-phosphorus, however, cannot be preserved, and should be analyzed within 48 hours. Oil and grease, while it can be preserved should not be transferred between containers before analysis (to avoid losses due to contaminants clinging to the sides of the container). This parameter therefore does not lend itself to the proposed composite procedure.

A site-specific monitoring program can be developed which encompasses the characteristics of the proposed lagoon, the logistics of sample handling and submission to an accredited lab. All of these components should be incorporated to the monitoring program;

- In general, it would be best if a "nutrient removal strategy" were developed after the "potential requirement for nutrient reduction at this facility" was addressed. It is impossible to develop a strategy to address this issue until after the issue is defined.

Environment Act Licence No. 2550 requires that the Licencee actively participate in any current or future water-shed based management study, plan and/or nutrient reduction program for associated waterways and watersheds.

- It is not known if there has ever been a "visible film or sheen... discoloration... or a sludge or emulsion" associated with the organic, poultry-based oils and grease found in the Blumenort lagoon. These characteristics are more commonly associated with mineral or petroleum based oils and greases, and are not considered to be applicable in this case;

- While the RM of Hanover can review how it discharges the lagoons under its management, a number of the lagoons in the area are administered by other R.M.s and by the City of Steinbach. The timing of these discharges is beyond the RM of Hanover's jurisdiction. The propose expansion of the Blumenort lagoon will, however, increase the R.M. of Hanover's ability to incorporate this recommendation into its future operations;
- The RM of Hanover has been an active participant in a number of regional studies. Participation in future studies will be considered by the R.M. Council of the day;
- The ISA commits to future monitoring programs to ensure that this waste stream is characterized through a locked restricted access gate at the lagoon and a monitoring program to define the waste characteristics.
- Riprap is proposed and shown on the plans for the aeration cells and new storage cells.

The proponent proposed to repair the existing cells in terms of erosion damage and shaping and re-working the berms. Riprap has not been budgeted for this area. Erosion occurred in the past due to the cells being operated in the freeboard zone most of the time. In the future, the cells will be operated below the freeboard zone thus there will be significantly less damage due to erosion.

Environment Act Licence No. 2550 requires the Licencee to repair areas of dikes impacted by erosion and place riprap where and as necessary to reduce dike erosion; and

- The blower building will be constructed of concrete block to reduce sound transmission. The building is to be located in a central location as far as possible from any resident. Mufflers will be utilized on the header system to reduce sound where possible.

Regarding the Notice of Alteration;

- *There are no objections to extending the discharge period to April 1 - November 30 providing the ammonia levels do not exceed acute and chronic water quality objectives. Ammonia levels should be monitored prior to effluent discharge.*

Disposition:

- Effluent samples will be collected during the beginning, middle and end of any discharge period and ammonia levels, pH and temperature will be monitored.

**Canadian Environmental Assessment Agency**

- *No concerns;*

- *The 2001 CEAA responses have indicated that application of The Canadian Environmental Assessment Act with respect to this proposal will not be required. However, Environment Canada and Health Canada would be able to provide specialist advice.*

**PUBLIC HEARING:**

Two requests for a public hearing regarding this EAP were received, one dated May 28, 2002 and the other dated May 31, 2002. In letters dated June 24, 2002, the authors of these requests were advised that a decision not to recommend to the Minister that he cause the Clean Environment Commission to hold a public hearing or public meeting had been made.

**RECOMMENDATION:**

An Environment Act Licence be issued in accordance with the attached draft. Enforcement of the Licence should be assigned to the Approvals Branch until the soil testing has been completed.

**PREPARED BY:**

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