

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Rural Municipality of Rockwood
PROPOSAL NAME: Balmoral Wastewater Treatment Lagoon
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Waste/Scrap Wastewater Treatment Lagoons
CLIENT FILE NO.: 4627.00

OVERVIEW:

On May 28, 2001, the Department received a Proposal from J. R. Cousin Consultants Ltd. on behalf of the Rural Municipality of Rockwood for a Development to construct and operate a new wastewater treatment lagoon for the community of Balmoral. The lagoon facility will be located on the east half of Section 6-15-2 EPM. The treated wastewater will be discharged as necessary between June 15 and November 1 of any year to a road ditch system that drains 2.4 kilometres south into Jackfish Creek, which empties into Wavey Creek. Wavey Creek joins Netley Creek, which discharges into the Red River.

The Department, on May 29, 2001, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the Centennial Public Library and the Selkirk Community Library in Selkirk. As well, copies of the Proposal were provided to the Interdepartmental Planning Board and TAC members. The Department placed a public notification of the Proposal in the Stonewall Argus & Teulon Times on Monday, June 4, 2001. The newspaper and TAC notification invited responses until June 29, 2001.

COMMENTS FROM THE PUBLIC:

Four responses were received to the public notification. The following are comments/concerns related to the proposal:

Gail Roberts, Landowner - SE 29-14-2E

- *Expressed a strong objection to the proposal, specifically the proposed discharge of treated wastewater to Wavey Creek, which runs through her property close to her yardsite.*
- *Concerned that sewage lagoon wastewater would contaminate her property, well water or farm animals.*

Disposition:

- Only treated effluent that meets Licence limits for biological oxygen demand, total suspended solids, fecal coliform and total coliform will be discharged from the lagoon.

Monica and Trevor Russell, Balmoral

- *Identified themselves as the closest residents to the proposed lagoon and requested a public hearing.*
- *Concerned that the lagoon may have an impact on groundwater and surface water. Believes effluent testing guidelines are not strict enough and do not include phosphates, salts and other contaminants.*
- *Have never seen flowing water in Jackfish Creek after spring runoff and are concerned that the effluent will not be diluted prior to entering Wavey Creek and that the effluent will not drain but rather stagnate in pools. Concerned about adding to pollution of Lake Winnipeg if effluent does reach the Red River.*
- *Proposed addition of a third cell wetland to further remove or reduce contaminants.*

Disposition:

- The lagoon will be constructed with a clay liner, which will have a maximum permeability of 1×10^{-7} centimetres per second and be a minimum of one metre in thickness.
- The draft Licence includes a clause that requires the proponent to actively participate in any future nutrient reduction program, approved by the Director, for Wavey Creek.
- The draft Licence includes a clause that requires the proponent to ensure that the effluent discharge route is free of obstruction and is graded such that ponding of effluent is prevented.
- The draft Licence includes a clause requiring the proponent to carry out a feasibility study for the addition of a constructed wetland.

Jeff Latta, Resident

- *Residence is located half mile south of proposed lagoon and within 200 feet of the proposed effluent discharge route.*
- *Some concern for odours.*
- *Objected to effluent being discharged in ditch at any time between June 15 and November 1; stated that the ditch is usually dry and is concerned that undiluted effluent will form pools of stagnant waste in low areas.*
- *Expressed concern for the quality of Lake Winnipeg including fishery, recreation and tourism.*
- *Supported the addition of a third cell to the lagoon to act as a wetland. Requested a meeting to discuss this option.*

Disposition:

- The draft Licence includes a clause requiring the proponent to operate the lagoon so as to minimize odours.
- The draft Licence includes a clause that requires the proponent to ensure that the effluent discharge route is free of obstruction and is graded such that ponding of effluent is prevented.

- The draft Licence includes a clause that requires the proponent to actively participate in any future nutrient reduction program, approved by the Director, for Wavey Creek.

Hilary Versavel, Stonewall

- *Concerned about potential for chlorine to enter the lagoon, be discharged with effluent and impact aquatic life.*
- *The proposal has not addressed the impact on wildlife due to construction and operation of the lagoon. Of specific concern are great blue herons and their prey.*
- *The proposal does not consider the effect on the Red River in combination with other lagoon discharges. No mention is made of the fish in Wavey and Netley Creek.*
- *The report indicates that no treatment occurs in winter. It did not indicate when treatment would start.*
- *When will the effluent to be discharged be adequately treated and will this dictate the discharge dates?*
- *Has the department done any research to determine the most appropriate time to discharge lagoons or is the guideline of June to November something that was arbitrary, decided on without any research data?*
- *Are the guidelines of Manitoba Conservation of a high enough level to justify the discharge of wastewater effluent into waterways that flow across private land and in very close proximity to homes?*
- *The discharge ditches will be dry once spring runoff is complete, before discharge is allowed. Stagnation of the effluent is a concern.*
- *The report has not addressed the possibility of seepage into the aquifer along the discharge route.*
- *Manitoba Conservation's effluent standards do not take the following into consideration:*
 - *many bacteria and viruses are not killed in lagoons;*
 - *chemicals are not deactivated by lagoons;*
 - *there will be mixing of chemicals in lagoons;*
 - *chemicals used to make ice at the Balmoral Recreation Centre will enter the lagoon and not be tested for;*
 - *Wavey Creek and Netley Creek receive spring runoff that includes contamination from intensive livestock operations and farming and business operations.*
 - *Clearwater Colony wastewater lagoon is being discharged into Wavey Creek.*
- *The report did not look at how the water flowing through Wavey Creek, Netley Creek, the Red River and Lake Winnipeg is used by people for fishing, swimming, irrigation, livestock consumption etc.*
- *Has the department upgraded its minimal standards for municipal wastewater effluents in the past 20 years?*
- *The concerns of the community and their request for a three cell lagoon should be addressed at a public hearing.*

Disposition:

- The influent to the lagoon will not contain chlorine, which is consumed rapidly when in contact with compounds in wastewater.
- Only treated effluent that meets Licence limits for biological oxygen demand, total suspended solids, fecal coliform and total coliform will be discharged from the lagoon. The fecal coliform limit for wastewater effluent is the same as that required for protection of water for primary recreation as identified in the Draft Manitoba Water Quality Standards, Objectives and Guidelines.
- The draft Licence requires storage of the effluent for 230 days (November 1 to June 15 of the following year) which will reduce the ammonia discharged and the potential impact of ammonia on spawning fish.
- Treatment is assumed to cease during the winter, although it continues slowly. The lagoon becomes anaerobic due to the ice cover; in the spring, when the ice melts, the lagoon becomes aerobic once more.
- The draft Licence requires that the effluent be tested prior to discharge; effluent that does not meet the Licence requirement may not be discharged.
- The allowable discharge dates allow for 230 day storage over the winter to ensure treatment of the wastewater and allow for discharge during the non-freezing season to prevent frozen effluent and blockage of drains resulting in overland flooding. The quality of the effluent must be confirmed prior to any discharge.
- The water quality standards for municipal wastewater effluents have been derived as part of the development of the Draft Manitoba Water Quality Standards, Objectives and Guidelines, which are currently undergoing a Technical Review.
- The draft Licence includes a clause that requires the proponent to ensure that the effluent discharge route is free of obstruction and is graded such that ponding of effluent is prevented.
- The draft Licence includes a clause that requires the proponent to actively participate in any future nutrient reduction program, approved by the Director, for Wavey Creek.
- The draft Licence includes a clause requiring the proponent to carry out a feasibility study for the addition of a constructed wetland.

The concerns identified above were forwarded to the proponent for consideration and comment. The responses were forwarded to the concerned individuals and the following additional comments were received:

Monica and Trevor Russell, Balmoral

- *Have no objection if the Rural Municipality has agreed in principle to include a wetland in the plan for the lagoon project, with construction of the lagoon wetland to be delayed pending funding.*
- *Are of the opinion that the current guidelines requiring secondary treatment of wastewater are inadequate.*

Disposition:

- The draft Licence includes a clause requiring the proponent to carry out a feasibility study for the addition of a constructed wetland.

- The water quality standards for municipal wastewater effluents have been derived as part of the development of the Draft Manitoba Water Quality Standards, Objectives and Guidelines, which are currently undergoing a Technical Review.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Agriculture and Food

- *No comment.*

Conservation - Sustainable Resource Management

- *The proposal provides no details as to the level of dilution that is expected in the effluent once it reaches Jackfish and Wavey Creeks. It is recommended that the effluent be discharged during periods when there is sufficient flow in the waterways to afford some degree of dilution. This discharge should not coincide with periods of possible fish spawning in the Creeks.*
- *The proposal does not indicate what effects the effluent may have on water usage downstream of the discharge point.*
- *A one metre thick layer of clay soil apparently underlies the lagoon site, underlain by sandy till, which is likely much more permeable than the overlying clay. Care should be taken in the construction of the lagoon to ensure that this clay barrier is of sufficient thickness to minimize the risk of soil and groundwater contamination as a result of leakage from the lagoon.*

Disposition:

- The draft Licence requires storage of the effluent for 230 days (November 1 to June 15 of the following year) which will reduce the ammonia discharged and the potential impact of ammonia on spawning fish.
- Only treated effluent that meets Licence limits for biological oxygen demand, total suspended solids, fecal coliform and total coliform will be discharged from the lagoon. The fecal coliform limit for wastewater effluent is the same as that required for protection of water for primary recreation as identified in the Draft Manitoba Water Quality Standards, Objectives and Guidelines.
- The draft Licence requires that the liner be constructed with at least one metre of clay with a hydraulic conductivity of 1×10^{-7} centimetres per second or less, and that the liner be tested prior to use to confirm the hydraulic conductivity of the liner.

Further comments received August 23, 2001:

- *Soil conditions and depth to bedrock be clearly defined; all test holes must be thoroughly sealed.*
- *Any abandoned wells should be identified and properly sealed.*
- *A groundwater monitoring plan should be developed to establish and monitor water quality and to demonstrate the environmental performance of the wastewater lagoon. The plan should include monitoring points in the overburden soils around the*

perimeter of the lagoon and in the carbonate rock aquifer down gradient of the lagoon.

- *A contingency plan should be established in the event that contamination of groundwater is detected in the overburden or carbonate rock aquifer monitoring points.*

Disposition:

- The draft Licence includes clauses requiring that all test holes and abandoned water wells be properly sealed with bentonite.
- The draft Licence includes clauses which require that a groundwater monitoring program and contingency plan be submitted to the Director for approval and carried out as approved by the Director.

Culture, Heritage and Tourism - Historic Resources

- *No concerns.*

Health

- *No comment.*

Highways and Government Services

- *No concerns.*

Intergovernmental Affairs

- *No concerns besides recommending that the applicant obtain a Conditional Use approval for the new wastewater treatment lagoon.*

Canadian Environmental Assessment Agency

- *Application of The Canadian Environmental Assessment Act with respect to this proposal will be required. The coordinating contact is Pat McGarry, PFRA, Agriculture Canada, on behalf of Western Economic Diversification.*
- *The following federal department provided comments:*
Environment Canada
 - *Section 2.8.3 of the report indicates that there will be no significant impact on fish in the Red River, which may be accurate, given that the Red River is about 30 km away. However, the lagoon discharge will first enter Jackfish and Wavey Creeks before joining the Red River.*
 - *The proponent should have provided additional information on the presence (or absence) of fish in Jackfish and Wavey Creeks. If fish are present, additional information should be presented on the potential impacts of the wastewater to them as a result of pollutants such as un-ionized ammonia.*

Disposition:

- The proponent has identified an absence of fish in the first few miles of Jackfish Creek.

- The draft Licence requires storage of the effluent for 230 days (November 1 to June 15 of the following year) which will reduce the ammonia discharged and the potential impact on spawning fish.

PUBLIC HEARING:

A public hearing is not recommended.

RECOMMENDATION:

The Proponent should be issued a Licence for the construction and operation of the wastewater treatment lagoon in accordance with the specifications, terms and conditions of the attached draft Licence. Enforcement of the Licence should be assigned to the Approvals Branch until the soil testing has been completed and the groundwater monitoring plan is approved.

PREPARED BY:

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