

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Chemawawin Cree Nation
PROPOSAL NAME: Sewage Lagoon Project
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Wastewater Treatment Lagoon
CLIENT FILE NO.: 4771.00

OVERVIEW:

On March 7, 2002, a proposal pursuant to The Environment Act was filed on behalf of the Chemawawin Cree Nation for the construction and operation of a wastewater treatment lagoon, at a location east-northeast of the Community of Easterville and east of the airstrip, in Section 6-48-16WPM. Effluent (treated wastewater) from the wastewater treatment lagoon will be discharged between May 15th and November 1st of any year to a ditch that flows southeast to a peat bog located near Onuhupeewin Creek which flows into Cedar Lake. The existing SBR (sequencing batch reactor) wastewater treatment plant currently serving the Chemawawin Cree Nation and the Community of Easterville will be decommissioned once the wastewater treatment lagoon is commissioned.

The Proposal and supporting documentation, prepared by SEG Engineering Inc., indicates that the soil types at the site of the lagoon are not naturally suited for the construction of a standard lagoon using a balanced cut/fill design because of proximity of bedrock. Additional clay-silt till type soils from borrow areas will be used to construct the proposed soil liner. Supporting documentation indicates that the low to medium plasticity clay-silt till soil available at the site is expected to meet provincial standards regarding hydraulic conductivity of soils used for construction of wastewater treatment lagoons.

The Department, on April 24, 2002, placed copies of the EAP report in the Public Registries located at 123 Main St. (Union Station); the Centennial Public Library and the The Pas Public Library and the Chemawawin Cree Nation and provided copies of the EAP report to the Canadian Environmental Assessment Agency (CEAA), the Clean Environment Commission, and TAC members. As well, the Department placed public notifications of the EAP in the The Pas Opasquia Times and The Chemawawin Yeller on Friday, May 3, 2002, The Drum on Wednesday, May 8, 2002 and the Old Post Times on May 22, 2002. The newspapers and TAC notifications invited responses until June 5, 2002.

On June 12, 2002, Manitoba Conservation submitted responses from the TAC members to the appropriate Public Registries. No comments were received from the public.

On June 12, 2002, Manitoba Conservation forwarded comments that had been received from the TAC to the proponent. Additional information that would address the concerns presented in the comments was requested from the proponent.

On June 27, 2002, the consultant submitted a response to the concerns presented to Manitoba Conservation.

On July 4, 2002, Manitoba Conservation distributed the response to the TAC members from which the comments and requests for additional information had originated.

On July 26, 2002, the final comments from the TAC were received, indicating that the proposal had been reviewed and had generated no further comments.

COMMENTS FROM THE PUBLIC:

There were no comments from the public.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Historic Resources - *No concerns.*

Sustainable Resource Management Branch

- *Any aboveground fuel tanks with a volume of 5000 litres or greater must be registered with the department prior to installation regardless of whether they are installed on Crown or Reserve land;*
- *Approval must be given by the department prior to discharge of the second cell of the lagoon into the environment;*
- *The second cell of the lagoon should not be discharged until the total coliform content of the effluent, as indicated by the MPN index, is 200 per 100 millilitres of sample or less. In addition, the second cell of the lagoon should not be discharged until the fecal coliform content of the effluent, as indicated by the MPN index, is 200 per 100 millilitres of sample or less;*
- *General operation of the lagoon shall be conducted in a manner that is consistent with the departments document entitled "Recommended Operation and Maintenance of Wastewater Treatment Lagoons";*
- *The proponent is recommending a storage requirement of 250 days. This storage period should be reviewed to ensure it would provide adequate treatment considering the shorter ice-free season in the Easterville region;*
- *Care should be taken in the construction of the clay liner since the test hole logs indicate that the subsurface material contains a significant amount of sand and gravel and is likely somewhat permeable;*
- *No details are provided with respect to the bog area into which the effluent will be discharged. What effects on the bog habitat are anticipated from contact with the effluent? Assuming that the wetland is in fact a peatland of some type, lateral subsurface movement of effluent may be very slow and perhaps even restricted by*

the highly compressed saturated peat. This may lead to a buildup of effluent in the wetland with the potential for overland flow and perhaps uncontrolled pooling to occur, particularly if the elevation gradient is inadequate to maintain the gravimetric flow; and

- *The proponent should be required to actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director, for Onuhupeeewin Creek, the adjacent peat bog, Cedar Lake and associated waterways and watersheds.*

Disposition:

- Chemawawin Cree Nation was to be advised to register any fuel tanks with a volume of 5000 litres or larger associated with this project with Manitoba Conservation;
- The Licence prohibits discharge of effluent prior to the effluent achieving a specific maximum allowable concentration for BOD and contents for fecal and total coliforms;
- The Licence enforces standard maximum allowable contents for fecal and total coliforms respecting effluent discharge quality requirements;
- The EAP indicated that the lagoon would be operated in a manner that is consistent with information contained in the paper entitled, "Recommended Operation and Maintenance of Wastewater Treatment Lagoon";
- The 250 day retention provides additional storage time beyond that which is normally required and should assist in dealing with the potentially longer ice cover for the area as compared to more southern locations in Manitoba;
- The clay liner will be inspected once completed. The inspection will consist of test holes and sampling to determine if the quality (hydraulic conductivity) and quantity (thickness and area) of soil liner are in accordance with the requirements of the Licence;
- Clause 20 of the Licence requires that the effluent discharge route be maintained such that it is free of obstruction and is graded to prevent the discharge from collecting in a pond anywhere along the discharge route. Clause 21 of the Licence requires that, if the discharge route is incapable of providing the means for continuous flow of effluent, approval to undertake specific modifications to improve the drainage must be obtained prior to implementing the modifications; and
- The Licence requires that the Chemawawin Cree Nation actively participate in any future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for Onuhupeeewin Creek, the adjacent peak bog, Cedar Lake and associated waterways and watersheds.

Transportation and Government Services - *No concerns.*

COMMENTS FROM FEDERAL REPRESENTATION:

Canadian Environmental Assessment Agency

- *The 2001 CEAA responses have indicated that application of The Canadian Environmental Assessment Act with respect to this proposal will be required. Environment Canada and Health Canada, Fisheries & Oceans, and Natural Resources Canada would be able to provide specialist advice in accordance with Section 12(3) of the Act.*

Disposition:

- All new information and correspondences were shared with the contact to ensure that the environmental assessment activities could be coordinated.

Environment Canada - Environmental Protection

- *The environmental assessment report refers to the Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments, 1976. However, the proposed design and effluent quality criteria for the lagoon system (page 2, 4, and 5) are a combination of the federal and provincial criteria. Since, in our opinion, the federal guidelines apply to this proposal, we recommend that, where they are more stringent than provincial criteria, they be followed in the design and operation of lagoon system, including the recommended 365-day retention time, effluent quality limits as per section 4.2 of the guidelines, etc.; and*
- *Since Manitoba Conservation is currently undertaking a nutrient management program for Manitoba, the lagoon design should also consider the possible need for nutrient removal in the future. The peat bog area may reduce nutrients to acceptable levels prior to reaching surface waters, but a monitoring program should be considered to determine if this is occurring.*

Disposition:

- There are two existing lagoons in the area, one at Manitoba Hydro's Grand Rapids and the other at Grand Rapids First Nation. Both lagoons discharge twice a year. The Grand Rapids First Nation lagoon is monitored by INAC and Hydro's lagoon is monitored by Manitoba Conservation. No effluent quality exceedences are known to have occurred.

The design retention of 250 days was selected on the basis of:

1. There are two lagoons in the area which discharge twice a year; and
 2. The 250 day retention provides additional storage time that should assist in dealing with the potentially longer ice cover for the area as compared to more southern locations in Manitoba; and
- The peat bog may provide some nutrient removal. The Licence requires that the Licencee undertake the necessary actions to improve the discharge route of the wastewater treatment lagoon if the discharge route is incapable of providing a means of continuous flow for effluent discharge. In addition, the Licence requires that Chemawawin Cree Nation participate in any future watershed-based management

study, plan and/or nutrient reduction program for the associated waterways and watersheds.

PUBLIC HEARING:

A public hearing was not requested.

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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July 30, 2002

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