

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** Whiteshell Holding Co. Ltd.  
**PROPOSAL NAME:** Whiteshell Colony Wastewater Treatment Lagoon  
**CLASS OF DEVELOPMENT:** 2  
**TYPE OF DEVELOPMENT:** Waste Treatment and Storage  
**CLIENT FILE NO.:** 3087.10

### **OVERVIEW:**

On September 20, 2013, the Department received a Proposal from Genivar on behalf of the Whiteshell Holding Co. Ltd. for the operation and alteration to the discharge method for the Whiteshell Colony wastewater treatment lagoon, located on the southeast quarter of Section 33-12-11 EPM in the R.M. of Whitemouth. The proposed alteration is to construct a discharge pipe and gate valve at the secondary cell to allow for the option to discharge treated effluent via trickle discharge to an existing ravine which discharges to the Whitemouth River between June 15<sup>th</sup> and October 31<sup>st</sup> of any year.

The Department, on November 12, 2013, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the Millennium Public Library and on the online public registry. Copies of the Proposal were also provided to the Technical Advisory Committee (TAC) members on January 22, 2014. The Department placed a public notification of the Proposal in the Winnipeg River Echo on Wednesday, November 13, 2013. The newspaper invited responses until December 13, 2013 and the TAC notification invited responses until February 5, 2014.

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

- One letter was received from the public. The concerns raised were with the quality of drinking water from the Winnipeg River. The Whiteshell Colony wastewater treatment lagoon would discharge to the Whitemouth River which eventually discharges to the Winnipeg River.

#### Disposition:

The draft Licence contains specifications, limits, terms and conditions to protect surface water.

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

#### **Conservation and Water Stewardship – Office of Drinking Water**

- *No concerns*

#### **Conservation and Water Stewardship – Air Quality**

- *No concerns*

#### **Conservation and Water Stewardship – Parks and Natural Areas Branch**

- *The Branch has no comments to offer.*

### **Conservation and Water Stewardship – Lands Branch**

- *No comments*

### **Conservation and Water Stewardship – Fisheries Branch**

- *Fisheries Branch has reviewed this request to construct a discharge pipe and discharge treated effluent to an existing ravine which discharges to the Whitemouth River. Discharge to surface water would occur when discharge via irrigation by injection into agricultural land cannot occur as was the situation in 2013. The proponent indicates that they would trickle discharge over a period of two to four weeks between June 15th and November 1st. In 2013 when an emergency discharge was required the average discharge rate was 3.8 L/s over the two week period. They indicate that based on historical flow data from a gauging station on the Whitemouth River under mean and minimum monthly flows the effluent would represent 0.0082% and 0.9% of the flows based on a discharge rate of 2.7 L/s (maximum volume 3,268 m<sup>3</sup>).*
- *The proponent has highlighted the fact that carmine shiner are present in the Whitemouth River. The Whitemouth River in fact supports an unique assemblage of fish species including the carmine shiner. It is very important that any effluent to surface water meets or exceeds the Manitoba Water Quality Standards Objectives and Guidelines. While we defer to the recommendations of our colleagues in Water Science Management we would be very supportive of the inclusion of a monitoring clause that requires the proponent to sample upstream and downstream of the discharge site during the discharge period and would include parameters such TSS, phosphorous and ammonia.*
- *We would also like to see erosion and sediment control measures implemented during the construction of the discharge pipe and outlet and until the area has been stabilized.*
- *We've been requesting that the following clause be included in licences to reduce the potential to introduce or spread aquatic and terrestrial invasive species:*
  - *The Licencee shall, during construction and maintenance of the Development, prevent the introduction and spread of foreign aquatic and terrestrial biota by cleaning equipment prior to its delivery to the site of the Development.*

### **Proponent Response (February 6, 2015):**

- While we appreciate the Fisheries Branch support for the inclusion of a clause that would call for monitoring upstream and downstream of the discharge point during the discharge, we would reason otherwise. During average flows within the Whitemouth River, we anticipate that while the treated effluent is discharging from the Whiteshell Colony lagoon the change to the water quality parameters (TSS, phosphorus, ammonia) will be below the detection limits of an accredited laboratory's analysis.
- There will be minimal construction disturbance to areas susceptible to erosion from the discharging of treated effluent. The Colony will monitor the area and implement erosion control measures as necessary.
- We have no issues regarding the inclusion of a clause to prevent the introduction and spread of foreign and terrestrial biota.

### **Disposition:**

- The draft Licence requires the proponent to actively participate in any future watershed-and/or aquifer based management study, plan and/or nutrient reduction program, approved by the Director, for the Whitemouth River and associated waterways and watersheds. (Clause 7)

- The draft Licence requires the proponent to, during construction and maintenance of the development, to prevent the introduction and spread of foreign aquatic and terrestrial biota by cleaning equipment prior to its delivery to the site of the Development. (Clause 12)
- The draft Licence requires the proponent to implement specific erosion control measures. (Clause 13)

### **Conservation and Water Stewardship – Water Stewardship Division**

- *The following effluent standards should be in place for Whiteshell Colony Farms new wastewater lagoon as per the Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011).*
  - *BOD5 25 mg/L*
  - *TSS 25 mg/L*
  - *Fecal Coliforms 200 MPN / 100mL*
- *The Whiteshell Colony is currently using land application as a nutrient reduction strategy equivalent to a <1 mg/L total phosphorous limit. This approach to recycling and reusing nutrients to improve water quality is in line with Tomorrow Now – Manitoba’s Green Plan (2nd Edition). The Province of Manitoba’s strategic green plan has committed to “Recycling and Reusing Nutrients to Improve Water Quality”. Specifically, this policy document discusses the need to support innovation and exploring options to reduce phosphorus. (<http://www.gov.mb.ca/conservation/tomorrownowgreenplan/>). If trickle discharge is proposed as a nutrient reduction strategy, the proponent must demonstrate for two to three years how this strategy will reduce phosphorus loads equivalent to implementing a <1 mg/L total phosphorous limit. This additional information is required before trickle discharge can be approved as a nutrient reduction strategy.*
- *The Water Quality Management Section is concerned with any discharges that have the potential to impact the aquatic environment and/or restrict present and future uses of the water. Therefore it is recommended that the license require the proponent to actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director.*

### **Disposition:**

- The submission and approval of a phosphorus sampling and monitoring plan to verify the effectiveness of the trickle discharge phosphorus reduction strategy is required in the draft Licence (Clause 42).
- The draft Licence requires the proponent to actively participate in any future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for the Whitemouth River and associated waterways and watersheds (Clause 7).

### **Conservation and Water Stewardship – Environmental Compliance and Enforcement**

#### *1) Regarding available land for Manure and Effluent Application:*

*Environmental Compliance and Enforcement Branch requests conformation that the proponent has enough agricultural land on which to apply both the wastewater effluent and livestock manure generated with respect to nutrient management.*

#### *2) Regarding Section 2.6 Effluent Quality and Discharge Route:*

*The proponent has opted to implement a nutrient reduction strategy (Trickle Discharge) instead of a 1mg/L Phosphorus limit. It is proposed to trickle discharge the storage cells over a two to four week period. Environmental Compliance and Enforcement Branch requests that the proponent clarify that the existing primary cell has adequate hydraulic capacity to accommodate incoming wastewater over the entire isolation, sampling and discharge period.*

3) *Regarding Section 3.1 Sources of Wastewater:*

*Environmental Compliance and Enforcement Branch is aware that the applicant operates industrial facilities at the site, including a poultry processing plant. As such, we request confirmation that the additional hydraulic and organic loading from this operation were accounted for in the capacity calculations.*

4) *Regarding Section 4.0 Proposed Development:*

*This section of the proposal indicates the applicant wishes to “maintain their current ability to discharge by irrigation (injection) to their agricultural land.” This section also indicates that irrigation takes place after crops have been harvested in the fall. However, Clause 8 of their current Environment Act Licence requires that all treated effluent be disposed of by spray irrigation, and if it is to be applied to crop land, it can only be discharged to actively growing cereal, forage or oil seed crops, or to agricultural crops where irrigation does not take place during or for at least 7 days prior to harvesting of the crops. The current licence does not allow for application of the effluent to agricultural land after harvest, or application by injection.*

Proponent Response:

- 1) The Colony used approximately 200 acres on an annual basis for their manure management plan, whereas, they have ownership of approximately 2,000 acres within 2.0-2.5 miles of their farm site. Based on the information in Calculating Manure Application Rates published in January 2009 by the Province of Manitoba the total phosphorus levels in liquid pig manure is approximately 500 times more concentrated than the total phosphorus levels in the treated effluent from the Whiteshell Colony lagoon. This comparison is analogous to saying that if 500 acres is required for a manure management plan, then 1 acre would be required to dispose of the lagoon effluent, in terms of total phosphorus. Therefore, there is almost no nutrient value to agricultural crops from the lagoon effluent.
- 2) Upon review of the hydraulic loading to the lagoon discussed in the Environment Act Proposal, the existing primary cell has adequate hydraulic capacity to trickle discharge over a 2-4 week period. Additional storage is not required for isolation and sampling time as it is always done prior to the discharge date so that the cell can commence discharging when permitted by their Licence.
- 3) All wastewater directed to the lagoon has been accounted for in the per capita hydraulic loading documented in the Environment Act Proposal. Effective January 1, 2015 the Colony no longer sells poultry. Therefore any poultry processing is for domestic use on the Colony and would be considered from a treatment and storage standpoint as part of their domestic wastewater. The Colony operates Whiteshell Chairs Ltd., which manufactures steel furniture. From this operation, there is a component of wash water that is directed to the lagoon. As mentioned, the hydraulic loading from this facility is already included in the loadings to the lagoon. We have no information on the organic nature of the wash water. However, based on the operation and functioning of the existing lagoon, there have been no uncommon issues in meeting the testing parameters required to discharge the lagoon.

- 4) In a meeting with representatives from Manitoba Conservation and Water Stewardship in March 2014, WSP discussed the history behind the inclusion of an “irrigation only” clause in Colony lagoon licences as well as the challenges and restrictions that Colony’s face in abiding by these requirements.

The application of lagoon effluent onto actively growing crops requires some form of spray irrigation, as the effluent cannot be injected into the soil without damaging the crop. The purchase of spray irrigation equipment is a large investment that for the great majority of colonies serves no other purpose than satisfying the EAL requirements. However, injection equipment is common as most colonies have liquid manure that they inject into their agricultural land.

The Environment Act Licences themselves are living documents in the sense that they are regularly being updated as they are being issued anew. The modification of all necessary clauses to permit irrigation by injection should be treated no differently, as it is a superior method. Injection of wastewater significantly reduces potential vectors for spreading pathogens into the environment. Any updates to permit land application by injection should be a part of the new Environment Act Licence.

Land applied lagoon discharge in the fall to an actively growing crop will always remain a challenge to colonies, being that there are generally no actively growing crops at the end of September or early October to which a colony can inject their wastewater. We appeal to the Environmental Approvals Branch regarding the restrictive nature of this clause and welcome an opportunity to discuss further the need for updating this Licence requirement as well.

Conservation and Water Stewardship – Environmental Compliance and Enforcement Response (March 5, 2015):

- *No further comments*

Disposition:

- The draft Licence requires the proponent to, when discharging to surface water, to discharge effluent over a minimum two week period to increase nutrient uptake which may occur along the discharge route. (Clause 24)
- The draft Licence requires the Licencee to land apply effluent onto land used for cereal, forage or oil seed. The Licencee is not restricted to land application when the crops are actively growing. (Clause 26)

Conservation and Water Stewardship – Crown Land Programs

- *The Protected Areas Initiative has no concerns. The Lands Branch notes that the applicant identifies the NE 33-12-11E as the proposed discharge route. The colony has provided a Certificate of title to SE 33-12-11E, however it appears that the NE is also private land. Confirmation is required to determine if the Colony is owner of the NE quarter.*

Manitoba Municipal Government – Community Planning

- *No concerns*

Conservation and Water Stewardship – Wildlife Branch

- *No comments on this file.*

**Infrastructure and Transportation – Highway Planning and Design Branch**

- *We do not have concerns with the development as proposed.*

**Office of the Fire Commissioner**

- *No comments or concerns*

**PUBLIC HEARING:**

One public comment was received during the environmental assessment and licensing review period. A public hearing was not requested and is not recommended for this Development.

**CROWN-ABORIGINAL CONSULTATION:**

The Government of Manitoba recognizes it has a duty to consult in a meaningful way with First Nations, Métis communities and other Aboriginal communities when any proposed provincial law, regulation, decision or action may infringe upon or adversely affect the exercise of a treaty or Aboriginal right of that First Nation, Métis community or other Aboriginal community.

Crown-Aboriginal consultation was not conducted for this Development as it is an existing facility on land owned by the proponent.

**RECOMMENDATION:**

The Proponent should be issued a Licence for the operation of the Whiteshell Colony Wastewater Treatment Lagoon in accordance with the specifications, terms and conditions of the attached draft Environment Act Licence. Enforcement of the Licence should be assigned to the Environmental Compliance and Enforcement Branch.

**PREPARED BY:**

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