

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** Eagle Creek Colony Ltd.  
**NAME OF DEVELOPMENT:** Eagle Creek Colony Wastewater Treatment Lagoon  
**CLASS OF DEVELOPMENT:** Two  
**TYPE OF DEVELOPMENT:** Wastewater Treatment Lagoon  
**CLIENT FILE NO.:** 5703.00

### **OVERVIEW:**

The Proposal was received on February 27, 2014. It was dated February 27, 2014. The advertisement of the proposal was as follows:

“A Proposal has been filed by South-Man Engineering on behalf of Eagle Creek Colony Ltd. for the construction and operation of a wastewater treatment lagoon to treat domestic wastewater from the colony. The facility would consist of a two cell facultative lagoon with a synthetic liner in NE 25-5-8W, approximately 7 km northeast of Altamont. The facility would discharge once annually to Tobacco Creek within the period between June 15 and October 31. Construction of the facility is proposed to take place in the summer of 2014.”

The Proposal was advertised in the Carman Valley Leader and in the Morden Times, both on Thursday, March 27, 2014. It was placed in the Legislative Library, Millennium Public Library (Winnipeg) and online public registries. The Proposal was distributed to TAC members on March 21, 2014. The closing date for comments from members of the public and TAC members was April 25, 2014.

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

No public comments were received.

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

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

The proponent is proposing that mechanical aeration can be provided to speed up the treatment process if the need arises. The proponent should specify how this will be achieved.

The proponent proposed that dry chlorine may be spread over the surface of the secondary cell... If facility is chlorinated, the treated effluent must be de-chlorinated and residual chlorine determined in the effluent before discharge. Residual chlorine must be included

in Table 1. At least one of the plant species identified in the project area is sensitive to chlorine. The proponent should describe the de-chlorination plan.

The proponent acknowledged that the discharge of wastewater from water softening process into the wastewater facility could result in moderate level of SAR in treated wastewater. Although the proponent envisaged that the proportion of wastewater effluent that would flow through the Tobacco creek during the peak flow period is small, the relatively low flow rate of the Tobacco Creek means that most of the effluent would be absorbed en-route and within the Tobacco Creek. High effluent SAR has the potential to induce soil salinity along the discharge route and around the Tobacco creek. To proactively prevent the development of saline soil condition along the discharge route, the effluent SAR must be monitored.

The proponent should suggest alternative water softening method to be explored, evaluate the possible impact on effluent quality and how to mitigate the impact.

Disposition:

Mechanical aeration should not be required for this facility, which is small and discharged only once annually. Chlorine use and the sodium absorption ratio in the wastewater can be addressed through licence conditions. With respect to water softening alternatives, if wastewater monitoring indicates that sodium is a problem, alternative softening can be evaluated and implemented through standard licence conditions.

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

No concerns as the land tenure is privately held.

### **Manitoba Conservation and Water Stewardship – Parks and Protected Spaces Branch**

No comments or concerns to offer as it does not affect any provincial parks, park reserves, ecological reserves, areas of special interest or proposed protected areas.

### **Manitoba Conservation and Water Stewardship – Wildlife Branch**

1. The proposed development is located immediately adjacent to Deerwood Wildlife Management Area and the discharge route will direct wastewater effluent into Tobacco Creek within this WMA. To protect wildlife that uses this specially designated area, it is recommended that the Environment Act Licence ensure that facilities and treatment processes have the highest likelihood of avoiding contamination of Tobacco Creek and potentially harming both aquatic and terrestrial wildlife that uses this stream.
2. The Central Region Wildlife Section contends that the length of the discharge route, consisting of a grassed swale, is only 400 meters, not the 500 meters identified in the proposal. The total distance between the lagoon outflow and

Tobacco Creek is approximately 550 meters. Of this distance approximately 250 meters is located on a significant slope. The Central Region Wildlife Section is concerned that the shortened grass swale and highly sloped portion of the discharge route will be insufficient to ensure adequate polishing of effluent before it reaches Tobacco Creek. The Central Region Wildlife Section recommends that the proponent be required to construct additional polishing infrastructure if the length and condition of the discharge route is insufficient to ensure adequate polishing of effluent before it reaches Tobacco Creek.

3. The proponent proposes to discharge effluent during the middle of summer when the flow of Tobacco Creek is at its lowest. The Central Region Wildlife Section is concerned that the shorter and highly sloped condition of the discharge route will result in more effluent reaching Tobacco Creek than specified in the proposal. This less polished effluent could become highly concentrated in remaining pools of water in Tobacco Creek if discharge occurs during the height of summer. This highly concentrated water may adversely impact aquatic wildlife that occupies these pools of water, as well as create unhealthy sources of water for wildlife species that drink from these pools. The Central Region Wildlife Section recommends that discharge occur during the spring when a significantly higher flow on Tobacco Creek will disperse effluent adequately to eliminate potential for harm to aquatic and terrestrial wildlife.
4. The Central Region Wildlife Section recommends that the Regional Wildlife Manager (ph 204-642-6077) be added to the list of contacts in the event of an accidental discharge or planned discharge that is outside of the normal operating plan for this facility.

Disposition:

Several of these comments can be addressed through licence conditions. Treated effluent is not released before June 15 to reduce ammonia levels in the effluent. Effluent released earlier in the spring would contain much higher levels of ammonia and BOD, and would be more harmful to aquatic life in the receiving waterway.

**Manitoba Conservation and Water Stewardship – Water Science and Management Branch, Water Quality Management Section**

- The following effluent standards should be in place for Eagle Creek Colony new wastewater lagoon as per the *Manitoba Water Quality Standards, Objectives and Guidelines Regulation* (196/2011).
  - BOD<sub>5</sub> 25 mg/L
  - TSS 25 mg/L
  - Fecal Coliforms 200 MPN / 100mL
- The *Manitoba Water Quality Standards, Objectives and Guidelines Regulation* requires new or expanding wastewater treatment facilities to meet a <1 mg/L phosphorus limit or implement a nutrient reduction strategy. Trickle discharge over 27 days is proposed as a nutrient reduction

strategy. The proponent must demonstrate this nutrient reduction strategy will reduce phosphorus loads equivalent to implementing a <1 mg/L phosphorus limit.

- To demonstrate the proposed nutrient reduction strategy, Proponent should install a gated or stop-log control structure at the end of the 500 m discharge path on colony land. For the first three (3) years of operation, as a condition of the license the proponent should collect weekly water quality samples for total phosphorus from the exit of the discharge control structure during the 27 day release. The proponent should also be required to report the dates of effluent release, volume of effluent discharged on a daily basis, total volume of effluent discharged, and daily precipitation measurements. A nutrient demonstration report should be sent to the Director of Environmental Approvals Branch in each year for review.
- It is recommended the proponent practice vegetation harvesting in order to promote nutrient uptake in the 500 m discharge ditch. The vegetation should be removed from the drainage ditch to prevent a re-release of nutrients into the ditch. Can the proponent please propose a vegetation harvesting plan including comments on timing, frequency, method, and disposal of vegetation?
- High SAR levels limit the opportunities to reuse the valuable nutrients in wastewater and yet when discharged to a water body, high SAR can also have a negative impact on aquatic life. The Water Quality Management Section recommends that the colony take steps to reduce the SAR in their wastewater. The colony should explore alternative water softening options and report back to the Director of Environmental Approvals in one year.
- 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:

Most of these comments can be addressed in licence conditions. Because the discharge route for the facility is short, it is unlikely that phosphorus can be adequately removed between the wastewater treatment lagoon and the receiving waterway. Also, trickle discharge has a limited application because of the proposed configuration of the facility – insufficient storage is available in the primary cell to allow a lengthy discharge period. As a result, a phosphorus limit will be applied at the lagoon rather than at the end of the discharge route.

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

It appears the treated effluent discharge route is to intermittent water ways that no one uses as drinking water sources and it is noted the discharged effluent will meet applicable Manitoba quality standards. As such, Office of Drinking Water has no concerns with the EAP or proposed development respecting drinking water sources or safety.

**Manitoba Conservation and Water Stewardship - Water Use Licensing**

No concerns.

**Manitoba Infrastructure and Transportation - Highway Planning and Design Branch, Environmental Services Section**

No concern.

**ADDITIONAL INFORMATION:**

Additional information was requested on April 28, 2014 concerning the available storage in the primary cell while isolated, as this affects the feasibility of trickle discharge for nutrient management. No response to the request had been received by May 28, 2014, so this matter can be addressed through licence conditions.

**PUBLIC HEARING:**

As no requests for a public hearing were made, a public hearing is not recommended.

**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.

The proposal involves a small wastewater treatment facility on private land with a planned effluent release once annually. Adverse effects on surface water or habitat for wildlife or fisheries are not anticipated.

Since resource use is not affected by the project, it is concluded that Crown-Aboriginal consultation is not required for the project.

**RECOMMENDATION:**

All comments received on the Proposal that require follow-up can be addressed as licence conditions. Therefore, it is recommended that the Development be licensed under The Environment Act subject to the limits, terms and conditions as described on the attached Draft Environment Act Licence. It is further recommended that enforcement of the Licence be retained by the Environmental Approvals Branch until construction is completed. After the facility becomes operational, the licence should be assigned to the Environmental Compliance and Enforcement Branch.

**PREPARED BY:**

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