

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Manitoba Infrastructure and Transportation
PROPOSAL NAME: Milner Ridge Correctional Centre
Wastewater Treatment Lagoon
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Waste/Scrap Wastewater Treatment Lagoons
CLIENT FILE NO.: 5232.00

OVERVIEW:

On October 25, 2006, the Department received a Proposal from J.R. Cousin Consultants Ltd. on behalf of Manitoba Infrastructure and Transportation for the construction and operation of a wastewater treatment lagoon to serve the Milner Ridge Correctional Centre located on Legal Subdivision 5 in the southwest quarter of Section 36-13-9 EPM in the Rural Municipality of Lac du Bonnet. Treated wastewater from the wastewater treatment lagoon will be discharged between June 15th and October 31st of any year. The treated effluent will be pumped via buried pipe and then drain by gravity into the Selkirk Line East drain which flows approximately 8 kilometers west to the Brokenhead River.

The Department, on October 31, 2006, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the Winnipeg Public Library, the Manitoba Eco-Network, and the Brokenhead Regional Library. Copies of the Proposal were also provided to the Technical Advisory Committee (TAC) members. The Department placed public notification of the Proposal in the Lac du Bonnet Leader on Friday, November 3, 2006. The newspaper and TAC notifications invited responses until December 4, 2006.

COMMENTS FROM THE PUBLIC:

James Rattai:

- *I am opposed to the building of a lagoon at the Milner Ridge facility as our drinking water may become contaminated. I live a few miles west from the jail.*

Proponent Response (January 4, 2007):

- We understand and respect your concerns regarding the contamination of your drinking water. As I'm sure you are aware, the selection of a site for such a project is not taken lightly. The proposed new lagoon is an upgrade to the existing facility infrastructure and is in accordance with published regulations and guidelines for such works.
- An extensive review of soils information in the Milner Ridge area was conducted prior to selecting 3 potential sites for the construction of a wastewater treatment lagoon for the Milner Ridge Correctional Centre (MRCC). A geotechnical investigation was then conducted at each of the 3 sites. The purpose of the

geotechnical investigation was to evaluate soil conditions and identify whether a site with suitable clay for the construction of a wastewater treatment lagoon existed at any of the sites. The file information and geotechnical review did not identify suitable clay deposits for the construction of a wastewater treatment lagoon as per Manitoba Conservation guidelines at any of the 3 sites. Therefore, the lagoon is proposed to be constructed utilizing a synthetic liner. The proposed site was selected based on its proximity to MRCC and its distance from neighbouring residences, which are well outside the required buffer zones.

- To prevent effluent seepage from the lagoon, a synthetic liner will be installed on the floors and inside slopes of the lagoon. Synthetic geomembrane liners are containment systems that provide better protection from seepage than required by current guidelines. Manitoba Conservation has approved this type of liner for the lining of many lagoons in Manitoba. The synthetic liner would be installed as per manufacturer specifications, and inspected prior to commissioning of the lagoon.
- To monitor the integrity of the proposed synthetic liner, groundwater monitoring wells will be installed at the lagoon site. A groundwater monitoring program will be implemented to provide a means of assessing whether the integrity of the synthetic liner has been compromised.
- In addition, Driller's Reports were reviewed to determine the location of wells in the vicinity of the proposed lagoon site. The closest known groundwater well to the proposed lagoon site is 980 m to the northeast of the proposed lagoon site (NE ¼ 36-13-9 EPM) and belongs to the Milner Ridge Correctional Centre. The next closest groundwater well is located in Township 13, Range 9 EPM, at least 1,900 m from the proposed lagoon site. A review of groundwater wells in the region indicates that the majority of groundwater wells are screened in a sand and gravel layer at depths ranging between 27 and 40 metres below the surface.
- Given the depth at which known water wells in the area draw from, their distances from the proposed lagoon site, the impermeable synthetic liner that will be utilized for the lagoon construction, and the monitoring wells and groundwater monitoring program, impact to wells in the surrounding area is not anticipated.

Shirley and Allan Rattai:

- *I greatly opposed in building a sewage lagoon at the Correctional Centre in Milner Ridge. This is all gravel and consists of spring water. Most of us that live in Brokenhead R.M. have artesian wells. Our water comes from the ridge. I have big concern for our water due to contamination, once our water is contaminate there is no way of fixing it. Why can't holding tanks be an option. The waste could be pumped out and pumped in Lac du Bonnet or Beausejour lagoon that is already in place. We have to think of our future generation. It is of great concern how people destroy themselves. I am asking you to reconsider the building of a sewage lagoon.*

Proponent Response (January 4, 2007):

- We understand and respect your concerns regarding the contamination of your drinking water. As I'm sure you are aware, the selection of a site for such a project is not taken lightly. The proposed new lagoon is an upgrade to the existing facility infrastructure and is in accordance with published regulations and guidelines for such works. Trucking waste to an existing facility was evaluated and determined not to be feasible.
- An extensive review of soils information in the Milner Ridge area was conducted prior to selecting 3 potential sites for the construction of a wastewater treatment lagoon for the Milner Ridge Correctional Centre (MRCC). A geotechnical investigation was then conducted at each of the 3 sites. The purpose of the geotechnical investigation was to evaluate soil conditions and identify whether a site with suitable clay for the construction of a wastewater treatment lagoon existed at any of the sites. The file information and geotechnical review did not identify suitable clay deposits for the construction of a wastewater treatment lagoon as per Manitoba Conservation guidelines at any of the 3 sites. Therefore, the lagoon is proposed to be constructed utilizing a synthetic liner. The proposed site was selected based on its proximity to MRCC and its distance from neighbouring residences, which are well outside the required buffer zones.
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- In addition, Driller's Reports were reviewed to determine the location of wells in the vicinity of the proposed lagoon site. The closest known groundwater well to the proposed lagoon site is 980 m to the northeast of the proposed lagoon site (NE ¼ 36-13-9 EPM) and belongs to the Milner Ridge Correctional Centre. The next closest groundwater well is located in Township 13, Range 9 EPM, at least 1,900 m from the proposed lagoon site. A review of groundwater wells in the region indicates that the majority of groundwater wells are screened in a sand and gravel layer at depths ranging between 27 and 40 metres below the surface.
- Given the depth at which known water wells in the area draw from, their distances from the proposed lagoon site, the impermeable synthetic liner that will be utilized for the lagoon construction, and the monitoring wells and groundwater monitoring program, impact to wells in the surrounding area is not anticipated.

Richard and Crystal Reske:

- *We are against the proposal for a lagoon at Milner Ridge. At the present time our water is in excellent condition for drinking and for other uses. We live at Section SE 28-13-8E west of Milner Ridge, which is down hill from there.*

Proponent Response (January 4, 2007):

- We understand and respect your concerns regarding the contamination of your drinking water. As I'm sure you are aware, the selection of a site for such a project is not taken lightly. The proposed new lagoon is an upgrade to the existing facility infrastructure and is in accordance with published regulations and guidelines for such works.
- An extensive review of soils information in the Milner Ridge area was conducted prior to selecting 3 potential sites for the construction of a wastewater treatment lagoon for the Milner Ridge Correctional Centre (MRCC). A geotechnical investigation was then conducted at each of the 3 sites. The purpose of the geotechnical investigation was to evaluate soil conditions and identify whether a site with suitable clay for the construction of a wastewater treatment lagoon existed at any of the sites. The file information and geotechnical review did not identify suitable clay deposits for the construction of a wastewater treatment lagoon as per Manitoba Conservation guidelines at any of the 3 sites. Therefore, the lagoon is proposed to be constructed utilizing a synthetic liner. The proposed site was selected based on its proximity to MRCC and its distance from neighbouring residences, which are well outside the required buffer zones.
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- To monitor the integrity of the proposed synthetic liner, groundwater monitoring wells will be installed at the lagoon site. A groundwater monitoring program will be implemented to provide a means of assessing whether the integrity of the synthetic liner has been compromised.
- In addition, Driller's Reports were reviewed to determine the location of wells in the vicinity of the proposed lagoon site. The closest known groundwater well to the proposed lagoon site is 980 m to the northeast of the proposed lagoon site (NE ¼ 36-13-9 EPM) and belongs to the Milner Ridge Correctional Centre. The next closest groundwater well is located in Township 13, Range 9 EPM, at least 1,900 m from the proposed lagoon site. A review of groundwater wells in the region indicates that the majority of groundwater wells are screened in a sand and gravel layer at depths ranging between 27 and 40 metres below the surface.

- Given the depth at which known water wells in the area draw from, their distances from the proposed lagoon site, the impermeable synthetic liner that will be utilized for the lagoon construction, and the monitoring wells and groundwater monitoring program, impact to wells in the surrounding area is not anticipated.

Larry and Patricia Johnson:

- *We are greatly opposed to the idea of a new sewage lagoon being built at Milner Ridge. We have just learned of this and feel someone is not thinking of the greater good but how to solve a problem that never should have arisen in the first place. That facility was meant for minimum security and the fact that the government has changed it and overcrowded it should not put our lives and our water supply in jeopardy. We feel the building of a new lagoon on the ridge will run the risk of destroying not only our water supply now but that of future generations. Once our water supply is contaminated from the underground it would be almost impossible to restore it. We feel this decision to build a lagoon should be reconsidered and holding tanks or something else done. Don't destroy our water. It's one of the only natural things we have left.*

Proponent Response (January 4, 2007):

- We understand and respect your concerns regarding the contamination of your drinking water. As I'm sure you are aware, the selection of a site for such a project is not taken lightly. The proposed new lagoon is an upgrade to the existing facility infrastructure and is in accordance with published regulations and guidelines for such works. Trucking waste to an existing facility was evaluated and determined not to be feasible.
- An extensive review of soils information in the Milner Ridge area was conducted prior to selecting 3 potential sites for the construction of a wastewater treatment lagoon for the Milner Ridge Correctional Centre (MRCC). A geotechnical investigation was then conducted at each of the 3 sites. The purpose of the geotechnical investigation was to evaluate soil conditions and identify whether a site with suitable clay for the construction of a wastewater treatment lagoon existed at any of the sites. The file information and geotechnical review did not identify suitable clay deposits for the construction of a wastewater treatment lagoon as per Manitoba Conservation guidelines at any of the 3 sites. Therefore, the lagoon is proposed to be constructed utilizing a synthetic liner. The proposed site was selected based on its proximity to MRCC and its distance from neighbouring residences, which are well outside the required buffer zones.
- To prevent effluent seepage from the lagoon, a synthetic liner will be installed on the floors and inside slopes of the lagoon. Synthetic geomembrane liners are containment systems that provide better protection from seepage than required by current guidelines. Manitoba Conservation has approved this type of liner for the lining of many lagoons in Manitoba. The synthetic liner would be installed as per manufacturer specifications, and inspected prior to commissioning of the lagoon.

- To monitor the integrity of the proposed synthetic liner, groundwater monitoring wells will be installed at the lagoon site. A groundwater monitoring program will be implemented to provide a means of assessing whether the integrity of the synthetic liner has been compromised.
- In addition, Driller's Reports were reviewed to determine the location of wells in the vicinity of the proposed lagoon site. The closest known groundwater well to the proposed lagoon site is 980 m to the northeast of the proposed lagoon site (NE ¼ 36-13-9 EPM) and belongs to the Milner Ridge Correctional Centre. The next closest groundwater well is located in Township 13, Range 9 EPM, at least 1,900 m from the proposed lagoon site. A review of groundwater wells in the region indicates that the majority of groundwater wells are screened in a sand and gravel layer at depths ranging between 27 and 40 metres below the surface.
- Given the depth at which known water wells in the area draw from, their distances from the proposed lagoon site, the impermeable synthetic liner that will be utilized for the lagoon construction, and the monitoring wells and groundwater monitoring program, impact to wells in the surrounding area is not anticipated.

D. and G. Johnson:

- *I am opposed to building a sewage lagoon at Milner Ridge. I feel Milner Ridge has a very fragile aquifer which is close to the surface. Therefore any leakage from such a lagoon would be more than likely devastating to a very large area. If a lagoon has to be made a site should be found with a thick clay base in case the liner ever does rupture the sewage would still hopefully be contained long enough to fix the problem. We all have to think of our future generations. I have children and hope they can live and enjoy the area and water the way I have. I am asking you to rethink the sewage lagoon in that location.*

Proponent Response (January 4, 2007):

- We understand your concerns regarding the safety of your water supply. As I'm sure you are aware, the selection of a site for such a project is not taken lightly. The proposed new lagoon is an upgrade to the existing facility infrastructure and is in accordance with published regulations and guidelines for such works.
- An extensive review of soils information in the Milner Ridge area was conducted prior to selecting 3 potential sites for the construction of a wastewater treatment lagoon for the Milner Ridge Correctional Centre (MRCC). A geotechnical investigation was then conducted at each of the 3 sites. The purpose of the geotechnical investigation was to evaluate soil conditions and identify whether a site with suitable clay for the construction of a wastewater treatment lagoon existed at any of the sites. The file information and geotechnical review did not identify suitable clay deposits for the construction of a wastewater treatment lagoon as per Manitoba Conservation guidelines at any of the 3 sites. Therefore,

the lagoon is proposed to be constructed utilizing a synthetic liner. The proposed site was selected based on its proximity to MRCC and its distance from neighbouring residences, which are well outside the required buffer zones.

- A synthetic liner to prevent effluent seepage will be installed on the floors and inside slopes of the lagoon. Synthetic geomembrane liners are containment systems that provide better protection from seepage than required by current guidelines. Manitoba Conservation has approved this type of liner for the lining of many lagoons in Manitoba. The synthetic liner would be installed as per manufacturer specifications, and inspected prior to commissioning of the lagoon.
- To monitor the integrity of the proposed synthetic liner, groundwater monitoring wells will be installed at the lagoon site. A groundwater monitoring program will be implemented to provide a means of assessing whether the integrity of the synthetic liner has been compromised.
- In addition, Driller's Reports were reviewed to determine the location of wells in the vicinity of the proposed lagoon site. The closest known groundwater well to the proposed lagoon site is 980 m to the northeast of the proposed lagoon site (NE ¼ 36-13-9 EPM) and belongs to the Milner Ridge Correctional Centre. The next closest groundwater well is located in Township 13, Range 9 EPM, at least 1,900 m from the proposed lagoon site. A review of groundwater wells in the region indicates that the majority of groundwater wells are screened in a sand and gravel layer at depths ranging between 27 and 40 metres below the surface.
- Given the depth at which known water wells in the area draw from, their distances from the proposed lagoon site, the impermeable synthetic liner that will be utilized for the lagoon construction, and the monitoring wells and groundwater monitoring program, impact to wells in the surrounding area is not anticipated.

Larry Reske:

- *I and other area residents are very concerned about a proposed lagoon being built at the Milner Ridge Correctional Centre. We would like information to address safety concerns regarding our watershed. God help us if our water table becomes contaminated.*

Proponent Response (January 4, 2007):

- We understand your concerns regarding the safety of your water supply. As I'm sure you are aware, the selection of a site for such a project is not taken lightly. The proposed new lagoon is an upgrade to the existing facility infrastructure and is in accordance with published regulations and guidelines for such works.
- An extensive review of soils information in the Milner Ridge area was conducted prior to selecting the proposed site for the construction of a wastewater treatment lagoon for the Milner Ridge Correctional Centre (MRCC). Driller's Reports were reviewed to determine the location of wells in the vicinity of the proposed site.

The closest known groundwater well to the proposed lagoon site is 980 m to the northeast of the proposed lagoon site (NE ¼ 36-13-9 EPM) and belongs to the Milner Ridge Correctional Centre. The next closest groundwater well is located in Township 13, Range 9 EPM, at least 1,900 m from the proposed lagoon site. A review of groundwater wells in the region indicates that the majority of groundwater wells are screened in a sand and gravel layer at depths ranging between 27 and 40 metres below the surface.

- To prevent effluent seepage from the lagoon, a synthetic liner will be installed on the floors and inside slopes of the lagoon. Synthetic geomembrane liners are containment systems that provide better protection from seepage than required by current guidelines. Manitoba Conservation has approved this type of liner for the lining of many lagoons in Manitoba. The synthetic liner would be installed as per manufacturer specifications, and inspected prior to commissioning of the lagoon.
- To monitor the integrity of the proposed synthetic liner, groundwater monitoring wells will be installed at the lagoon site. A groundwater monitoring program will be implemented to provide a means of assessing whether the integrity of the synthetic liner has been compromised.
- Furthermore, the proponent would be willing to participate in a future watershed or drainage basin management plan, approved and requested by the Director, for the Brokenhead River, Lake Winnipeg, and associated waterways and watersheds.
- Given the depth at which known water wells in the area draw from, their distances from the proposed lagoon site, the impermeable synthetic liner that will be utilized for the lagoon construction, and the monitoring wells and groundwater monitoring program, impact to wells in the surrounding area is not anticipated.

Larry Lashek:

- *I hereby have concerns with the construction of a lagoon at Milner Ridge Correctional Site. My concerns are that the newly constructed lagoon may contaminate the wells in the surrounding area.*

Proponent Response (January 4, 2007):

- We understand your concerns regarding the safety of your water supply. As I'm sure you are aware, the selection of a site for such a project is not taken lightly. The proposed new lagoon is an upgrade to the existing facility infrastructure and is in accordance with published regulations and guidelines for such works.
- Driller's Reports were reviewed to determine the location of wells in the vicinity of the proposed lagoon site. The closest known groundwater well to the proposed lagoon site is 980 m to the northeast of the proposed lagoon site (NE ¼ 36-13-9 EPM) and belongs to the Milner Ridge Correctional Centre. The next closest groundwater well is located in Township 13, Range 9 EPM, at least 1,900 m from the proposed lagoon site. A review of groundwater wells in the region indicates

that the majority of groundwater wells are screened in a sand and gravel layer at depths ranging between 27 and 40 metres below the surface. Given the distance and depth of groundwater in the region, it is unlikely that wells in the surrounding area would be impacted by the lagoon.

- To prevent effluent seepage from the lagoon, a synthetic liner will be installed on the floors and inside slopes of the lagoon. Synthetic geomembrane liners are containment systems that provide better protection from seepage than required by current guidelines. Manitoba Conservation has approved this type of liner for the lining of many lagoons in Manitoba. The synthetic liner would be installed as per manufacturer specifications, and inspected prior to commissioning of the lagoon.
- To monitor the integrity of the proposed synthetic liner, groundwater monitoring wells will be installed at the lagoon site. A groundwater monitoring program will be implemented to provide a means of assessing whether the integrity of the synthetic liner has been compromised.
- Given the depth at which known water wells in the area draw from, their distances from the proposed lagoon site, the impermeable synthetic liner that will be utilized for the lagoon construction, and the monitoring wells and groundwater monitoring program, impact to wells in the surrounding area is not anticipated.

Disposition:

After receiving the proponent response, no further comments or concerns were received from the public. This was assumed to indicate that all concerns were satisfied.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Agriculture, Food and Rural Initiatives

- *No comments received.*

Conservation - Sustainable Resource & Policy Management

- *The following comments are submitted on behalf of the Eastern Region:*
 - *The proposal estimates a hydraulic loading of 887 L/person/day and an organic loading of 40.7 kg BOD/day. What are these projections based on, and do they account for the additional hydraulic and organic loading that will be generated by the onsite food service facility?*
 - *A nutrient reduction strategy is proposed (alum application) for implementation, as required. Will the proponent be routinely monitoring nutrient levels in the effluent prior to discharge events to determine when alum application is actually required?*
 - *Section 3.8 indicates that there is a potential for significant impact to the MRCC groundwater well, adding that a new well will be constructed and located at least one kilometer from the lagoon site. A discussion of the location of the proposed well in relation to groundwater flow and direction*

would provide further assurance that the well will be protected from potential impacts.

Proponent Response (January 4, 2007):

- The basis of the hydraulic and organic loadings utilized for the lagoon design are described in Section 2.6.6 of the Environment Act Proposal for the Milner Ridge Correctional Centre Wastewater Treatment Lagoon. Wastewater produced by the onsite food service facility is accounted for in the projections. As the wastewater production projections are based in part upon the total **metered** water demand at the correctional centre, all sources of wastewater production (e.g. food preparation, laundry, etc.) are considered. Furthermore, the metered water demand at this facility is similar to the metered water demand at comparable facilities (i.e. Headingley Correctional Centre).
- As specific nutrient reduction concentrations are not stipulated as a requirement in typical Manitoba Conservation lagoon licences, routine monitoring of nutrient levels in the effluent prior to discharge events will not occur. However, the proponent would be willing to participate in a future watershed or drainage basin management plan, approved and requested by the Director, for the Brokenhead River, Lake Winnipeg, and associated waterways and watersheds.
- As per Manitoba Conservation regulations, the concentration of BOD, total suspended solids (TSS), and coliforms (total and fecal) will be monitored in the treated effluent prior to discharge events. Alum application is proposed only if the effluent does not meet the discharge requirements for TSS, which must be less than or equal to 30 mg/L before discharge is permitted. As an added benefit, the addition of alum enhances phosphorus removal from the effluent.
- Although the potential to impact the MRCC groundwater well exists, that potential is minute. A synthetic liner to prevent effluent seepage will be installed on the floors and inside slopes of the lagoon. Synthetic geomembrane liners are containment systems that provide better protection from seepage than required by current guidelines. Manitoba Conservation has approved this type of liner for the lining of many lagoons in Manitoba. The synthetic liner would be installed as per manufacturer specifications, and inspected prior to commissioning of the lagoon.
- Monitoring wells will also be installed and a groundwater monitoring program will be implemented to provide a record of current local, shallow groundwater characteristics and to provide a means of assessing whether any future impact to the groundwater does occur from lagoon effluent seepage.
- The groundwater flow and direction are virtually impossible to ascertain, as the groundwater source is a complex aquifer (i.e. inter glacial till sand and gravel, which can vary in depth, thickness and location). Mapping the formation of such an aquifer is not possible. A review of groundwater wells in the region indicates that the

majority of groundwater wells are screened in a sand & gravel layer at depths ranging between 27 and 40 metres below the surface.

- The current groundwater well for MRCC is located 980 m northeast of the lagoon site. There is no file information related to the geology or construction of the existing MRCC groundwater well (see attached Driller's Report). Two test holes were recently drilled at the Milner Ridge site to assess the potential of installing a geothermal heating and cooling system. One test hole encountered a layer of sand and gravel from 38 m to 55 m, which reportedly contained "lots of water". The other test hole (approximately 170 metres away) did not encounter the water-bearing layer (see attached Driller's Reports), which further demonstrates the complexity and likely discontinuity of the regional aquifer.
- Knowing that the existing MRCC groundwater well produces water, and water was observed in one of the geothermal test wells, a test hole was drilled 120 m east of the existing well and 230 m southwest of the geothermal test well (i.e. between the 2 known water producing wells), to assess the suitability of this location for a new groundwater well for the Milner Ridge Correctional Centre. No water was encountered, which confirms that this aquifer formation is complex. The locations of the wells discussed above are shown on the attached plan.
- Given the depth at which known water wells in the area draw from, their distances from the proposed site, the impermeable synthetic liner that will be utilized for the lagoon construction, and the monitoring wells and groundwater monitoring program, impact to the wells is not anticipated.

Disposition:

After receiving the additional information from the proponent, no further comments were received from Manitoba Conservation. This was assumed to indicate that the original comments were satisfied.

Water Stewardship

- *The rate of water use per person (887 L/person/day) seems extremely high at almost 4 times the rate expected for other communities in Manitoba (about 220 L/person/day). However, no explanation for the high rate of water use is provided. Excess water in treatment facilities interferes with treatment efficiency and does not improve final effluent quality. Excess water can shorten the retention time in lagoons and may require unnecessary and costly additional storage space in the secondary cell. The proponents should consider how daily water use rates can be reduced.*
- *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 licence require the proponent to actively participate in any future watershed based management study, plan/or*

nutrient reduction program, approved by the Director, for the Brokenhead River and associated waterways.

- *As per the Public Health Act, Regulation 331/88R (waterworks, sewerage and sewage disposal regulation) sewer line extensions and sewage lift stations require approvals prior to construction. Therefore, please contact the Office of Drinking Water to verify whether the above approval will be required.*
- *According to section 2.6.3, the treated wastewater will be discharged into the Brokenhead River. It is unclear if there is any water supply intake within the Brokenhead River that is located near the above outlet.*
- *Section 4.4.2 indicates that the proposed synthetic membrane will mitigate the potential impact to groundwater due to the lagoon operation. It is not clear whether any groundwater monitoring will be provided to check the integrity of the proposed membrane.*
- *Regarding discharge timing windows, discharge rate and construction works that could result in the addition of sediment to the drain, as long as DFO is involved in reviewing this proposal and manages fish habitat to meet the intent of their no net loss policy, provincial fisheries management interests should be met.*
- *It appears the water supply system for this proposal requires a water rights licence. Water Licencing Branch appreciates that this EA Proposal is for a wastewater treatment lagoon, but still feels this would be a good opportunity to bring this issue to their attention.*

Proponent Response (January 4, 2007):

- The basis of the hydraulic and organic loadings utilized for the lagoon design are described in Section 2.6.6 of the Environment Act Proposal for the Milner Ridge Correctional Centre (MRCC) Wastewater Treatment Lagoon. The wastewater production projections are based in part upon the total **metered** water demand at the correctional centre, which was determined to be 600 L/person/day. The water demand at this facility is similar to the metered water demand at comparable facilities (i.e. Headingley Correctional Centre). It should also be noted that the wastewater production rate of 887 L/person/day was reviewed and approved by the Project Team, which consists of knowledgeable consulting and government engineers. The Project Team and facility managers are considering the incorporation of water conservation measures in the facility expansion to reduce the water demand and wastewater production at the facility.
- The proponent would be willing to participate in any future watershed or drainage basin management plan, approved by the Director, for the Brokenhead River and associated waterways.

- Treated effluent from the proposed MRCC lagoon will be piped from the lagoon to the ditch along P.R. 435. The treated effluent will flow by gravity through the P.R. 435 road ditch into the Selkirk Line East 1st order drain, which begins approximately **4,860 metres** from the pipe outlet. The Selkirk Line East drain continues in a westerly direction for approximately **8 kilometres**, at which point it empties into the Brokenhead River. There are no known water supply intakes within the Brokenhead River that are located near the proposed outfall into the Brokenhead River.
- To monitor the integrity of the proposed synthetic liner, groundwater monitoring wells will be installed at the lagoon site. A groundwater monitoring program will be implemented to provide a means of assessing whether any future impact to the groundwater does occur from lagoon effluent seepage.
- A water rights licence will be procured for the new water supply system if required. The Office of Drinking Water will be contact to discuss whether approval for the construction of sewer line extensions and lift stations is required.

Water Stewardship Response (February 12, 2007):

- *Manitoba Water Stewardship has reviewed the above noted proposal and has no further comments or concerns.*

Culture, Heritage and Tourism - Historic Resources

- *No concerns*

Health

- *No comments received.*

Infrastructure and Transportation

- *Does not have any major concerns but notes the following:*
 - *An “Agreement for Installation under Provincial Highways” is required prior to placing any discharge pipes within Provincial Road (PR) 214 and PR 435 right-of-way (under the Highways and Transportation Act).*
 - *Attached to this e-mail is a standard information package explaining the review and approval process for this type of agreement.*
 - *MIT regional staff have expressed some concerns with the proposed depth of cover and discharge outlet design.*

Proponent Response (January 4, 2007):

- The proponent is aware that an “Agreement for the Installation under Provincial Highways” is required and will ensure that an agreement is in place prior to commencing the installation of piping in Provincial Highway ditches.

Disposition:

After receiving the additional information from the proponent, no further comments were received from Infrastructure and Transportation. This was assumed to indicate that the original comments were satisfied.

Intergovernmental Affairs & Trade

- *No comments received.*

Canadian Environmental Assessment Agency

- *Following a review by all federal departments with a potential interest in the proposed development, the application of the CEAA will not be required.*
- *Health Canada has offered to provide specialist advice with respect to the project and provided the following comments:*
 - *The EAP does not indicate to what level the operators of the project will be trained/licensed in order to properly operate the facility.*
 - *The EAP does not indicate that signage will be posted at the lagoon warning trespassers of the water hazard.*
 - *It is unclear what measures will be used in the design, construction and operation of the facility to mitigate potential occupational hazards (e.g. heavy equipment use, pump station confined entry/fall hazard) in all phases of the project.*

Proponent Response (January 4, 2007):

- Recommendations will be provided to the Project Team that the proper operation of the wastewater treatment facility requires that the operators accumulate experience and training in the methods of operating the process.
Utilizing the facility classification criteria from Schedule A, Par 4 Wastewater Treatment Facilities of Environment Act Regulation 77/2003, the proposed wastewater treatment lagoon is classified as a Class 1 facility. The operator certification level is determined by the facility classification hence the level of the operator certification for the proposed wastewater treatment lagoon under the mandatory operator certification is Certified Class 1.
- Signs will be posted at strategic locations near the perimeter fence. The signs will indicate that a wastewater treatment lagoon belonging to the Milner Ridge Correctional Centre occupies the site, and that unauthorized trespassing is prohibited.
- To address potential occupational hazards during the construction of the proposed lagoon, the tender specification document will indicate to the contractor that construction safety measures required by the latest edition of Provincial Government, Federal Government, Department of Labour – Workplace Safety and Health,

Workmen's Compensation Board, municipal statutes, National Building Code and any other authority as may be applicable must be observed and enforced for the duration of the project. The tender specification document also addresses safety issues related, but not limited to: WHMIS, TDG, implementation of a safety program and construction site safety measures (e.g. protective clothing, restricted site access, etc.), fire extinguishers, waste material, hazardous substances, scaffolding, over-loading, falsework, drugs, and confined entry.

- Mitigation measures for potential occupational hazardous during the operation of the proposed lagoon include fencing around the perimeter of the lagoon, and signage indicating that trespassing is prohibited. To address confined entry/fall hazards, the pump station will be designed according to the Provincial guidelines. As per regulations, a gas detector, man-hoist, winch, lanyard, and harness will be available on site for any confined entry purposes. Health Canada has indicated that the use of the above equipment would be sufficient to meet relevant safety requirements related to manholes (e.g. MB Fall Protection Guidelines).

Health Canada Response (February 5, 2007):

- *The consultant for the project has adequately addressed our concerns, and there are no further comments.*

DFO Comments:

- *DFO concluded that the proposed works and undertakings are adequate to protect fish and fish habitat provided that the work is carried out as described in the plans and the following additional measures are implemented:*
 1. *No in-water construction should occur between April 1 and June 15 of any given year.*
 2. *Work is halted during heavy rains.*
 3. *All works are carried out in a manner that prevents damage to the bed, banks and riparian (streamside) vegetation of any water body.*
 4. *Install effective sediment and erosion control measures before starting work to prevent sediment from entering any water body. Inspect them regularly during the course of construction to ensure that they are functioning properly. Make all necessary repairs if any damage is discovered.*
 5. *Effective measures should be taken to prevent sediment from the construction activities from entering the water. Pay particular attention to drainage swales that are subject to increased runoff flows. Inspect measures regularly during the course of construction and until vegetation has established to ensure they are functioning properly. Make all necessary repairs if any damage is discovered or if these measures are not effective at controlling erosion and sedimentation.*
 6. *Stabilize any waste materials removed from the work site, above the ordinary high water mark to prevent them from entering any watercourse. Spoil piles could be contained with silt fences, flattened, covered with biodegradable mats or tarps, and/or planted with preferably native grass or shrubs.*
 7. *The deposit of deleterious substances (E.g. silt, sediment) into water frequented by fish is prohibited under the Fisheries Act. Appropriate precautions must*

- therefore be taken to ensure that potentially deleterious substances do not enter any watercourse.*
8. *Vegetate any disturbed areas by planting and seeding preferably native trees, shrubs or grasses and cover such areas with mulch to prevent soil erosion and to help seeds germinate.*
 - 8.1 *Planting native vegetation (e.g. willows, sedges, deep rooted grasses, etc.) on the streambanks or using bioengineering stabilization treatments are encouraged as riparian vegetation is a valuable component of fish habitat and deep rooted native plants can improve the ability of the shoreline to resist erosion.*
 - 8.2 *Consult a riparian (shoreline) plant specialist to determine the appropriate plant species and maintenance activities that are required to re-establish this vegetation.*
 - 8.3 *If there is insufficient time in the growing season for the seeds to germinate, stabilize the site (e.g., cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) and then vegetate the following spring.*
 - 8.4 *Make all necessary repairs and adjustments if any damage is discovered or if these measures are not effective in controlling erosion and sedimentation.*
 9. *Operate machinery from outside the water in a manner that minimizes disturbances to the banks of the watercourse.*
 - 9.1 *Machinery is to arrive on site in a clean condition and maintained free of fluid leaks.*
 - 9.2 *Equipment does not enter any water body and all excavations are above the average high water mark.*
 - 9.3 *Wash, refuel and service machinery and store fuel and other materials from the machinery away from the water to prevent deleterious substances from entering the water.*
 - 9.4 *Keep an emergency spill kit on site in case of fluid leaks or spills from machinery. All equipment operators should be familiar with how to properly use the spill kits in the case of an emergency.*
 10. *Rock riprap should be clean, free of fine materials (dirt and mud), and be of sufficient size to resist displacement during peak storm events. If rocks are placed below the ordinary high water mark they are placed in a single layer (one mean rock diameter thick) and not more than 2 metres from the shoreline.*
 11. *Use only clean rock and haul it in from an appropriate land-based source. Do not take any rocks from the banks or bed of the lake or any other water body. All rock should be clean and free of fine materials.*
 12. *Construction should occur when water levels are low and the area to be protected is dry, or during the winter when the area is frozen to the bottom. At all times during construction, ensure that effective measures are taken to prevent sediment from construction activities from entering the lake.*
 13. *If there is need to pump water onto the synthetic geomembrane liner of the lagoon for seepage tests, ensure the Freshwater Intake End-of-pipe Fish Screen*

Guidelines (DFO 1995) are followed. Link available www.dfo-mpo.gc.ca/Library/223669.pdf.

- 13.1 *The water withdrawal rate does not exceed 10% of the instantaneous flow in any waterway at the withdrawal point to preserve existing fish habitat.*
- 13.2 *Water is not withdrawn from any stream if the withdrawal might create isolated pools.*
- 13.3 *Water is not withdrawn from any lake to a degree that would increase the risk of winter or summer fish kills.*
- 13.4 *Off-site water for any purpose is of equal quality to the receiving water at the time of use. Off-site water sources are selected that are in the same watershed as the receiving water.*
- 13.5 *The intake does not disturb the sediment.*
- 13.6 *The screen approach velocity should not exceed 0.038 metres per second and mesh size should not exceed 2.54mm.*
14. *Hydrostatic resting activities meet or exceed the relevant standards outlined in the "Hydrostatic Test Water Management Guidelines" (Tera Environmental Consultants (Alta.) Limited and CH2M Gore and Storrie Limited 1996).*
15. *Annual effluent releases do not change the instantaneous discharge in any flowing water by more than 10%.*

Proponent Response (January 26, 2007):

- Hydrostatic testing activities will be conducted in accordance with The Manitoba Water Services Board "Standard Construction Specifications", Division 2 – Site Work, Section 02706 – Pressure Pipelines, Part 3.18 – Hydrostatic Testing.
- The remainder of the additional measures identified in DFO's letter of advice will be implemented to mitigate potential negative effects to fish habitat.
- A copy of DFO's letter of advice will also be included in the tender specification document for reference purposes.

Disposition:

After receiving the additional information from the proponent, no further comments were received from DFO. This was assumed to indicate that the original comments were satisfied.

PUBLIC HEARING:

A public hearing is not recommended.

RECOMMENDATION:

The Proponent should be issued a Licence for the construction and operation of a 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 Environmental Assessment and Licensing Branch until the liner testing has been completed and the Development is commissioned.

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