

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPOSAL NAME: Rural Municipality of Headingley – Sewage Treatment Plant
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CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Sewage Treatment Plant
CLIENT FILE NO.: 5366.00

OVERVIEW:

On August 19, 2008, the Department received an Environment Act Proposal (EAP) from the Rural Municipality of Headingley for the the construction and operation of a new Sewage Treatment Plant located on parcel 1, plan 12359, excluding plan 16269 org, river lots 35 – 38 in the Parish of Headingley to provide treatment of wastewater generated within the RM, including the Headingley Correctional Institution (HCI) and the proposed Women’s Correctional Centre (WCC). The proposed sewage treatment plant will consist of sewage collection systems, sewage pre-treatment, biological treatment, sludge digestion, sludge dewatering, sludge disposal, and effluent disinfection. Treated wastewater from the sewage treatment plant will be discharged via the existing outfall to the Assiniboine River. The existing sewage treatment plant which is located at the HCI will be decommissioned following successful startup of the new sewage treatment plant.

The Department, on September 16, 2008, placed copies of the EAP report in the Public Registries located at 123 Main St. (Union Station), Millennium Public Library, Manitoba Eco-Network, and R.M. of Headingley and provided copies of the EAP report to the Canadian Environmental Assessment Agency (CEAA) and TAC members. As well, the Department placed public notifications of the EAP in the Headingley Headliner on Friday, September 19, 2008 and Winnipeg Free Press on Saturday, September 20, 2008. The newspaper and TAC notifications invited responses until October 20, 2008.

On October 28, 2008, Manitoba Conservation forwarded requests for additional information from the TAC to the proponent. On November 4, 2008, the proponent provided responses to the requests for additional information. Manitoba Conservation forwarded the response to the TAC for review and comment on November 7, 2008.

On November 26, 2008, Manitoba Conservation forwarded requests for additional information from Environment Canada to the proponent. On December 4, 2008, the proponent provided responses the requests for additional information. Manitoba Conservation forwarded the response to Environment Canada on December 4, 2008. On November 25, 2008 and December 9, 2008 Manitoba Conservation requests for additional information from the proponent and proponent provided responses on February 12, 2009 and December 17, 2008 respectively.

All additional information necessary for the review was provided in the Public Registries.

COMMENTS FROM THE PUBLIC:

No comments were received from the public.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Manitoba Agriculture, Food and Rural Initiatives

- *No concerns*

Manitoba Conservation – Parks and Natural Areas Branch

- *No concerns*

Manitoba Conservation – Environmental Operations – Central Region

- *No concerns*

Manitoba Conservation - Sustainable Resource & Policy Management Branch

- *No concerns*

Manitoba Conservation – Pollution Prevention Branch

- *No concerns*

Manitoba Culture, Heritage, Tourism and Sport – Historic Resources Branch

- *No concerns*

Manitoba Infrastructure and Transportation

June October 14, 2008

- *The proposed development is located within the control area of Provincial Trunk Highway (PTH) 1. PTH 1 is a Limited Access Highway under the jurisdiction of the Highway Traffic Board. Under the Highway Protection Act, any new, modified or relocated access to this highway (including a change in access use) and for any change in land use, construction of structures and objects (i.e including erection of signage) within 76.2 from the edge of the right-of-way will be required from the Highway Traffic Board. A permit will also be required from Manitoba Infrastructure and Transportation (MIT) for any planting within 15.24 m from the edge of the right-of-way of this highway.*
- *In reference with the future planned trunk line in the south of PTH 1, MIT prefers that an underground agreement be obtained prior to tendering any proposed installation. Detailed design drawings will be required to be submitted for department's review.*

Proponent Responses (November 4, 2008):

- Currently, the service road identified in the right-of-way of the TransCanada Highway is a proposed future project not directly associated with the replacement WWTP, and the timing and details of this initiative have not yet been developed. Once this project has further evolved, the proponent will contact MIT to discuss requirements in greater detail.

- The proposed replacement WWTP is 500 m south of PTH 1 and is located well outside of the right-of-way or setback from the right-of-way for the highway.
- At this time there are no plans to construct signage within the 76.2 m setback from the PTH 1 right-of-way or plant vegetation within 15.24 m of PTH 1 right-of-way setback.
- Gaol Road is currently the access road used for the existing WWTP located at the Headingley Correctional Institute. Gaol Road will continue to be used as the access road for the replacement WWTP that is to be located just northwest of the existing plant. Thus, access use for this road with the operation of the replacement WWTP will be consistent with current uses.
- Detailed plans and an implementation schedule required for tendering of the trunk line have not yet been completed. This aspect of the project is not planned for the immediate future but is projected to occur within a 5 to 10 year time horizon. Once the necessary information has been compiled, the proponent will initiate discussions with MIT on an underground agreement prior to tendering. This process is separate from the construction tendering of the replacement WWTP.

Disposition:

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

Manitoba Water Stewardship – Planning and Coordination Branch

October 20, 2008

- *The Water Rights Act indicates that no person shall control water or construct, establish or maintain any “water control works” unless he or she holds a valid licence to do so. “Water control works” are defined as any dyke, dam, surface or subsurface drain, drainage, improved natural waterway, canal, tunnel, bridge, culvert borehole or contrivance for carrying or conducting water, that temporarily or permanently alters or may alter the flow or level of water, including but not limited to water in a water body, by any means, including drainage, OR changes or may change the location or direction of flow of water, including but not limited to water in a water body, by any means, including drainage. If the proposal in question advocates any of these activities, application for a Water Rights Licence to Construct Water Control Works is required.*
- *The proponent needs to be informed that if the proposal in question advocates any construction activities, erosion and sediment control measures should be implemented until all of the sites have stabilized.*
- *An area of potential concern is the temperature of the treated effluent, particularly in the winter. The proposed temperature will be < 15°C in the summer and <10°C in the winter (currently 15.4 °C and 13.8 °C respectively). The ambient monthly mean water temperature provided from the downstream station at PR 334 is typically 0 °C for December through to, but not including, April. Given the effluent discharge is continuous and represents a very small percentage of the overall river flow at the Headingley gauging station (.12 to 1.08 % of minimum monthly flows taken from 1913 to 2007).*

- *The Department requests that an Environment Act Licence include:*
 - *A standard clause requiring “monitoring at the discretion of the Director” OR*
 - *A water quality monitoring program shall be developed and conducted to verify the water quality values provided through the modeling exercise, the extent of the plume, and, the temperature gradient within the plume:*
 - *For three years, an annual report shall be submitted by March 31st for review to Manitoba Water Stewardship’s Water Quality Management Section and Fisheries Branch.*
- *The Department requests information on the following:*
 - *Has the Rural Municipality of Headingley considered designing this facility with increased capacity for regionalization?*
- *The Department 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, the Department recommends that an Environment Act Licence require the proponent to actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director, Water Science and Management Branch, Manitoba Water Stewardship.*

Proponent Responses (November 4, 2008):

- Dillon Consulting Limited, on behalf of the proponent, the Water Stewardship Board shall submit an application to Manitoba Water Stewardship for a Water Rights Licence to Construct Water Control Works for the site drainage ditches. As confirmed with Mr. William Weaver and Mr. Geoff Reimer (Nov. 3, 2008), a Water Rights Licence is not required for the conveyance of treated effluent discharge from the proposed Wastewater Treatment Plant (WWTP).
- Erosion and sediment control requirements have been incorporated into the construction specifications for the project which are currently being finalized. For your information, a copy of the applicable sections from the DRAFT project specifications have been included as an attachment to this letter.
- The proposed replacement WWTP discharge temperature is consistent with the current effluent temperatures discharged from the existing WWTP serving the RM of Headingley. The discharge outfall from the existing plant is being reused and so the location of discharge, in addition to the temperature of discharge, will remain unchanged. As such, it is suggested that a clause requiring monitoring at the discretion of the Director be considered for the project licence.
- The plant is designed to accommodate projected growth in loadings to 2030 in the RM of Headingley which comprises 107 km². The RM to the south, the RM of McDonald, has no concentrated development identified within reasonable distance from the existing plant and conveyance costs result in an unfavourable cost benefit analysis (closest center is Starbuck at a distance of approximately 20 km which has a population of approximately 350). This is also the case in the RM of Cartier to the west (St. Francois Xavier at a distance of 17 km with a population of 1087). St. Francois Xavier already has an existing wastewater treatment system. Future

development, including industrial park growth to the north and east in the adjacent RM of Rosser, is being contemplated. However, land use planning was not yet initiated at the time of planning for the Headingley WWTP replacement project and the planning exercise is still pending (J. East Intergovernmental Affairs October 30, 2008).

- As a result, too little is known to accommodate potential effluent discharge plans from development in the area at this time. The City of Winnipeg has addressed water and wastewater servicing for future industrial development for lands east of the RM of Headingley and west of the Winnipeg James Armstrong Richardson International Airport in the City's Airport Area West Secondary Plan.
- At this time, neither a favourable cost benefit business case nor appropriate land development drivers are in place that would indicate the Headingley replacement WWTP should be developed as a regional facility. However, the WWTP plant is being designed to allow for additional expanded capacity if these conditions were to change in the future.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Manitoba Water Stewardship.
- The draft Environment Act Licence requires the Licencee to submit to the Director for approval, a detailed sampling and monitoring program for determining the Water Quality of the Assiniboine River for a period of 3 years following the commissioning of the plant. The program shall contain the frequency and location of sampling of the Water Quality of the Assiniboine River with respect to the following parameters:
 - temperature;
 - total Kjeldhal nitrogen;
 - nitrate/nitrite – N;
 - total phosphorus;
 - PH;
 - ammonia; and
 - other parameters, specified by the Director, resulting from upgraded treatment system or malfunction.
- The draft Environment Act Licence requires the Licencee to actively participate in any future watershed based management study, plan and/or nutrient reduction program, approved by the Director, for the Assiniboine River and associated waterways and watersheds.

COMMENTS FROM FEDERAL REPRESENTATION:

Canadian Environmental Assessment Agency (CEEA)

October 21, 2008

- *Based on the responses to the CEEA survey, application of The Canadian Environmental Assessment Act with respect to this proposal will not be required.*
- *Health Canada (HC) would be able to provide specialist advice if requested.*
- *Environment Canada will be providing further review comments in the near future.*

Fisheries and Oceans Canada

October 14, 2008

- *All excavated materials (ie. from the ditch re-grading) should be disposed on Land above the high water mark in a manner that will prevent the re-entry, of the material into any watercourse. This could include covering stockpiles with biodegradable mats or tarps or planting stockpiles with grass or shrubs.*
- *Use only clean rock for the outlet protection and haul it in from an appropriate land-based source. Avoid using poor quality limestone that breaks down quickly when exposed to the elements. All rock should be clean and free of fine materials that could be washed away during high flow events.*
- *Install effective temporary and long-term sediment and erosion control measures and re-vegetate any exposed soils in order to prevent the entry of sediment into the drain. Inspect these measures regularly and ensure that they are functioning properly until vegetation is re-established. Make all necessary repairs and adjustments if any damage is discovered or if these materials are not effective in controlling erosion and sedimentation.*

Proponent Responses (November 4, 2008):

- The letter from DFO outlines advice on measures to protect downstream fish and fish habitat as a result of construction activities at the project site. The mitigation measures outlined have generally been incorporated into the construction specifications which are currently being finalized. For your information, a copy of the applicable sections from the DRAFT project specifications have been included as an attachment to this letter.

Disposition:

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

Environment Canada – Environment Protection Branch

November 21, 2008

- *The report provided excellent detail on the existing biophysical and socio economic environment conditions at the proposed project site.*
- *The proponent should be aware that CCME is currently finalizing a strategy for municipal wastewater effluent that will be shared in implementation by both the provincial and federal government (a draft Canada-wide Strategy for the Management of Municipal Wastewater Effluent is available at the CCME web site). In the meantime, existing provincial requirements are and will continue to be mandatory. In addition, the federal Fisheries Act, including section 36(3) prohibiting discharge of deleterious substances into fish bearing waters is mandatory. This requirement is particularly relevant due to the treatment plants discharge into the Assiniboine River. EC recommends that monitoring requirements be reviewed to include the intent of the CCME strategy including periodic Acute Lethality Testing. Final monitoring parameters should be provided.*
- *Regarding the pre-design and design phases of the project EC requires clarification*

on the following.

- *Section 3.3.4 (pg.12) states that "the existing discharge pipe... is believed to be in good condition." This section also states that "a detailed inspection of the outfall pipe was not completed." Will the existing outfall pipe be used during the operation of the new WWTP? If so EC recommends that a detailed inspection of the existing outfall pipe be conducted in order to ensure the pipe is in good condition.*
- *Section 3.6.4, Treatment Process Components (pg. 21), states that sludge from the dewatering process "will hauled by truck to the landfill for disposal." Can you provide information about this landfill and if they have enough capacity to accommodate and increase in the volume of sludge due to larger WWTP?*
- *Section 3.6.5.2, Redundant Systems (pg.25), mentions that a 3200L, double walled fuel storage tank will be put in place to supply fuel to a diesel generator as emergency power supply to the proposed WWTP. Can you provide clarification for the following issues?*
 - *Where this tank will be located relative to the river?*
 - *Will this tank be placed above or underground?*
 - *Will there be leak and corrosion protection for the tank and piping?**Please refer to the Environment Canada, Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, July 12, 2008, for details on registering your tank prior to the first fill.*
- *Section 6.4, Effects of Accidents and Malfunction (pg.99), covers the proposed mitigation measures of unforeseen events such as "fires and explosions, ground transportation accidents, fuel and other hazardous material releases, and blowing and falling debris." Please provide more information regarding plans including sections on how to notify the appropriate authorities related to an emergency.*
- *The following general question was generated after reviewing the Environmental Act Proposal.*
 - *Is there a plan focusing on demand management to minimize wastewater generation and thus avoiding or delaying upgrade or expansion? Please provide clarification regarding this topic.*
 - *Is there any known impact to downstream users of the receiving environment for example the location of intakes for drinking water treatment systems? Please provide more information regarding this topic.*
 - *Are there measures to reduce odours, noise, and other aesthetics aspects?*
 - *Does the landfill have adequate capacity for the increased sludge load from the old plant decommissioning and new plant increased volumes?*
- *The report briefly discusses lift stations and state that it is not part of the project yet continues to reference them. The following comments are relevant if upgrade design includes lift stations:*

Environment Canada has begun to recommend extra precaution around lift stations by recommending a strategy to diminish or eliminate the risk of discharging untreated or partially treated wastewater from forced mains that include:

- *a program to reduce extraneous flows in the wastewater collection system;*
- *a replication of pumping capacity at the pumping station to at least equal the design flow (this may involve redundancy in both pumps and power supply);*
- *an alarm system to provide for timely notification of the system operator and prompt implementation of a predefined contingency plan for emergency operations (for smaller operations, it is often expedient to direct the alarm signal outside normal working hours to other manned emergency providers, such as fire halls);*
- *a fixed or mobile standby system consisting of either alternate power supply or pumping capabilities or both; and*
- *an in-line storage capacity adequate to provide full retention of the wastewater until remedial action is fully implemented.*

Proponent Responses (December 3, 2008):

- The design of the effluent treatment system took into consideration the proposed draft Canada-Wide Strategy for the Management of Municipal Wastewater Effluent.
- The discharge pipe has been assumed to be in acceptable condition as identified by the Manitoba Water Stewardship Board since it is of recent construction. The existing outfall pipe will be used during the operation of the new WWTP. An inspection of the connection to the existing outfall will occur as part of final design.
- The landfill sludge will be disposed at a licenced facility with adequate capacity. The current municipal waste is hauled to the BFI facility in the adjacent R.M. of Rosser, which has capacity for the WWTP waste. As an alternate, the City of Winnipeg Brady Landfill also has capacity.
- The above-ground fuel tank for the backup generator will be located approximately 650 m from the river. The tank will have leak and corrosion protection and be designed and constructed according to the standards specified in the Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products (PN 1326) and applicable standards of the Underwriters Laboratories of Canada, American Standards Institute, American Petroleum Institute and Fire Code. The project falls within provincial jurisdiction and is not covered by the new federal regulation on petroleum and allied products.
- The tender specifications call for the contractor to develop an emergency response plan for the project during construction and for the operator to develop emergency response plans for the facility during operation to address risks associated with fire, explosions, equipment failure, etc. These plans must include sections on how to notify the appropriate authorities in the event of an emergency.
- The R.M. of Headingley has instituted a program to inspect customer low pressure sewage tanks for infiltration and unauthorized surface water discharge.
- The aquatic impact assessment contained within Appendix D carefully modeled and reviewed the impact of the discharge on the receiving waterway. No untoward effects were identified on such downstream intakes.
- - Odours are being managed through an advanced wastewater treatment system that includes a process to strip sulphur from the effluent prior to it

entering the plant as well as a biofilter for air exhausted to the atmosphere. Please see section 3.6.5 of the EIA for additional information.

- Noise levels generated from the operating facility were assessed and found to be negligible.
- The area is in an agricultural zone; the building will be aesthetically pleasing and the grounds will be fenced and well maintained.
- Landfill capacity. See response in Comment 3 bullet 2 in this letter.
- - No lift stations are planned as part of this project. Treated effluent will be discharged from the facility via gravity feed.
 - A customer of the WWTP, the Headingley Correctional Institute, will construct a lift station to lift untreated sewage to the new WWTP for treatment. There is no connection from this line to a waterway and thus no risk of discharge to a waterway as a result of failure of the lift station. That being said, risk management measures to provide for reliable operation such as alarms, backup pumps, etc. are anticipated to be installed in the Headingley Correctional Institute Lift Station.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Environment Canada.
- The draft Environment Act Licence contains a clause that makes it not permissible for the proponent to release a quality of effluent from the Development which:
 - on any day, causes, or contributes to, the mixing zone for the effluent in the Assiniboine River being acutely lethal to aquatic life passing through the mixing zone; or
 - can be demonstrated to be acutely lethal to fish within the mixing zone for the effluent in the Assiniboine River by using a 96-hour static acute lethality test which results in mortality to more than 50 percent of the test fish exposed to 100 percent concentration of effluent, with the test carried out in accordance with the protocol outlined in Environment Canada’s “Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout: EPS 1/RM/13 Second Edition – December 2000” or any future amendment thereof.
- The draft Environment Act Licence requires the Licencee to submit an emergency response plan (ERP) for the Development for approval of the Director in accordance with the “Manitoba Industrial Accidents Council (MIAC) Industrial Emergency Response Planning Guide”.

PUBLIC HEARING:

A public hearing was not requested.

RECOMMENDATION:

The Proponent should be issued a Licence for the operation of the Development in accordance with the specifications, limits, terms and conditions of the attached draft Licence. An inspection should be completed by an Environment Officer from the Environmental Assessment and Licensing Branch prior to transferring the Licence to the Region for enforcement.

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December 30, 2008, Updated February 13, 2009

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