

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Town of Erickson
PROPOSAL NAME: Erickson Water Treatment Plant Upgrades
CLASS OF DEVELOPMENT: 1
TYPE OF DEVELOPMENT: Water Treatment Plants (Wastewater)
CLIENT FILE NO.: 5601.00

OVERVIEW:

On July 6, 2012 the Department received a Proposal from Manitoba Water Services Board on behalf of the Town of Erickson, pursuant to *The Environment Act* to upgrade the Town's existing water treatment plant (WTP) located in E ½ Sec 32-17-18W. The current water treatment process consists of greensand filtration to remove iron and manganese, and a zeolite softening system to remove hardness. Backwash water from the greensand filter is currently discharged to Town's sewer system and wastewater treatment lagoon. The existing water treatment process is being upgraded to reverse osmosis (RO) membrane technology paired with greensand filtered water. The proposed project would reduce hydraulic loading to the Town's lagoon by directing RO concentrate(reject water) and the greensand filter backwash water to Leda Lake located immediately west of the WTP.

On August 24, 2012 Manitoba Conservation and Water Stewardship placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), Main Floor, Winnipeg; the Winnipeg Millennium Public Library, 4th Floor, 251 Donald St.; the Manitoba Eco-Network, 3rd Floor, 303 Portage Avenue, Winnipeg, and the Town of Erickson Office, 45 Main Street, Erickson. Copies of the Proposal were also provided to the Canadian Environmental Assessment Agency (CEEA) and the Technical Advisory Committee (TAC) members. The Department placed public notification of the Proposal in the Erickson South Mountain Press on Friday, August 24, 2012. The newspaper and TAC notifications invited responses until September 24, 2012.

On October 9, 2012, Manitoba Conservation and Water Stewardship forwarded requests for additional information from the TAC to the proponent's consultant. On October 18, 2012, the consultant submitted responses to the comments and requests from the TAC.

On October 24 & 25, 2012, the consultant's responses were distributed to the participating TAC for review and comment.

All additional information necessary for the review was placed in the Public Registries

COMMENTS FROM THE PUBLIC:

No comments were received from the public.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE (TAC):

Manitoba Conservation and Water Stewardship – Parks and Natural Areas Branch (September 17, 2012)

- *No concerns*

Manitoba Infrastructure and Transportation – Highway Planning and Design Branch-Environment Section (September 19, 2012)

- *No concerns*

Manitoba Conservation and Water Stewardship - Sustainable Resource and Policy Management Branch and the Land Branch (September 20, 2012)

- *No concerns*

Manitoba Conservation and Water Stewardship – Air Quality Section - Environmental Programs and Strategies Branch (September 26, 2012)

- *No concerns*

Manitoba Conservation and Water Stewardship – Office of Drinking Water (September 24, 2012)

- *No concerns*

Manitoba Conservation and Water Stewardship – Regulatory Services Branch – Water Use Licensing Section (September 7, 2012)

- *Water Rights Act Licence 2009-012 indicates that water diverted in one year shall not exceed 58.04 dam³ and at a maximum instantaneous rate not to exceed 4.0 L/s. Based on water meter records, the water supply system is being operated within its Licence limits.*
- *Water meter records from 2011 indicate an average demand of 151,000 L/d or 310 L/capita/day.*
- *Annual raw water withdrawal from the production wells for 2011 was 55.14 dam³.*
- *Meter records were only available for raw water entering the plant and there is currently no meter installed on the main distribution header to the town.*
- *With the installation of the reverse osmosis treatment process, the raw water withdrawal rate will have to be increased to approximately 8.0 L/s to allow for adequate treatment capacity of 5.5 L/s. An application will be made to Manitoba Conservation and Water Stewardship, Water Rights Licencing for the increase in withdrawal rate.*
- *It is assumed that future water demand is not anticipated to increase significantly with population growth.*
- *The local aquifer is in a confined aquifer protected by 30 + metres of clay and till overburden with some small layers of sand and gravel.*
- *In summary, the Water Use Licensing Section has no concerns about this project but as outlined in the EAP report, the new plant will have a higher raw water*

demand and this will require the Town to apply for an increase to their allocation under their water rights licence.

Proponent's Response (October 18, 2012)

- As stated in the EAP, an application will be made to Manitoba Conservation and Water Stewardship, Water Rights Licensing for the increase in withdrawal rate. The application is currently being completed.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Regulatory Services Branch – Water Use Licensing Section.

Manitoba Conservation and Water Stewardship – Fisheries Branch - Fisheries Science and Fish Culture Section (September 25, 2012)

- *Fisheries Branch has reviewed this proposal to upgrade the Town of Erickson's water treatment plant. The upgrade involves the utilization of reverse osmosis (RO) technology paired with the current manganese greensand filter. Currently all backwash water from the greensand filter and zeolite softener is discharged to the town's wastewater lagoon. However as there will be significantly more water rejected than under the current process it is proposed that the membrane concentrate (~1.8 L/s) and greensand filter backwash water be discharged directly to Leda Lake via a 75 mm pipeline. The pipeline will be either directionally drilled or trenched to the discharge location. The proponent's have indicated that the outlet to the lake will be constructed by directionally boring through the lake embankment to an elevation of ~ 1m above the lake bed. The embankment will be armoured into the lake bed and construction of the outlet will occur during low flow conditions.*
- *The proponent's have indicated speaking to the regional fisheries biologist, Bruno Bruederlin re: fish species of Leda Lake to which little is known. The lake itself receives surface runoff from a number of small tributaries and precipitation events and there does not appear to be an outlet. Most likely supporting some forage fish species, and in the interests of maintaining the value of this lake to wildlife and for aesthetic values, it is important that the effluent discharge meet or exceed the Manitoba Water Quality Standards, Objectives and Guidelines. The Town has indicated a willingness to engage in a long term water quality monitoring program for the lake. Given the nature of this proposal, as long as they construct the discharge pipeline route via directional drilling, during dry conditions and implement erosion and sediment measures during and after construction until the site is stabilized, and the proponent can address any concerns identified by our colleagues in Water Quality Science Management, any fisheries concerns should be addressed.*

Proponent's Response (October 18, 2012)

- The proposal indicated that the concentrate outlet will be directionally drilled into the lake. The discharge pipeline is in the design phase and it was determined

that given good slope to Leda Lake, discharge via rock rip-rap and a natural drainage ditch about 50 metres from lake edge shore is the most feasible option.

With respect to Manitoba Water Quality Standards, Objectives and Guidelines (MQSOG), it is proposed that a monitoring program period be implemented on the discharge effluent and lake water quality as part of the Environment Act Licence. The main focus of the monitoring program should be to determine if there are any measurable negative impacts to the Lake.

Manitoba Conservation and Water Stewardship – Fisheries Branch - Fisheries Science and Fish Culture Section (November 13, 2012)

- *I just wanted to clarify their response regarding the discharge outlet and that now it will no longer be directionally drilled to the lake but the effluent will be directed to a natural **existing** drainage ditch which enters Leda Lake ~50 m from the point of the discharge outlet? Regardless of method our main concern was that the effluent meet or exceed MWQSOG and there be monitoring to which they indicate both the effluent and lake will be monitored for 2 years post construction.*

Disposition:

- The draft licence includes Clauses 20 to 24 related to effluent and lake monitoring for a period of two years commencing with the operation of the Development.

Manitoba Conservation and Water Stewardship – Water Quality Management Section (September 11, 2012)

- *The proposal is to upgrade the drinking water treatment plant to a reverse osmosis system with reject water proposed to be directed towards Leda Lake. Leda Lake is located adjacent to the Town of Erickson.*
- *The proposal indicates there is no outlet for Leda Lake. The proposed discharge of reverse osmosis membrane concentrate will increase the concentration of a number of chemical constituents of the water of Leda Lake. In particular, the proposal notes hardness, total dissolved solids, sodium, sulphate, fluoride and chloride are projected to increase significantly.*
- *The report does not note if Leda Lake is used for irrigation, watering domestic animals, or recreation. However it is noted the Erickson municipal waste water lagoon discharges into Leda Lake. Periodic water quality monitoring should be required to ensure that discharge of reverse osmosis membrane concentrate does not impact other users of Leda Lake. The proposal notes the town of Erickson will perform long term sampling of the lake water to verify water quality impacts.*
- *We would recommend a two year monitoring program commencing with the operation of the Development. Following this period, the duration of the monitoring program may be extended by the Director if the results, in the opinion of the Director, indicate that a longer monitoring period is appropriate.*

- *Similar to recently issued Environment Act Licences for water supply projects discharging to surface water, we would suggest monitoring occur, in May, July and October and grab samples at locations approved by the Director in the reject water stream within the water treatment plant, and in Leda Lake . The water quality monitoring program could be developed in consultation with Manitoba Conservation and Water Stewardship however I would suggest the following parameters be included:*
 - a) *iron;*
 - b) *hardness as CaCO₃;*
 - c) *sodium;*
 - d) *chloride;*
 - e) *sulphate;*
 - f) *manganese;*
 - g) *fluoride;*
 - h) *total suspended solids; and*
 - i) *total dissolved solids.*
 - j) *sodium absorption ratio*
 - k) *conductivity*

Proponent's Response (October 18, 2012)

- The proposal indicates there is no outlet for Leda Lake. However when examining the surface hydrology of the immediate area, the proposal should have stated there is no obvious outlet to the lake as it appears to be integrated with a complicated network of smaller water bodies including sloughs and drains. It would be reasonable to assume that during wet years and high levels of spring runoff, that these water bodies will interconnect resulting in some turnover of water in the main Lake. In speaking with Town officials, there is no irrigation, watering of domestic animals and the Lake is not used for typical recreation purposes. MWSB agrees that effluent and Lake monitoring be implemented for a minimum 2 year period as is standard on other similar projects in Manitoba. It is recommended that monitoring parameters be consistent with other similar Licences.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Water Quality Management Section.

COMMENTS FROM FEDERAL REPRESENTATION:

Canadian Environmental Assessment Agency (CEEA) (September 12, 2012)

- *the Canadian Environmental Assessment Agency (CEAA) indicated that the project does not meet the the definition of a designated project under The Regulations Designating Physical Activities of CEAA 2012. As the Agency will only be involved in the review of designated projects, no formal federal coordination exercise will be undertaken for this file.*

- *They also indicated that the proponent would be responsible for confirming its regulatory responsibilities in developing the project.*

PUBLIC HEARING:

- A public hearing is not recommended because no comments were received from the public.

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.

There is no aboriginal community nearby the water treatment plant and would be no infringement of aboriginal or treaty rights under Section 35 of the Constitution Act, 1982. Therefore, it is concluded that Crown-Aboriginal consultation is not required for the project.

RECOMMENDATION:

The Proponent should be issued a Licence to upgrade the existing water treatment plant in accordance with the specifications, limits, terms and conditions of the attached draft Licence. Enforcement of the Licence should be assigned to the Western Regional Office of the Environmental Compliance and Enforcement Branch.

PREPARED BY:

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