

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Manitoba Aboriginal and Northern Affairs
PROPOSAL NAME: Community of Sherridon – Extended Aeration Sewage Treatment Plant
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Waste/Scrap - Sewage Treatment Plant
CLIENT FILE NO.: 5356.00

OVERVIEW:

On May 30, 2008, the Department received an Environment Act Proposal (EAP) from Manitoba Aboriginal and Northern Affairs for the decommission, construction and operation of an extended aeration sewage treatment plant located on Lot 15, Block 3, Plan 573 at Sherridon, Manitoba to serve the Community of Sherridon. The proposed sewage treatment plant consists of influent lift station, flow equalization, aeration, and ultraviolet disinfection, and will be able to treat the wastewater flows of 225 people. Treated wastewater from the extended aeration sewage treatment plant will be continuously discharged to Sherlette Creek which empties into Camp Lake. The existing gravity sewer main #2 and lift station will be decommissioned.

On June 11, 2008 a letter was sent to the proponent identifying items that were either required or for which additional information was required. The proponent provided a response in a July 18, 2008 letter.

The Department, on August 6, 2008, placed copies of the Environment Act Proposal (EAP) report in the Public Registries located at 123 Main St. (Union Station), Millennium Public Library, Manitoba Eco-Network, and Flin Flon Public Library and provided copies of the EAP report to the Canadian Environmental Assessment Agency (CEAA) and Technical Advisory Committee (TAC) members. As well, the Department placed public notifications of the EAP in the Flin Flon Gazette on Friday, August 15, 2008. The newspaper and TAC notifications invited responses until September 12, 2008.

On September 29, 2008, Manitoba Conservation forwarded requests for additional information from the TAC to the proponent. On February 23, 2009, the proponent provided responses to the requests for additional information. On February 27, 2009 Manitoba Conservation forwarded the response to the TAC for review and requested comment within three weeks.

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 Infrastructure and Transportation

- *No concerns*

Manitoba Conservation – Parks and Natural Areas Branch

- *No concerns*

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

- *No concerns*

Manitoba Agriculture, Food and Rural Initiatives

- *No concerns*

Manitoba Conservation – Environmental Services

August 19, 2008

- *On page 5, Section vi) a. i. the proposal indicates that four residences will have their sewer system converted from Sewer Main service to Holding tanks, to be pumped out and hauled to the extended aeration sewage treatment plant. The proposal does not identify a dump station or location where the wastewater from these tanks will be deposited and fed into the sewage treatment plant.*
- *It is recommended that the proponent take this opportunity to design for nutrient removal capability or ensure that the design can accommodate this treatment component in the future.*
- *The Water and Sewer Feasibility Study prepared by J.R.Cousin Consultants Ltd. indicates that infiltration is a significant problem. It is unclear in the proposal as to how the infiltration associated with the piping will be reduced prior to the proposed upgrading of the sewage treatment plant. The existing infrastructure diagram in Appendix C identifies an infiltration area which is scheduled to be removed as shown in the proposed infrastructure diagram in Appendix C. However the proposal does not indicate if any other sections of piping within the collection system will be repaired or replaced.*
- *Sludge from the treatment process will be dewatered and stored in a purpose built dewatering trailer. The proponent should ensure that odours associated with this process and storage are addressed.*

Proponent Responses (February 20, 2009):

- The Truck Dumping Station is identified on Drawings A1, C2, M1, M3 and M4. As shown on the drawings the truck dump station is connected to the Lift Station in the EASTP where the wastewater from the truck will be combined with the wastewater from the sewer mains and then proceed onto treatment.
- Should the province amend the existing regulations MANA will investigate the available technologies to meet the new regulations. Consideration has been given to the possibility of upgrading the treatment plant to include chemical nutrient removal in the future.

- As stated in Section 2. a) v) b. on page 4 of the EAP, “Further investigation was conducted by Manitoba Aboriginal and Northern Affairs staff and the Community of Sherridon Public Works Department with respect to Sewer Collection system infiltration. It was determined through a combination of Lift Station flows and site investigations of Gravity Sewer Main Manhole flows that the majority of the infiltration was occurring in only one of the two Gravity Sewer Mains.” This portion of the sewer main is to be removed and holding tanks installed at the four (4) houses that were serviced by this main. The other gravity sewer main will not require repair or replacement to continue to remain in service as it is not the main source of infiltration into the system.
- An appropriate HVAC system has been designed to deal with odours within the building relating to the sludge dewatering process. The dewatering process is manually conducted by the operator and is not an ongoing process. Once sludge reaches a level required to be dealt with, the operator conducts the sludge dewatering procedure. Upon completion the sludge dewatering trailer is dumped at the Waste Disposal Grounds and dealt with according to the waste disposal site Operating Permit.

Disposition:

After receiving the additional information from the proponent, no further comments were received from Manitoba Conservation - Environmental Services.

**Manitoba Intergovernmental Affairs - Community Planning Services- Thompson
Regional Office**

August 18, 2008

- *Although the subject property map only marks Lot 15, Block 3, Plan 573 PLTO (N. Div) as the site area of the sewage treatment plan, CPS noticed that Resolutions #69-08/09 and #69-08/09 provided by Sherridon Council includes Lots 15-20, Block 3, Plan 573 PLTO (N. Div).*
- *The subject properties were classified “Residential” in the Sherridon Land Use Policy, adopted by Council Resolution #53 in 1991. We note that Council amended the land use classification of the subject properties to “N” Natural Resource Area by Resolution #69-08/09. By doing so, the proposed sewage treatment plant is a permitted use under the “N” land use classification.*
- *The above mentioned land use reclassification results in the isolation of Lots 1-3, Block 3, Plan 573 PLTO (N. Div) from the existing “Residential” area of the community. Based on the proposal Lots 1-3 are undeveloped adjacent properties from the sewage treatment plant. We encourage Council and Crown Lands to consider reclassifying these properties to either “Commercial” to complement existing classifications to the North, or to “N” to protect future land use conflicts between properties and land uses.*
- *In the future, we encourage Council to notify our office whenever amendments are made to their Land Use Policy to ensure our copy remains as up to date as possible.*

Proponent Responses (February 20, 2009):

- The Sherridon Community Council and Manitoba Aboriginal and Northern Affairs will act upon the recommendations presented. The Community Management Plan will be updated to reflect the appropriate changes, and those changes will be provided to Community Planning Services of Manitoba Intergovernmental Affairs.

Disposition:

After receiving the additional information from the proponent, no further comments were received from Manitoba Intergovernmental Affairs - Community Planning Services.

Manitoba Water Stewardship – Planning and Coordination Branch

September 11, 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 proposal in question advocates any construction activities, erosion and sediment control measures should be implemented until all of the sites have stabilized.*
- *The Lake Winnipeg Stewardship Board has recommended that all small wastewater treatment facilities, including municipal lagoons, should meet a phosphorus limit of 1.0 mg/L. The proposed phosphorus limit of 1.0 mg/L is consistent with efforts underway across Manitoba and in upstream jurisdictions to reduce nutrient loads to Lake Winnipeg and its watershed. It is desirable to recycle these nutrients on land, rather than releasing them to waterways. In the Lake Winnipeg Stewardship Board’s December 2006 report to the Minister of Water Stewardship, the Board provides several strategies on how nutrient reduction could be achieved for small wastewater treatment facilities (see recommendations 14-20). It appears that the proponent has not considered any alternative wastewater disposal strategies which would reduce nutrients reaching downstream waterways. It would be desirable for the proponent to evaluate the feasibility of using one or more of these alternative treatment strategies. In particular, effluent irrigation and trickle discharge should be explored as alternative disposal strategies which could replace or at least supplement the traditional disposal practices.*
- *It is unclear from the drawing received how close the Lagoon is to Sherlette Creek. Pursuant to the Nutrient Management Regulation (MR 62/2008) under The Water Protection Act, a Nutrient Buffer Zone of 3 to 8 metres (8 metres if land is not covered in permanent vegetation) is established from the high water mark or top of the outer most bank of river (whichever is further from the water). Under*

- the Nutrient Management Regulation (MR. 62/2008), no person shall apply a substance containing nitrogen or phosphorus to land within the Nutrient Buffer Zone.*
- *The proposal states on page 6, “There is no impact to surface or groundwater. The EASTP concrete work will be required to pass static fill tests to prove impermeability. Quality and volume of effluent will not have a negative impact on surface or groundwater.” It is more accurate to state that there are likely no impacts to surface or groundwater.*
 - *Furthermore, the Manitoba Department of Water Stewardship 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 of the Water Science and Management Branch, for all downstream waterways.*
 - *The Environment Act Proposal indicates that there are no fisheries concerns as Sherlett Creek empties into Camp Lake which is heavily contaminated from the historic Sherridon mine. The Proposal also indicates that the quality and volume of discharge will not have an impact to surface water.*
 - *From a recent survey of Sherlett Creek, Sherlett Lake and Portage Lake, a number of fish species including yellow perch, burbot, northern pike, white sucker, walleye and cisco were captured. While only yellow perch, burbot, northern pike and white sucker were found in Sherlett Creek, there is currently a proposal to undertake restoration activities that would re-establish fish habitat and fish passage between Sherlett Lake and Cold Lake via restoration of the historic creek channel. The proposed restoration activities include fish passage at the Sherlett Lake outlet, fixing culvert passage, creek channel reclamation and construction of spawning shoals and riffles. This restoration effort is feasible due to the reclamation activities proposed for the Sherridon orphan mine site which would involve the construction of a dam at the south end of Camp Lake with treatment of this water prior to discharge to Portage Lake.*
 - *In anticipation of these rehabilitation efforts and potential fisheries benefits, effluent discharge for this proposal should meet or exceed Manitoba’s Water Quality Standards, Objectives and Guidelines.*
 - *It would also be beneficial for the proponents to ensure that the current discharge location is not at a proposed spawning riffle.*

Proponent Responses (February 20, 2009):

- This project does not meet the definition of a “water control works” and as such an application for a Water Rights Licence to Construct Water Control Works is not required.
- Erosion and sediment control measures will be utilized where any construction activity warrants until the site has stabilized. As indicated in Section 2. a) viii) c. on page 6 of the EAP, “All work associated with the

installation of the effluent pipe will be planned and executed using appropriate in-stream and/or near stream work practices, including but not limited to the installation of silt curtains, erosion prevention methods, and re-vegetation of any excavation area.”

- As indicated on the attached drawings C 1 & C2 the effluent pipe will be located between the high water elevation and the normal water elevation of Sherlett Creek. In order to prevent erosion riprap will be installed throughout the grass flood plain to the low water level of Sherlett Creek. Silt curtains will be installed parallel to the high water elevation to prevent surface runoff until the excavated area around the project site is re-vegetated.
- We have reviewed the Lake Winnipeg Stewardship Board’s December 2006 report to the Minister of Water Stewardship. It is our opinion that recommendations 14-20 are not suitable for the proposed *wastewater treatment plant and the community of Sherridon*.
- In the event of a change to current regulations requiring all small wastewater treatment facilities to meet the phosphorous limit of 1.0 mg/L MANA will evaluate the feasibility of available technologies for nutrient reduction.
- It is unclear why there is a reference to a lagoon as there is no lagoon involved in this project. The project consists of the construction of a new extended aeration sewage treatment plant with an effluent pipe into Sherlett Creek. As indicated on the attached drawings the plant will be situated approximately 33 m from the closest point to Sherlett Creek.
- The effluent pipe from the extended aeration sewage treatment plant will discharge at the normal water elevation of Sherlett Creek. The discharge will incorporate riprap to prevent erosion throughout the grass floodplain to the low water elevation.
- We agree the EAP should have stated that there are likely no impacts to surface or groundwater.
- MANA is willing to actively participate in any future watershed based management study, plan or nutrient reduction program if indicated in an Environmental Act licence.
- Contact has been made with Wardrop Engineering regarding the enhancement of fish habitat projects on the Sherlett Lake to Kississing Lake watershed. A review of the tender documents for the construction of spawning shoals and riffles related to the Sherridon orphan mine rehabilitation project locates the spawning riffles and spawning shoal on the stream between Portage Lake and Kississing Lake. We understand that no enhancement activities are taking place on Sherlett Creek between Sherlett Lake and Camp Lake, where the existing Sewage Treatment Plant discharge exists and where the new Sewage Treatment Plant discharge is proposed. The proposed effluent discharge location is not at a proposed spawning riffle.
- Effluent discharge from the new Sewage Treatment Plant will meet Manitoba’s Water Quality Standards, Objectives and Guidelines for Municipal Wastewater Effluents. As outlined on pages 5 and 6 in Section 2. a) viii) of the Environment Act Licence Proposal, the effluent quality achieves the minimum standards for fecal coliform organisms (200 organisms/100 mL), biochemical oxygen demand (30 mg/L) and total suspended sediments (30 mg/L).

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Manitoba Water Stewardship – Planning and Coordination Branch.
- 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 Camp Lake and associated waterways and watersheds.

COMMENTS FROM FEDERAL REPRESENTATION:

Canadian Environmental Assessment Agency (CEEA)

September 23, 2008

- *not yet able to confirm whether an environmental assessment under the Canadian Environmental Assessment Act will be required. In order to confirm this, Transport Canada (TC) requires further information regarding the discharge pipe to Sherlett Creek and encouraged to make an application to the Navigable Waters Protection Program. The Department of Fisheries and Oceans (DFO) is still reviewing this project, with specific reference to how the project may interact with and affect other proposals under consideration, however, the DFO response letter will be forwarded to your attention once it is submitted.*
- *Health Canada (HC) would be able to provide specialist advice if requested.*

Proponent Responses (February 20, 2009):

An application is being submitted to the Navigable Waters Program in accordance with the application guide.

Fisheries and Oceans Canada

January 12, 2009

- *DFO understands that plans for the outflow pipe are being finalized and will be forwarded to DFO. Please include any site specific mitigation measures for the installation of the outflow pipe?*
- *What are the volumes of the daily discharge into Sherlette Creek? Will these flows have any impact on Sherlette Creek?*
- *What are the expected temperatures of the effluent entering Sherlette Creek? Will they be similar to the receiving environment and will there be any impacts from temperature changes?*
- *The report indicates that the emergency overflow will run directly into the river. Please clarify the emergency response and the likelihood of such an event.*
- *DFO understands that the existing outfall will remain in place until such time that it is no longer needed. At that time decommissioning options will be evaluated.*

Proponent Responses (February 20, 2009):

- We plan on installing the effluent pipe into the creek during the winter. The creek and floodplain will be cleared of snow and allowed to freeze to a sufficient depth to allow for excavator access. Once installed and backfilled, silt curtains will be installed to contain any sediment runoff from the trench until the native vegetation has re-grown.
- The treatment plant will be capable of treating up to 90 cubic meters of sewage per day. It is our understanding that Sherlett Creek flows are 0.5 to 0.8 cubic meters per second, or 43,200 to 69,120 cubic meters per day. The plant's maximum discharge rate of 90 cubic meters per day will change/increase the creek flow rate by 0.2%. It is unlikely that this discharge of treated effluent will have a significant impact on Sherlett Creek.
- The expected discharge temperatures from the treatment plant will be between 8 °C in the winter and 13 °C in the summer. Since the maximum flow rate of effluent being discharged is 0.2% of the flow of Sherlett Creek we do not anticipate any significant impacts on Sherlett Creek.
- The Sherridon sewage treatment plant employs emergency sewage overflow protection as is suitable for the community. The Sherridon raw sewage is residential (as opposed to municipal) and does not contain any commercial or industrial sewage sources. The community sewage flows are relatively low in relation to the flows of the receiving stream.

The valved emergency overflow pipe that could allow raw sewage to bypass the treatment plant is only accessible from within the locked sewage treatment plant building. The purpose of this valve is primarily public health related; should an unexpected emergency occur at the plant, and other available mitigation measures not work/not be employed in a timely manner, the sewage could be allowed to overflow into the receiving waters, rather than back up into crawlspaces and basements of the residents.

The overflow pipe is connected to the main influent lift station at the treatment plant. This lift station has (2) pumps – 1 duty and 1 stand-by. The lift station also employs an ultrasonic sensor to measure sewage levels, control both pumps, and act as a primary high level alarm. In addition, a high level float switch in the lift station acts as a secondary pump controller and a secondary high level float switch.

In the unlikely event that both lift station pumps fail, and/or should the lift station controls fail, a portable pump could be installed into the lift station pit to pump the sewage from the lift station pit into treatment cells. Pump failures and control panel failures are monitored 24/7 with (3) separate alarm outputs: a visual strobe beacon on top of the plant building, an alarm horn inside the plant building, and a telephone dialer, which will automatically call up to (4) telephone numbers.

Under normal circumstances, the trained Class 2 treatment plant operator will have a minimum of several hours to respond to a high level lift station alarm and therefore the likelihood of an emergency discharge is expected to be extremely unlikely.

- The existing Rotating Biological Contactor (RBC) will be refurbished and utilized exclusively by the Lodge until such a time as a new sewer main is installed. It is anticipated that this will occur within a 2 to 4 year period. Once the sewer main is installed and the lodge is tied into the new treatment plant the RBC will be

decommissioned. At this time MANA will seek advice on the regulatory requirements for the decommissioning of the outfall.

DFO further Comments (April 17, 2009)

Our review consisted of:

- *Project Proposal "The Community of Sherridon — Extended Aeration Sewage Treatment Plant" submitted by Andrew Forward on behalf of Manitoba Aboriginal and Northern Affairs.*
- *Additional information "Subject: Response to Technical Advisory Committee's Initial Review" received March 5, 2009, submitted by Burns Maendel Consulting Engineers Ltd.*

We understand:

- *That your proposal consists of constructing a new Extended Aeration Treatment Plant (EASTP), situated approximately 33 metres from the closest point to Sherlette Creek.*
- *The EASTP will discharge into Sherlette Creek, 350 metres upstream from the existing Rotating Biological Contactor (RBC) Sewage Treatment Plant.*
- *An effluent discharge pipe from the EASTP will discharge at the normal water elevation of Sherlette Creek. The discharge pipe will incorporate riprap to prevent erosion throughout the grass floodplain to the low water elevation.*
- *During installation of the effluent discharge pipe effective erosion and sediment control measures will be utilized where any construction activity warrants until the site is stabilized.*
- *The proposed effluent discharge location is not at a proposed spawning riffle.*
- *The EASTP maximum discharge rate will be 90 cubic metres per day with changes/increase in flow rate by only 0.2 % to Sherlette Creek with expected discharge temperatures between 8 °C in the winter and 13 °C in the summer.*
- *The existing RBC will be refurbished and utilized by the Lodge until a new sewer main is installed (2 to 4 years). At that time Manitoba Aboriginal and Northern Affairs will seek advice on decommissioning of the outfall associated with the RBC.*

To reduce potential impacts to fish and fish habitat we are recommending the following mitigation measures be included into your plans:

- *No instream work should be conducted between April 1 and June 30 of any given year.*
- *All reasonable efforts should be made to minimize the duration of instream work, and minimize the amount of sediment generated during construction. Disturbance to the bed and banks of the watercourse should be minimized and confined to the immediate work site.*
- *The works should be constructed under frozen, low flow or dry conditions. Construction is halted during heavy rains. The contractor should have a contingency plan in place during construction to ensure sediment does not enter Sherlette Creek during high storm events.*

- *Operate machinery from outside of the water and in a manner that minimizes disturbance to the banks of the watercourse:*
 - *Machinery is to arrive on site in a clean condition and is to be maintained free of fluid leaks.*
 - *Wash, refuel and service machinery and store fuel and other materials for the machinery away from the water to prevent deleterious substances from entering the water.*
 - *Keep an emergency spill kit on site in case of fluid leaks or spills from machinery.*

- *Install effective sediment and erosion control measures before starting work to prevent the entry of sediment into the watercourse. Inspect and monitor measures regularly during the course of construction and until any required re-vegetation has established to ensure they are functioning properly. Make all necessary repairs if any damage is discovered or these measures are not effective at controlling erosion and sedimentation.*
- *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.*
- *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. If there is insufficient time in the growing season remaining 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.*
- *Maintain effective sediment and erosion control measures until complete re-vegetation of disturbed areas is achieved.*

Disposition:

The draft Environment Act Licence contains a Clause that requires the Licencee to

- conduct all ditch related work activities during no flow or dry conditions and not during the April 1 to June 15 fish spawning and incubation period;
- not construct the wastewater treatment lagoon during periods of heavy rain;
- place and/or isolate all dredged and construction material where it will not erode into any watercourse;
- implement effective long-term sediment and erosion control measures to prevent soil-laden runoff, and/or silt from entering any watercourse during construction and until vegetation is established;
- routinely inspect all erosion and sediment control structures and immediately complete any necessary maintenance or repair;
- 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; and
- use rock that is free of silt and clay for rip rap.

PUBLIC HEARING:

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

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.

PREPARED BY:

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