



February 12, 2016

File No. 15-1274-003

Manitoba Conservation and Water Stewardship
Environmental Approvals Branch
Suite 160 -123 Main Street
Winnipeg, Manitoba
R3C 1A5

ATTENTION: Bruce Webb, P. Eng.
Water Development & Control Assessment Officer

RE: RM of Alexander Wastewater Lagoon, Environment Act Proposal
File number: 5800.00
Response to Request for Additional Information

3rd Floor
865 Waverley Street
Winnipeg,
Manitoba
R3T 5P4
204.896.1209
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www.ksgroup.com

Dear Mr. Webb:

KGS Group has prepared this response to your request for additional information on the Environment Act Proposal (EAP) submitted October 23, 2015 for licencing approval to construct and operate a wastewater lagoon to meet the needs of the municipality, residents of the Bird River area and cottagers at Pointe du Bois.

Responses are provided below for the nine (9) items identified in your email dated January 29, 2016 so that you can continue processing the proposal. Supporting information is enclosed with this letter, as identified in the following responses.

1. The wetland restoration assessment was part of a previous study by Manitoba Hydro and is unrelated to the lagoon design.
2. The response to Item 2 will also apply to Items 5, 6, 7, and 8. These items request commentary and/or additional information to support the application of treated effluent to the forested area west of the lagoon site.

KGS Group had selected the land application of treated effluent option based on anticipated negative public perception of discharging directly into Rice Creek in close proximity to local residents and recreational water users. However, KGS Group is not proposing to conduct further studies and assessment related to the land application.

An alternative option that we are now proposing is to discharge south of the lagoon site into a large wetland area approximately 1.5 km south of the PR 313 (see attached Appendix A). This would provide an area for significant nutrient uptake and overall dilution prior to entering the Rice Lake river system. The exact location of the discharge would require field selection of an optimal location. Based on this preliminary review, there appear to be several potential wetlands areas to the south of PR 313. It should be understood that the discharged effluent would meet the required effluent discharge criteria within the *Manitoba Water Quality Standards, Objectives, and Guidelines Regulation* (MWQSOG) prior to discharge.

3. The rolling average is applicable to wastewater treatment plants with continuous discharge. However, as commented, a sample will be collected prior to discharge of treated effluent to ensure that discharge criteria are met, and the rolling average will not be utilized.
4. Based on a shift from low flow land application to a higher flow annual discharge into a wetland area, it is estimated that the discharge period will be approximately 3 weeks (compared to 2 months for land application). The primary cell has sufficient capacity for 3 weeks of influent loading. It is estimated that primary cell loading in the range of 1,000 m³ can be anticipated in the 3 week discharge period. The capacity of the primary cell at a 1.5 m operating depth is 6,400 m³. Provision of this loading could be accomplished in a number of ways during discharge. For example, a few weeks prior to discharge, the valve between the primary and secondary cell could be closed, and approximately one third of the primary cell could be pumped into the secondary cell utilizing a small portion of the excess freeboard in the secondary cell.
5. See response to Item #2.
6. See response to Item #2.
7. See response to Item #2. It should be noted that the discharged effluent will be treated and KGS is not anticipating an exceedence of phosphorous within the effluent. Discharge to the wetlands may assist in further nutrient uptake prior to ultimate discharge into the Rice Lake river system.
8. See response to Item #2.
9. The RM of Alexander assessed 3 sites for a lagoon development. The Manitoba Hydro site was deemed to be optimum and located relatively central to lagoon users. The two other sites that were assessed as described in EAP Section 2.5.1 required drainage development, access, clearing, etc. with one being just marginally beyond required buffer zones. Additionally, hauling to the Lac du Bonnet lagoon is 22 kilometres further than from the main concentration of cabins. For these reasons, the RM of Alexander has deemed this site to be practical.

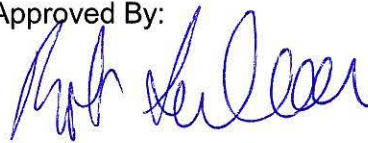
Should you require any additional information or have any questions regarding the Environment Act Proposal, please contact the undersigned at 204-896-1209.

Prepared By:



Kenton Thiessen, P.Eng.
Environmental Engineer

Approved By:

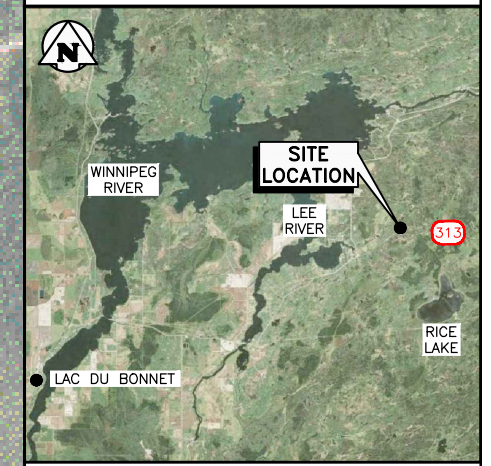
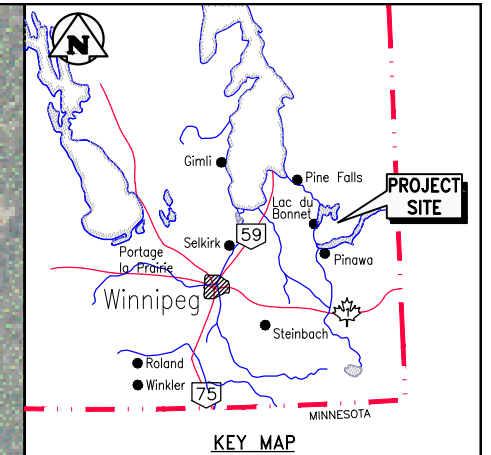
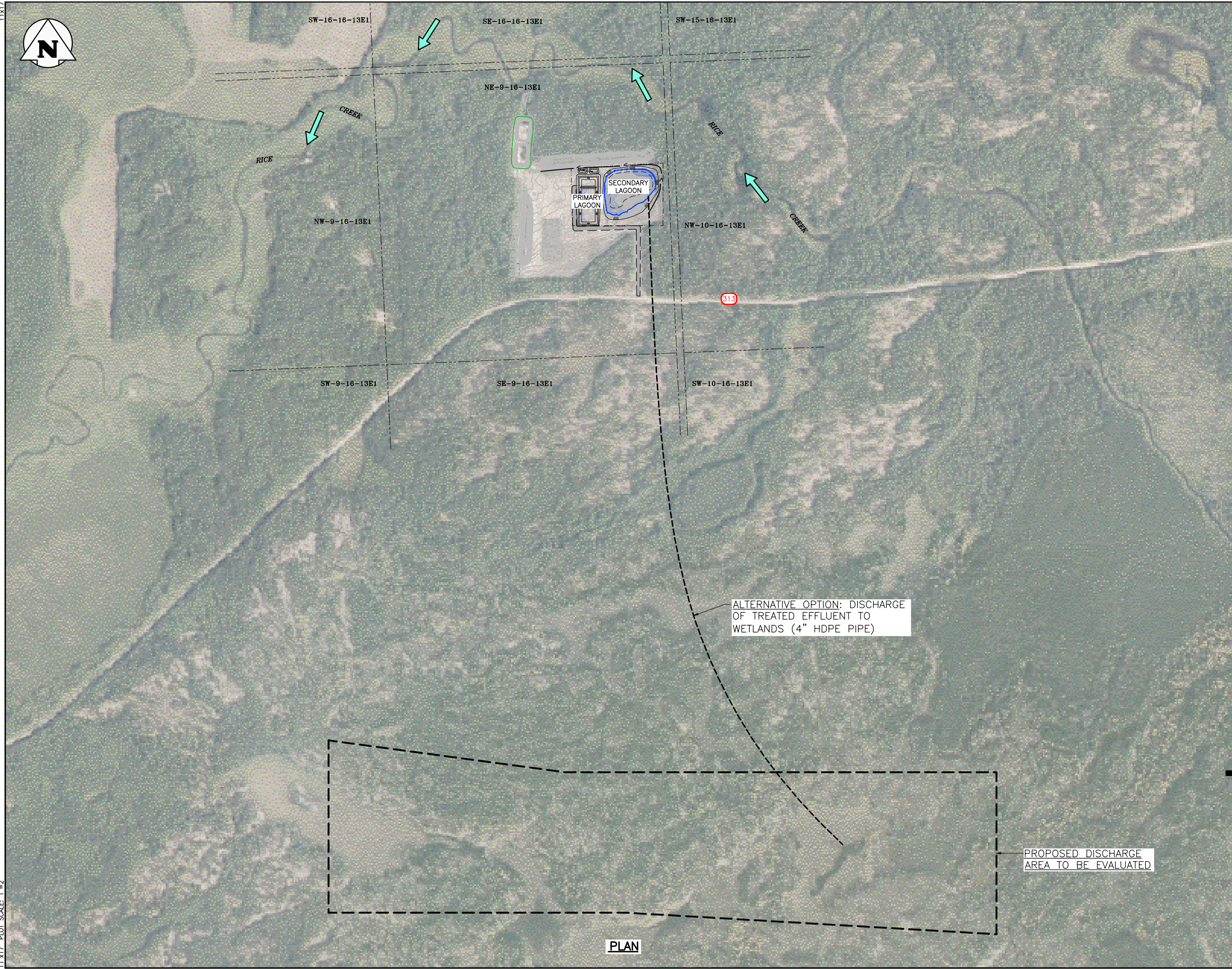


Rob Sinclair, P.Eng.
Manager, Environmental Services

KT/jr

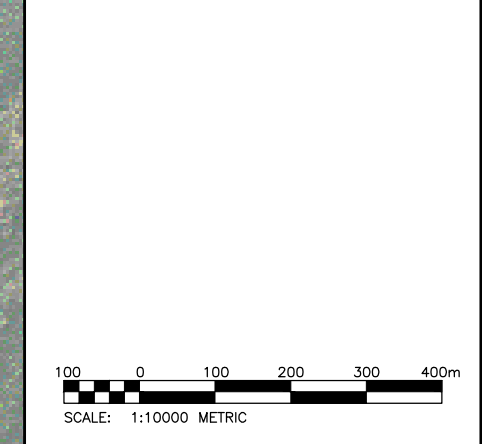
APPENDIX A
ALTERNATIVE DISCHARGE OPTION

11x17
 File Name: \\k-file-4\p-data\Projects\2015\15-1274-003\DWG\Env\Issued For Information\15-1274-003_Fig A1.dwg - Tab: FIG 1 Plotted By: meilleur 16/02/08 [Mon 4:09pm]
 11x17" PLOT SCALE: 1"=2'



LEGEND:

- CONTOUR LINES
- QUARTER SECTIONS
- QUARRY LEASE (QL-1947)



A	16/02/08	ISSUED FOR INFORMATION	KDT	RDS
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY

REVISIONS / ISSUE

KGS GROUP
 CONSULTING ENGINEERS

RM OF ALEXANDER

WASTE WATER LAGOON
 ENVIRONMENT ACT PROPOSAL

EFFLUENT DISCHARGE ALTERNATIVE

FEBRUARY 2016 FIGURE A-1 REV: A

PLAN