



March 11, 2016

Project No: 151-12617-00

Tracey Braun, M.Sc.

Director, Environmental Approvals
MANITOBA CONSERVATION AND WATER STEWARDSHIP
160-123 Main Street
Winnipeg, MB R3C 1A5

Dear Ms. Braun:

**RE: RM OF RITCHOT – ST. ADOLPHE LAGOON
NOTICE OF ALTERATION – LICENCE No: 2776**

On behalf of our client, the RM of Ritchot, we would like to apply for an alteration to Environment Act Licence No. 2776 for the RM of Ritchot - St. Adolphe Wastewater Treatment Lagoon. The proposed changes do not affect the overall footprint of the lagoon system, but rather re-purpose the original primary and secondary cells to allow for additional organic capacity.

The recent expansion to the lagoon in 2009, expanded the primary cell to add additional organic capacity and a new secondary cell to add hydraulic capacity to be able to service all lots within the existing dyke area of St. Adolphe. Since then, the northern subdivisions are being built out and there are only about 50 lots left within the old dyke area. Last fall, a new perimeter dyke was under construction to expand the available land for residential development. There are plans for an additional 1000 lots or 3,000 people, mostly single family with some multi-family units. The first phase is expected to add 260 residential units or approximately 780 people and is expected to take 5-10 years to build out depending on demand. Construction for the required infrastructure is expected to start later this month.

A simple solution for the short term (Phase 1) is to convert the old secondary cell to the primary cell and convert the primary cell to a secondary cell. The new forcemain from the new subdivision lift station will be installed along the south municipal road before entering the new primary (old secondary). The old forcemain from the existing lift station is to be twinned from the existing lift station to a point across the St. Adolphe Coulee from the lagoon, joined with a "T" and then a new line will be directionally drilled into the new primary (old secondary) cell. The new secondary (old primary) will then require a discharge pipe and valve which will be located in close proximity to the discharge from the newer secondary and drain along the north side of the lagoon facility to the St. Adolphe Coulee, utilizing the same discharge route. This is further detailed in the attached drawing. In the future, it is likely that the new primary will be converted back to a secondary cell as expansion proceeds to the east and primary cell(s) are in the middle and secondary storage cells to the east and west.

The RM has set aside land to the east of the existing lagoon system for future development and it is expected that an expansion will be required before Phase 2 of the development proceeds. At that time, a new EAP will be submitted for review. The RM has been monitoring the lift station flows for several years now and are seeing a significant drop in the flows to the lagoon and thus the Lpcd values which allows the storage available to support a larger population than originally planned.

The 2009 expansion was designed for a population of 1,912 people which included the bussed-in school component. The primary cell was designed for 147.2 kg-BOD per day and the storage for 171,500 cubic metres. The Phase 1 population of 780 added to the 1,912 for existing build-out will result in a design population of 2,692, approximately 2,700 people.

With the re-configuring of the cells, the old secondary/new primary will provide a surface area of approximately 4 hectares, good for 2,900 people and the resulting storage will be approximately 155,000 cubic metres. The present flows are averaging 290,000 L/d over the storage period and divided by the present population of approximately 1,780 = 163 Lpcd, which although low, appears consistent with the present levels being seen in the storage cells the last few years. Even using a higher

Lpcd of 200, would allow for a population of 3,400 people or at 225 Lpcd, would allow for 3,000 people.

On this basis, the re-configuring of the primary and secondary cell will provide for the first phase of the development with no need for an expansion of the existing lagoon system.

If you have any questions regarding this alteration request, please contact the undersigned. We look forward to your response on this matter and respectfully request a reply before the end of March, 2016.

Regards,

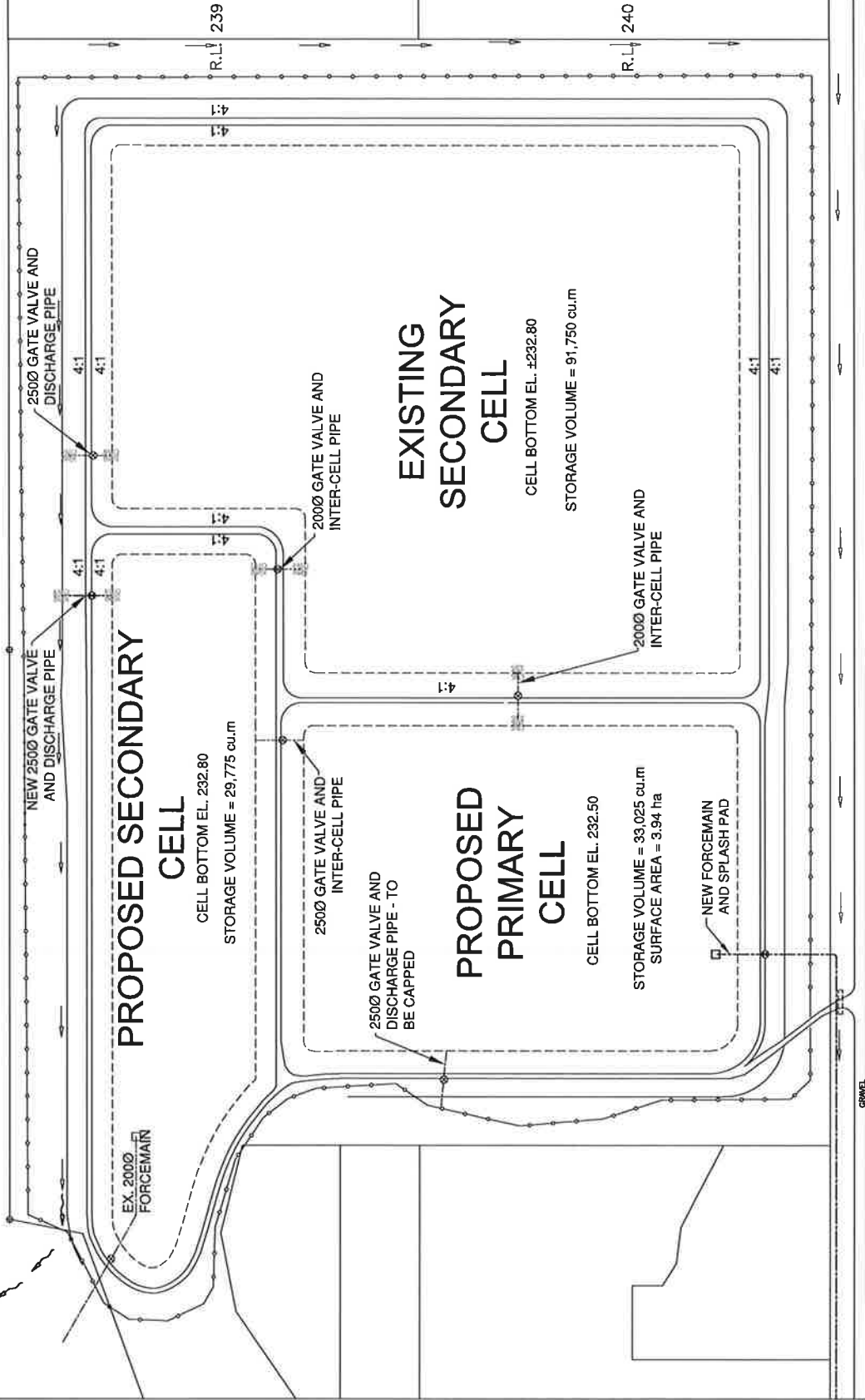
WSP Canada Inc.



Ross Webster, P. Eng.
Manager, Environmental Infrastructure

cc: Mike Dumaine, Public Works, RM of Ritchot

R.L. 238



R.L. 239

R.L. 240

R.L. 241

TOTAL LAGOON STORAGE VOLUME = 154,550 cu.m