

Appendix F: Pre-PIC Correspondence



Township of Ramara
Attn: Ms. Jennifer Connor
Township Clerk
2297 Highway 12, PO Box 130
Breachin, ON, L0K 1B0

November 9, 2017

Re: Notice of Completion of Class Environmental Assessment Study Bayshore Village Effluent Spray Irrigation System – LSRCA Comments

Dear Ms. Connor,

I have reviewed the Bayshore Villiage Sewage Works Effluent Spray Irrigation Class Environmental Assessment Phases 1 and 2 Project File and offer the following comments:

Source Water Protection

The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage is one of the prescribed drinking water threats under the *Clean Water Act, 2006*. A portion of the south effluent spray irrigation field is within the wellhead protection area for the Bayshore Village Subdivision Well Supply (see Appendix A). Policies SEWG(b)-1 to SEWG(b)-3 of the South Georgian Bay Lake Simcoe Source Protection Plan and the circumstances and vulnerability score needed for the effluent discharge to be considered a significant drinking water threat should be reviewed to ensure that the proposed activity will be permitted. The recommended short term solution of establishing an additional spray irrigation field (Alternative 3A from the abovementioned report) adjacent to the existing field should be scrutinized in the same way.

If sewage biosolids are applied to land then policies NASM(App)-1 to NASM(App)-4 of the South Georgian Bay Lake Simcoe Source Protection Plan and the circumstances and vulnerability score needed for the land application of sewage biosolids to be considered a significant drinking water threat should be reviewed to ensure that the proposed activity will be permitted.

Thank you for the opportunity to comment on the Class EA study. Should you have any questions concerning our comments above, please contact the undersigned.

For further policy review, the South Georgian Bay Lake Simcoe Source Protection Plan can be found at www.ourwatershed.ca.

Sincerely,

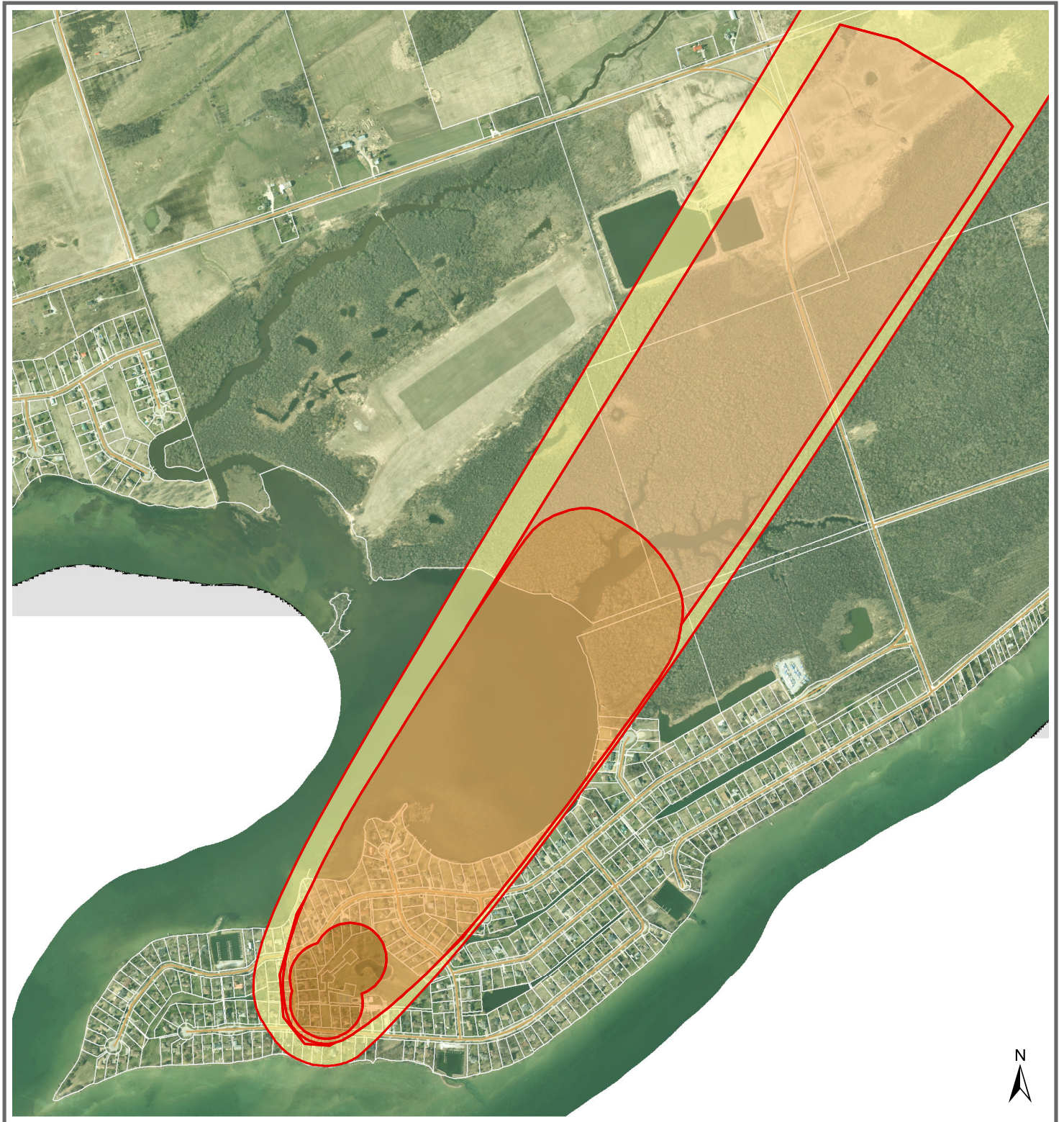
A handwritten signature in grey ink that reads "Mike Wilson".

Mike Wilson, P. Geo.
Source Water Protection Coordinator

cc. Bill Thompson, Program Manager, South Georgina Bay – Lake Simcoe Source Protection Region

Taylor Knapp, Development Planner, Lake Simcoe Region Conservation Authority
Dyana Marks, Resources Technician/ RMO, Township of Ramara

Bayshore Village Subdivision Well Supply Wellhead Protection Areas



- WHPA-A (100m)
- WHPA-B (2 yr)
- WHPA-C (5 yr)
- WHPA-D (25 yr)

1:15,000

0 250 500 750 1,000 m

This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources. While every effort has been made to accurately depict the information, data / mapping errors may exist.

This map has been produced for illustrative purposes only.

LSRCA GIS Services DRAFT created KZ Nov. 2017. © LAKE SIMCOE REGION CONSERVATION AUTHORITY. All Rights Reserved. The following datasets municipal boundary, ORN are © Queens Printer for Ontario, 2016. Reproduced with Permission.

Appendix A



C.C. Tatham & Associates Ltd.

Consulting Engineers

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October 3, 2018

via e-mail
CCTA File 100080

Mike Wilson

Source Water Protection Coordinator
Lake Simcoe Region Conservation Authority
120 Bayview Parkway
Newmarket, ON L3Y 3W3

**Re: Township of Ramara
Bayshore Village Sewage Works Effluent Spray Irrigation Class EA
Response to Comments**

Dear Mr. Wilson:

We wish to provide responses to the comments you provided on the Bayshore Village Effluent Spray Irrigation Class EA Project File.

During the Class EA study, we reviewed the South Georgian Bay Lake Simcoe Source Protection Plan and table of circumstances leading to a significant threat, and how these may affect the alternative approaches to resolving the issues with the Bayshore Village effluent spray irrigation system. Part of the existing sewage lagoons and effluent spray irrigation fields are within the WHPA-C (5-year time of travel) or WHPA-D (25-year time of travel) for the Bayshore Village municipal wells.

The existing sewage lagoons and spray irrigation system are approved by an MOE Certificate of Approval. The C of A includes terms and conditions and monitoring requirements, which are consistently met by the Township of Ramara. Therefore, Policy SEWG(b)-1 does not apply and Policy SEWG(b)-2 is met. Further, as a small sewage treatment plant discharging less than 400 m³/day of treated effluent, the Bayshore Village facility is not considered a significant threat to the municipal drinking water supply.

Some of the additional effluent spray irrigation areas adjacent to the lagoons that were suggested in the Class EA study would be within the WHPA-C or D and others would be outside the wellhead protection areas. It is acknowledged that it would be preferable for any new effluent spray irrigation field to be located outside of the wellhead protection area. We note however that the activity would not be a significant threat (due to the small volume of effluent applied) and that any ECA amendment that will be issued approving additional effluent spray fields would contain terms and conditions to ensure the new works are built, operated and monitored such that they do not become a significant threat to the

Bayshore Village well supply. Therefore, Policy SEWG(b)-3 does not apply under the circumstances at this site.

Sewage biosolids are not applied to land at the Bayshore Village sewage works site, therefore Policies NASM(App)-1 to 4 do not apply.

Thank you very much for your comments.

Yours truly,
C.C. Tatham & Associates Ltd.



Suzanne Troxler, B.Eng., M.Sc., P.Eng.
Director, Manager – Environmental Engineering
ST:rlh

copy: Dave Readman, Township of Ramara (via e-mail dreadman@ramara.ca)
Jennifer Connor, Township of Ramara, (via e-mail jconnor@ramara.ca)

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Ministry of the Environment

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November 28, 2017

EA 01-06-03

Suzanne Troxler
Project Manager
C.C. Tatham and Associates Ltd.
115 Sandford Fleming Drive, Suite 200
Collingwood, L9Y 5A6

**RE: Bayshore Village Sewage Works Effluent Spray Irrigation
Township of Ramara
Class Environmental Assessment
Final Project File, September 26, 2017**

Dear Ms. Troxler,

We have reviewed the final Project File report for the above-noted Class Environmental Assessment (EA) project located in the Township of Ramara. The following comments are provided for consideration:

Project Description

The Project File concluded that there should be both a long-term and short-term solution implemented. The long-term preferred solution (Alternative 6) is to discontinue the current mode of effluent disposal via spray irrigation, upgrade the sewage treatment plant (STP) and discharge the effluent to Wainman's Creek. This is deemed a long-term solution due to the fact that obtaining approval to discharge the effluent to the Creek is reliant upon revisions being made to policies of the Lake Simcoe Protection Plan (LSPP) and Phosphorus Reduction Strategy (PRS). The project file also concluded that the short-term preferred solution (Alternative 3A) is to establish a new spray irrigation field, in addition to the existing fields.

Long-term Solution

- The EA notes that, before the proposed long-term preferred solution can be implemented, amendments to the LSPP are required. However, it is not possible to determine if or when the necessary amendments would be approved or what additional conditions may have to be met. It is therefore impossible to determine if or when the long term solution could be implemented.

It is recommended that a solution that fits within the existing policy and regulatory requirements, including the LSPP and PRS, be identified for the long-term solution.

- Cost is a significant factor in the selection of the preferred alternative. The Project File states that the preferred long-term solution (Alternative 6) would cost \$3 M. However, this is largely dependent on the level of treatment required. Even if the necessary amendment(s) to the LSPP are obtained at some point in the future, it is highly likely that the direct discharge option would be required to meet a very high level of treatment. This would significantly increase the cost for implementing this alternative, making it a much less attractive option. Properly re-assessing the cost to implement this alternative would require a more in-depth review of factors such as: effluent quality targets likely to be required and the treatment technologies needed to achieve

these; infrastructure needs including plant upgrades and potentially, a new outfall in the lake; the cost of the environmental impact and engineering studies; etc.

- During the Class EA study, pumping sewage to the Lagoon City STP was included in the long list of alternative solutions (alternative 7). However, this alternative was not considered viable due to cost, operational concerns and expected requirements to upgrade the STP. As a result, this alternative was not considered further. When weighing the new STP (alternative 6) versus pumping sewage to the existing Lagoon City STP (alternative 7), the Township should consider realistic estimates of all capital costs and operating costs that are reasonably expected to arise over the expected useful life of the infrastructure asset.

Short-term Solution

- From a surface water perspective, no significant concerns have been identified at this time. The ministry also recognizes that there is no increase in capacity being considered with this interim solution.
- From a groundwater perspective, the ministry does not have an objection in principle with the addition of or replacement of the effluent spray beds. However, in order to support this option, the ministry requires a hydrogeological study of the existing spray fields and of the areas for new spray fields and whether or not these new areas would meet “reasonable use” as defined in *Guideline B-7 Incorporation of the Reasonable Use Concept into MOEE Groundwater Management Activities*. This hydrogeological study should include the monitoring data collected from the North Fields and the South Fields.
- Table 4 “Assessment of Alternatives” states that for Alternative 3A “spray irrigation operation does not cause noise or have odours”. However, Table 5 “Summary of Written Comments Received at PIC No.1 and Responses” indicates that a resident “finds the spray irrigation operation results in very bad odour causing headaches”.

Considering that Alternative 3A involves increasing the land used for spray irrigation by 16 ha, it is recommended to conduct an Air Quality Impact Assessment to ensure that the short-term solution will not result in odour impacts off-site at nearby sensitive receptors. The assessment should also discuss any mitigation measures that may be required.

- The approval for this system limits the spray irrigation operation to the period between May 18 and September 28 each year. However, requests for extension of the spraying period past the September 28th window have been common. This has been necessary due to weather and a reduced absorption capacity of the spray fields due to compaction. Although aeration of the fields was undertaken in an attempt to increase the absorption capacity, it has not been successful. We anticipate the addition of new field(s) will alleviate this problem.
- In the past, ministry staff have received calls regarding potential discharge of lagoon effluent into Wainman’s Creek. There have also been concerns from neighbouring residents regarding aerosols and drift from the spray sites. Staff have also been informed that the piping in the spray fields requires frequent maintenance due to breaks. We expect the addition of new spray fields along with the addition of UV treatment will address these concerns. The ministry recommends an evaluation of the system and its operation be undertaken to ensure the integrity of the system (e.g., maintenance of conveyance pipes) and to ensure operations follow established procedures (e.g., timing of spraying, rates of application, regular inspections etc.).

Conclusion

It is recommended that the above comments be addressed along with the addition of the hydrogeological study and the Air Quality Impact Assessment be submitted prior to the completion of the EA.

Thank you for the opportunity to comment on this project. Should your team have any questions regarding the above, please contact me at 416-326-3477 or via email: paul.d.martin@ontario.ca.

Yours truly,

A handwritten signature in black ink that reads "Paul Martin". The signature is written in a cursive style with a large, stylized 'P' and 'M'.

Paul Martin, Supervisor
Air, Pesticides and Environmental Planning

- c. C. Hood, Manager, Barrie District Office, MOECC
T. Dufresne, Technical Support Manager, MOECC
Central Region EA File
A & P File



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Consulting Engineers

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October 3, 2018

via e-mail
CCTA File 100080

Paul Martin

Supervisor, Air, Pesticides and Environmental Planning
Ministry of the Environment, Conservation and Parks
Central Region
Technical Support Section
5775 Yonge Street, 8th Floor
North York, ON M2M 4J1

Re: Township of Ramara
Bayshore Village Sewage Works Effluent Spray Irrigation Class EA
Response to Comments

Dear Mr. Martin:

We have reviewed the comments you provided on the Bayshore Village Effluent Spray Irrigation Class EA Project File. We wish to provide our responses to these comments and present the Township of Ramara's proposed next steps on this project.

Response to Comments on Preferred Long-Term Solution

We acknowledge that the Class EA's preferred long term solution does not fit well within the current ministry policies with regards to Lake Simcoe. However, it is the intent of the Township to pursue their request to have the Ministry review the wording of Policy 4.3 of the Lake Simcoe Protection Plan as part of the 10-year review that is mandated by the *Lake Simcoe Protection Act*. The Township hopes to obtain an acknowledgment that the Bayshore Village sewage works is an existing municipal system on the shore of Lake Simcoe that should be considered in the LSPP. The Township concurs with the Class EA conclusion that upgrading the Bayshore Village STP to a tertiary facility with a surface effluent discharge is the best approach to address the issues caused by an inappropriate effluent disposal system at this location, and can be implemented without any negative impacts on lake water quality.

The estimated project cost of the preferred solution is for adding a tertiary treatment facility downstream of the existing secondary treatment lagoons. This facility will house coagulant addition, a tertiary filter to achieve an effluent TP of 0.05 mg/L, and UV disinfection. The proposed outfall would be to the creek or to the wetland, not directly into Lake Simcoe. Therefore, we believe our preliminary cost estimate of \$3M is appropriate.

The option of pumping sewage or effluent to the Lagoon City STP would involve an 8 km to 15 km long forcemain, depending on available easements and feasibility of crossing wetlands. In the Class EA report we indicate concern with the very high estimated cost of constructing this forcemain and pumping station (currently estimated at \$7M to \$12M), and the ongoing operation and energy costs. We do not see the potential benefits to the environment of ongoing pumping of effluent from Bayshore Village for discharge at an alternate location on Lake Simcoe. In our analysis, a more cost-effective solution is to provide tertiary treatment for phosphorus removal at the existing Bayshore Village treatment facility and utilize a small share (7 kg/year) of the Lagoon City STP's maximum phosphorus load (249 kg/year) to discharge the effluent to Lake Simcoe at Bayshore Village.

Response to Comments on Preferred Short Term Solution

The existing spray irrigation fields were designed and built in the 1980s and 1990s and were approved by the Ministry of the Environment. The addition of a new field to supplement the existing spray fields will require a hydrogeological study, a design brief and ECA application to describe how the new spray field design will meet MOE Sewage Works Design Guidelines. This work is intended to be completed during the design of the new spray field rather than during the Class EA study. At this time, the property immediately west of the municipal lagoons that was being considered for the additional spray field during the Class EA has been recently purchased by a third party and is not currently for sale or lease. Review of available lands at a greater distance from the lagoons is now necessary to identify potential new spray field locations.

With respect to odours from the effluent spray irrigation system, there has not been odour complaints in the past. The comment from one resident about odours has not been confirmed. We will require further direction from the MECP on the terms of reference for the requested Air Quality Impact Assessment and mitigating measures study for the lagoons and effluent spray irrigation. This assessment will be conducted when a new spray irrigation field is identified. We also note that the preferred short term solution includes the addition of tree buffers to mitigate concerns with aerosols from the existing spray irrigation operation.

The Township operates and maintains its spray irrigation system in accordance with the Certificate of Approval, and is aware of the need to replace equipment and facilities as they age and before they fail. The costs associated with the maintenance of its spray equipment on the existing fields is in the Township's operating budgets.

Interim Upgrades to the Bayshore Village Sewage Treatment and Effluent Disposal Works

The Township is planning to apply to the MECP for approval of interim upgrades to the Bayshore Village sewage treatment and effluent disposal system in order to reduce its potential phosphorus impact to Lake Simcoe and start to address the residents' concerns with the spray irrigation system. These measures will not directly address the capacity issue, however are intended to minimize, on an interim

basis, the potential impacts if the soil absorption capacity of the spray irrigation fields is temporarily exceeded.

The proposal will consist of:

- Adding a coagulant feed and mixing system to provide phosphorus precipitation in the lagoons. Alum or PAC is proposed to be injected into the incoming forcemain to the first lagoon cell. Metering pumps and a coagulant storage tank would be housed in a shed adjacent to the lagoon and provide year-round coagulant addition. The design objective is to reduce the phosphorus content of the lagoon effluent from the historical average of 0.9 mg/L to 0.3 mg/L.
- Disinfecting the lagoon effluent by UV light. An in-line UV system would be installed on the existing effluent pump station discharge pipe to the spray fields, with a design objective of 200 counts per 100 mL.

We will submit a letter to the MECP in the near future requesting technical comments in advance of submitting an ECA application for these interim measures.

We trust this letter provides adequate clarifications to your comments. We are available to meet with the MECP Barrie District Office and the Technical Support Section to discuss potential next steps to resolve the Bayshore Village effluent spray irrigation issues.

Yours truly,
C.C. Tatham & Associates Ltd.



Suzanne Troxler, B.Eng., M.Sc., P.Eng.
Director, Manager – Environmental Engineering
ST:rlh

copy: Dave Readman, Township of Ramara, via e-mail (dreadman@ramara.ca)
Jennifer Connor, Township of Ramara, via e-mail (jconnor@ramara.ca)

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November 21, 2018

File No.: EA 01-06-03

Suzanne Troxler
Project Manager
C.C. Tatham and Associates Ltd.
115 Sandford Fleming Drive, Suite 200
Collingwood, Ontario L9Y 5A6

Re: Bayshore Village Sewage Works Effluent Spray Irrigation
Township of Ramara
Class Environmental Assessment
Response to the Ministry's November 28, 2017 Comments on the Project File

Dear Ms. Troxler,

Thank you for your October 3, 2018 response to our comments dated November 28, 2017 for the above noted Class Environmental Assessment (EA) project. The ministry has reviewed your response and provides further comments below regarding the preferred short-term solution identified in your letter:

Based on the provisions of the Municipal Engineers Association's Municipal Class Environmental Assessment, and the purpose of the *Environmental Assessment Act* (Act), it is our view that further work must be done to verify the feasibility of the preferred short-term solution prior to its implementation. As the additional spray fields which were identified as the preferred option are no longer available for sale or lease (as mentioned in your October 3 letter), the preferred option must be revised to include actual lands that will be identified for use as spray fields. In the absence of this information, it is the ministry's view that the EA process for this project is not complete.

The ministry acknowledges that the proponent has committed to undertake a review of all available lands at a greater distance from the lagoons than previously considered; however this assessment must be completed as part of the EA process in order to select the preferred short-term solution. Any impacts on surrounding communities or nearby sensitive receptors from the proposed short-term solution must also be evaluated. As per our November 28, 2017 comments, once the additional spray fields are evaluated, a hydrogeological study must also be conducted at the EA stage.

The ministry's Barrie District office has expressed concerns with the existing sewage treatment system and the potential for failure while the EA process is ongoing. In 2017, the facility was operating at 97% of the rated capacity, which is an increase from 90% in 2016. Based on these concerns, in their recent inspection report of the wastewater system the district office strongly recommended developing a contingency plan for exceedance of rated capacity, as well as potentially restricting or suspending further development within the subdivision until these issues have been addressed. Once a contingency plan has been developed, please ensure that a copy is circulated to my attention, as well as to the district office.

Once these issues have been addressed to the ministry's satisfaction, the Township of Ramara must issue a Revised Notice of Completion for the Project File Report under A.4.1.1 Revisions to Schedule

B Projects of the Municipal Class Environmental Assessment. The Township must ensure that the requirements of the Class EA process for this project are satisfied prior to submitting an application for an Environmental Compliance Approval.

Thank you for the opportunity to comment on the project. If you have any questions regarding the comments above, please feel free to contact me directly at 416-326-3477 or by email at paul.d.martin@ontario.ca

Yours truly,

A handwritten signature in black ink, appearing to read "Paul Martin". The signature is fluid and cursive, with the first name "Paul" and last name "Martin" clearly distinguishable.

Paul Martin, Supervisor
Air, Pesticides and Environmental Planning

cc: [Dave Readman](#), Manager of Environmental Services, Township of Ramara
Cindy Hood, Manager, Barrie District Office, MECP
Lubna I. Hussain, Technical Support Manager, Central Region, MECP
Central Region EA File
A & P File