



November 7, 2016

Via: Email

Mr. Khurram Tunio
2089 Osbond Road
Innisfil ON L9S 0A9

Dear Mr. Tunio:

**Re: Marsville Subdivision
Project No.: MSO020868.0000**

As you know, we are Municipal Engineers for the Township of East Garafraxa. Typically when we review applications such as yours, our comments are made to our client who in turn will forward them to the applicant. Under the current circumstances however, I wanted to write to you directly. It was well over a year ago that we recorded our concerns over the sewage loading that was associated with your proposal and you have worked diligently since then to address those concerns. I appreciate the effort that you have put forth; however, I am writing to let you know that I am still not able to support your application and will require a significant reduction in lots in order to change my position.

The reasons for taking this position are as follow:

1. As noted in my email of September 1, 2016, we have been unable to reconcile the absorption rate of the soil as it pertains firstly to the protection of the aquifer and secondly to the size requirements of the tile beds. If the soil was as described by Mr. MacGillvray at our meeting, so tight that it would be suitable for solid waste disposal, then it would have T-time in the range of 50 to 60 min/cm and in our opinion the lots would have to increase in size to accommodate the large septic beds that would be required. We acknowledge that conceptual layouts that were provided in your latest submission by Gunnell Engineering show large septic beds on the currently proposed lots; but these layouts did not allow for grading and slopes, there was no contingency area at all and no amenity areas in the rear yards. We did not undertake a review of the design of the systems.

Notwithstanding the characterization of heavy soils throughout the site, the Supplemental Cross Sections provided by WSP show various combinations of sand, silt and gravel in the upper 5 to 10 m. These soils will have greater porosity and appear to have been correctly identified by WSP in 2014 as having T-times in the range of 10 to 30 min/cm. While this is more conducive to the design of septic systems, we feel there is insufficient knowledge of the extent of these lighter soils off site and it would take a significant amount of study to understand flow pathways through them.

2. Without understanding the extent of the silty sand layer that immediately underlies the site, it is difficult to conclude that background nitrate levels are caused by farming activities on the site itself and not flowing in from farming activities further upstream. If in

fact there is contribution from off site farms, the nitrate levels will not decrease to the levels expected solely from converting the subject lands from farm to residential.

3. Notwithstanding MOECC Guideline D 5-4 allowing nitrate levels to exceed 10 mg/L where there is system isolation, in this application it is off site private property that will be receiving the elevated nitrate levels and the adjacent owner could consider the groundwater degradation to be unlawful interference with the use and enjoyment of their land.
4. The part of MOECC policy D 5-4 that allows housing densities to create nitrate levels higher than 10 mg/L is not used commonly. Nevertheless we were willing to give it due consideration, but felt that its review must be very stringent as it leads to unserved densities that are well beyond those we are accustomed to in Ontario. The difference between the proposed lot yield and the number of lots that would be created using the more common application of D 5-4 is significant and the increased risk to the groundwater is material. We did not feel that the submitted material was able to meet the high level of scrutiny that needed to be applied.
5. It is unfortunate that the Ministry of the Environment, Energy and Climate Change began a review of this application and were unable to continue through the process. However we do have their initial review and commenting letter of May 26, 2015 which cited "fundamental concerns with the proposed development with respect to the viability of site servicing". In our opinion the follow up work that you have done does not put these fundamental concerns to rest.
6. Paragraph 5.4.2.1 of the East Garafraxa Official Plan goes beyond hydrogeological studies in establishing the design criteria for Community Residential subdivisions. Your proposed lot size is substantially lower than required in the Township's zoning by-law or in previously permitted developments. In considering its community lot sizing, the Township anticipates the need for some variation in housing sizes, sizable garages, rear yard amenity areas, contingency septic bed areas, landscaping and sloping (where necessary). My comments to the Planning Department will say that the proposed layouts are largely consumed by septic beds and do not leave room for these other amenities.

Our opinion remains that the right sizing of lots and septic systems is fundamental to this proposal and until we reach agreement, there is little point in reviewing remaining details of the application. We have reviewed all of the material submitted by your consultants and we are not able to support the number of lots in your application. I realize this will be disappointing to you, but I thought I should make sure that you understand our position and how we have reached it.

Yours truly,

R.J. Burnside & Associates Limited



Gord Feniak, P.Eng.
GF:mp

cc: Ms. Sue Stone, Township of Amaranth (Via: Email)
Ms. Christine Gervais, Township of Amaranth (Via: Email)
Mr. Glenn Wellings, Wellings Planning Consultants Inc. (Via: Email)