

As a decision on the proposed solution for septage disposal for Hasting Highlands approaches, as a long time guest of the area, as a rate payer and as a passionate advocate for Papineau Lake I would like to express concerns that have been present throughout the process and which I feel have not been adequately addressed. For full disclosure, I am a member of the Papineau Lake Community Association executive and these concerns are also those expressed by other community members.

Throughout the process the minimum setback for the septage trenches has been 500 metres. This offset has been treated as an absolute and not a relative measure. By this I mean that as it stands now, if the distance is at least 500 metres then the site is acceptable. I have always felt that if the positioning of the trenches needs to be at least 500 metres from dwellings then the distance should be treated as a relative distance such that if 500 metres is good then a 1,000 metres is much better. By now council must know that no one wants to be close to the trenches, the best solution is to ensure that they are located at as great a distance as possible from lakes, dwellings and wells.

At the recent public presentation on August 24th JP2G kept bringing up the depth to the water table from their studies. Ignoring the fact that different measurement means were used I feel it is impossible to ignore the fact that the studies for Papineau Lake and Lake St Peter were done during one of the driest periods in years while the ones for Little Papineau were done during the wettest period. Science is about controlling variables so meaningful comparisons can be made, to draw conclusions from these studies is very troubling. This is not inconsistent with the whole methodology that JP2G has practiced through the process. The suggested trench site location isn't even in the same locations where they conducted their test pits and hydrogeology tests. They are assuming that the conditions at the locations investigated hold true for the proposed trench sites. They are assuming that the water table at Site 3B is deeper than at Site 1 and they are assuming that the saturated overburden zone (the water bearing soil unit) is thicker at 3B than at Site 1 even though they have labeled Rock Outcrops at 3B.

Although the consultants have stated that the septage dewatering trenches will have no impact on the surrounding area, it is evident by now that the location of the sites has a profound psychological impact on those located near the site. With this in mind if we look at the impact of the location on nearby facilities, we have to assume that they will be impacted. The Papineau Lake south beach is one such facility. It is currently a favourite of local residents and has the potential to be incorporated into a larger recreational plan for the municipality, a plan which could be used to increase tourism and therefore employment in the area. It goes without saying that a beach located adjacent to a septage disposal site is far less desirable than one that isn't. When considering the location of the site, concerns on the impact of future use of the surrounding area has not been taken into account. We need to be sure that any decision made does not become a problem down the road.

I apologize for the scientific detail in the next section but it is necessary to lay out a potential technical issue with collocating the septage trenches with the Papineau Lake waste disposal site. It needs to be remembered that the liquids from the septage trenches will flow away from the trench site. JP2G claims in the text of the report that the attenuation zone extends to the south west towards Kitts Creek, but according to their figures the groundwater would first flow north west through the dump before

turning south west towards Kitts Creek. This means that the attenuation zone for the septage trenches extends into the dump where the potential septage contaminants will mix with the landfill leachate plume. They are also assuming that natural attenuation will occur within the attenuation zone without providing any lines of evidence to quantify this. Biodegradation involves biologically mediated oxidation-reduction reactions . Biodegradation is essentially an electron transfer process. Electron donors (ex. organic contaminants) are what microbes eat and electron acceptors (naturally occurring Oxygen, Nitrate, Manganese IV ion, Ferric Iron, Sulfate, Carbon Dioxide) are what microbes breathe. In lay terms, the microbes prefer to breathe the electron acceptors in the order in which I have written them. Oxygen in the attenuation zone is typically used up first and the final step, carbon dioxide reduction, is what produces methane in landfills. The design guidance for the dewatering trenches is assuming that aerobic respiration will be the dominant Terminal Electron Accepting Process at work because there is not normally a competing source of contaminants. The flow from the dewatering trenches towards the waste disposal site sets up a competing source of contaminants. The end result has not been addressed in any document to date.

As we get to the final decision, I'm sure that you will incorporate the concerns of the ratepayers in that decision. The perceived impact of the site location demands that a location as distant from any dwelling must be chosen, a location which will minimize the impact on the future development of the area. The location must also be studied in order to ensure that the decision is not made on assumptions but on facts with comparisons being made based on common factors. Finally all of the potential impacts of the site must be examined, again we cannot assume that the site will have no long term effect on its surroundings.

I know council will consider all of the factors when they do make their final decision.