**To Whom it May Concern at the MPCA regarding the Liberty Classical Academy (LCA) Permit Application for a Large Subsurface Treatment System (LSTS)**

Thank you for the opportunity to provide a brief comment. I have read the approximately 70 public comments regarding this permit as well as the permit itself. Most (approximately 90%) of these public comments have been against approval of this permit. I cannot disagree with some of the public comments made that weighed against ultimately expanding the LCA beyond its current enrollment size. While I am a May Township resident, I do not live near the Liberty Classical Academy (LCA) or the proposed drain field for this Large Subsurface Treatment System (LSTS). Several months ago, I made my concerns known to the May Township Supervisors regarding the LCA to increase its enrollment through the 12th grade. Some of my concerns revolved around the increased size of the proposed waste water treatment system. I do not know anyone who is affiliated with the LCA. I have yet to write the MPCA (until now) regarding this matter. As a May Township resident, I am concerned about the precedent set if such a permit is approved and will now discuss three concerns and/or questions.

First, like other commentators of this LCA permit, I believe the MPCA should clarify whether it is legally permissible to use multiple smaller water drawing wells to tap into the aquifer to circumvent any restriction imposed by the DNR/courts regarding the limits imposed on a larger well to maintain White Bear Lake water levels in the restricted circumference area imposed. This specific action by the LCA that appears to circumvent the intent should not be ignored by the MPCA, as I can envision it sets precedent in other rural communities, for other State Agencies, and establishments whether public or private. Therefore, this LCA permit should not be approved until this question of the Permittee using smaller wells which cumulatively draw more water from the aquifer than one larger well, is addressed by the MPCA and DNR commissioners and, if necessary, the State Attorney General.

Second, the permit in 5.6.36 requests information on process control of nitrogen. The Permittee shall complete weekly process control sampling for the following parameters throughout the life of this permit. Samples shall be taken at a minimum frequency of once per week and need to include Ammonia (mg/L) - Nitrate (mg/L) - Alkalinity (mg/L) - Dissolved Oxygen (mg/L) - Temperature (degrees Celsius) - pH (Standard Units). However, several commentators briefly mentioned their concern about PFAS as an environmental issue in Washington County. It appears to be not part of the application process. According to my review of the State of Minnesota well data, no sampling for PFAS has been done north of Pine Point Park in Washington County. This is understandable given most of the environmentally-related concerns regarding PFAS pertains to historic commercial operations and releases further south in Washington County that involved other much larger communities (e.g., Lake Elmo, Oakdale, Cottage Grove). For the record I am a retired 3M employee. I am not aware of any commercial PFAS releases in northern Washington County. I assume the MPCA will make it publicly known whether they have any such knowledge (yes or no) in northern Washington County. What peaked my interest was what one of the public commentators, Karen Urkula, wrote,

> "But one of the most disturbing things for me (Urkula) is the fact that I watched the local farmers spread mounds and mounds of free incinerated waste full of PFAS on our local fields. What impact will the Liberty (LCA) development have on this situation or its remediation?"

I believe it is important that the MPCA officials and scientists interview Ms. Urkula to publicly clarify what she is referring to in her comments, i.e., the who, what, when, where, and how she knows this information as this is relevant to the LSTS permit sought by the LCA. According to her comments, Ms. Urkula is a former manager of the Browns Creek water district. There is no mention of PFAS in this permit. It may not be legally required to survey for PFAS but nevertheless it is an important issue for many citizens in Washington County.

Thinking about these questions, it raised the third and could be most important question that MPCA has yet to consider in this LCA permit application for an LSTS. I do not know the answer but am asking MPCA scientists to provide clarity. This proposed LSTS permit by the LCA is for 10 years for which there will be annually no more than 850 children and 150 adults using the LCA facilities for elimination of bodily waste (urine and feces). Based on CDC NHANES nationally representative data, it can be assumed that there is currently approximately, on average, 5 ng/ml (ppb) of PFOS in their serum and 1 ng/mL PFOA. These average serum concentrations have declined to this level over the past 20+ years due to reduction/cessation of PFAS production and use (exposure) activities and known pharmacokinetics of some PFAS, especially PFOS and PFOA. I am not aware of national human PFAS fecal data from this sampling program. I suspect the MPCA has already reviewed the International Technology Regulatory Council (ITRC) database. Correct? For the purpose of brevity, I will minimize discussion of the other legacy or shorter chain PFAS. To the best of my knowledge, the longer chain PFAS have serum half-lives ranging between 1 to 4 years meaning such compounds including PFOS and PFOA are slowly excreted through renal and/or fecal pathways. This is likely due to their pharmacokinetics involving the proximal tubule reabsorption in the kidneys and enterohepatic recirculation. The shorter chain PFAS have considerably faster half-lives in the blood and are environmentally assumed to be much more mobile according to some regulatory authorities which means the likelihood of their being found in ground water found in residential wells could be equally probable if the sensitivity of the analytical technique is set sufficiently. So, if 1000 people contribute to the LCA LSTS on an annual basis, it means by the end of the 10 -year permit, it will be similar to saying there were 10,000 “people-years” who contributed at the end of the permit. Given it can be assumed PFAS will be found in both the biosolids as well as the effluent in the drain fields, how much, in particular of this effluent, might contain PFAS over time, and reach the ground water? I believe it is the effluent from the drain fields that could most easily reach individual private wells in the neighborhood of the LCA as well as surrounding community during the lifetime of this 10-year permit. The answer to this question is important because the EPA’s Maximum Contaminant Goal for PFOS and PFOA is 0 (zero) but it is my understanding it is set for analytical reasons at 4 parts per trillion (ppt) in drinking water. While these units may be understood by some in the public, as a part per trillion (ppt), it is equivalent to 1 drop in 20 Olympic-size swimming pools according to an Internet web page that I reviewed. In other words, it is a very small quantity. These health-based concentrations have been calculated by the EPA and I believe are now used by the State of Minnesota. The MPCA should therefore mathematically model whether such a fate and transport concentration of 4 ppt for PFOS or PFOA in individual residential wells might be feasible to occur and the probability of it even being exceeded during this 10-year permit timeframe, if this LCA permit is approved, in the residential wells of the local neighborhood(s). I believe such public discussions by the MPCA should occur with all interested parties in May Township, with other neighboring communities who might also

have affected residential wells in the future, and the LCA, before this LCA permit is approved. Will the MPCA and/or LCA pay for residential well sampling on a periodic basis (perhaps every other year?) for PFAS in residences whose wells most likely to be potentially affected by this LSTS of the LCA? What about remediation if it should be necessary? It is my understanding more current remediation techniques for affected municipal wells, including anion exchange resins and reverse osmosis, are more capable of remediating short- as well as long-chain PFAS than using only granulated activated carbon. Can the same techniques be applied to affected individual residential wells should they exceed the EPA MCG of 4 ppt during or even after this 10-year LCA permit expires?

Similar types of environmentally-related monitoring questions have been raised by the public commentators regarding the concentrations that might occur of other contaminants, besides PFAS, at Goggins Lake, School Section Lake, and the area headwaters of Brown's Creek.

In anticipation that the MPCA will judiciously research these questions, I graciously thank MPCA and its fellow state agencies as they seek to provide state-of-the-art answers from the potentially affected public regarding this LCA permit application for a LSTS. One thing is certain in my opinion. Important questions have been raised by the May Township public and it would be an unfortunate misstep if MPCA does not allow its scientists sufficient time to research their answers in order to provide public responses to this permit application by the LCA. I urge the MPCA to provide a written report, as well as hold public meetings, so that their answers can best be known by the interested public in the area.

Sincerely,

Geary Olsen