

October 31, 2024

To: Ontario Ministry of Environment, Conservation and Parks

Re: ERO notice 019-9193 Request for comment re: storm water runoff

– LaSalle Agri proposed site plan for sewage biosolids storage and distribution facility

Precedent

If approved, this storage and distribution centre for sewage biosolids would be the first of its kind in Ontario. Since it is setting a precedent, much care needs to be taken in determining the appropriate design of a storage and distribution centre for sewage biosolids as this facility will be used as a model for other such facilities. The precedent set should be a state of the art facility that mitigates the known issues and concerns. There are known issues and concerns due to the fact that sewage biosolids have been used, and stored, in our area for a number of years.

Storm Water Runoff

Storm water runoff is a significant concern for this proposed site plan, especially due to the nature of the sewage biosolids being stored in this facility as explained later in this document (see '*Known Issues with Sewage Biosolids*' below). The primary focus of this Environmental Compliance Approval (ECA) review should be to design a structure that will minimize or, ideally, eliminate storm water runoff. With this in mind, the solution is for the storage and distribution centre to be fully enclosed with a full permanent roof and full permanent walls, including the area needed for loading and unloading of truckloads of sewage biosolids.

Extreme Weather Events

Storm water, by definition, is generated by weather events. Extreme weather events are becoming commonplace. We live approximately 1 kilometre from 25700 Kerwood Road where the proposed facility is to be located. On August 23, 2023, our area received 15 centimetres (6 inches) of rain in less than 3 hours. Fields were flooded. Roads were flooded. Rivers were flooded.

When significant weather events like this happen, the capacity for any storm water runoff system is quickly exceeded and nature resorts to the longstanding natural runoff pathways. The natural runoff for this property is straight downhill into the Sydenham River. The Sydenham River is one of the cleanest rivers in Ontario as there is no industry backing onto this river. This river is home to over 25 different species at risk, some of which exist nowhere else in Canada or the world. [1]

If this facility had been in operation on August 23, 2023, there would have been a devastating disaster. Certainly the tarp and tire system would not have been sufficient to keep this volume of rain from reaching the sewage biosolids and the volume of storm water runoff with the proposed design would have been significant. The Sydenham River would have been permanently contaminated by the volume of sewage biosolids reaching the river combined with the impact of the forever chemicals and other toxins it is known to contain (see '*Known Issues with Sewage Biosolids*' below). The potential risk of contaminating this river should be avoided at all costs. Once the Sydenham River is contaminated, it will be damaged forever and the species at risk will lose their rare habitat.

A fully enclosed facility will mitigate this risk of extreme weather events by significantly reducing or eliminating storm water runoff.

Issue re Contents of Contact Pond

Also, the proposed site plan allows for two drainage ponds with the accumulated water in the contact water pond to be spread on the agricultural land on site. It is known that this runoff will contain PFAS and numerous other chemicals as sewage biosolids by definition include waste from factories and hospitals (see 'Known Issues with Sewage Biosolids' below).

While it may be true that waste from septic tanks in rural areas may be land applied, this same procedure should not apply to sewage biosolids. Waste from rural septic tanks contains only true 'human waste' i.e. it does NOT contain waste from factories and hospitals. The chemicals contained in this septic tank waste are largely from human shedding i.e. whatever has been detoxed and released from the human body as a by-product of what has been consumed. This septic waste does not compare to sewage biosolids which is known to contain numerous chemicals, including PFAS (per- and polyfluoroalkyl substances). There is an increasing amount of literature relating to the harm of spreading sewage biosolids on the land. [2] [3] Therefore spreading the storm water runoff directly on the surrounding farmland should not be allowed.

It is also important to remember our history. Sewage systems were developed in cities many decades ago in order for people to have clean drinking water. Why do we now think it's okay to put our sewage on our land? It's even more toxic now than it was then due to the industrial revolution and the development of tens of thousands of chemicals.

A fully enclosed facility will mitigate this issue of how to deal with the contents of the contact pond by significantly reducing or eliminating storm water runoff.

OTHER CONCERNS

There are other important concerns with the proposed site plan that would be mitigated by having a fully enclosed facility.

Cover with Tarp and Tires

To cover the proposed volume of sewage biosolids with tarps and tires is woefully inadequate. This system of tarp and tires may be appropriate for a local farmer who is using the pile infrequently, however it is not practical for a storage and distribution centre where truckloads of sewage biosolids will be loaded / unloaded daily throughout the year.

Also, the proposed site plan affords the ability to pile sewage biosolids to a height of 7 metres. It seems that covering these sewage biosolids with tarp and tires is impractical for the height involved.

Extreme Weather Events

Again, extreme weather events are becoming more commonplace. In September 2019, there was a tornado event in Petrolia only about 30 kms away with winds excessive winds. With extreme winds, our home is not far from Petrolia – only a few short minutes. As previously mentioned, we live approximately 1 kilometre from 25700 Kerwood Road, where the proposed facility is to be located. Our experience that day was several large living trees were downed in the bush on our property. For a couple of trees, the tops were twisted off. That means that there was still some rotation in the wind when it passed through our area. A fully enclosed facility would withstand this extreme weather event. A storage site covered only by tarp and tires would not.

The best site plan is one that can withstand known extreme weather events. There have been several other extreme wind and weather events in our area in recent years. The impact of these events must be

considered in this site plan. The facility must be designed to withstand these events. If not, the outcome would be devastating.

A fully enclosed facility will mitigate this risk of extreme weather events by ensuring that the sewage biosolids are fully and adequately contained.

Moisture Control

Moisture control and humidity control is a significant issue for sewage biosolids. The moisture level impacts: odour, risk of spontaneous combustion, and the integrity of the product. Real life experience with tarps would indicate that moisture is accumulated under the tarp. The result is difficulty in maintaining a low humidity level for the sewage biosolids.

Odour

Existing literature refers to having a low humidity for sewage biosolids in order to reduce the odour. Certainly, our experience with sewage biosolids being applied or stored nearby is that the odour increases with increased moisture in the environment e.g. rain, fog, mist. It's important to note that the *Nutrient Management Act, 2002* also refers to this known issue. It suggests: "*design the facility to decrease odour emissions*" and "*install a permanent cover over the storage area to contain and treat the odours*". [4] The photo in Figure 2 of this same document shows a permanent roof in place.

Also, per the OMAFRA Factsheet #23-013 January 2023, sewage biosolids are considered a Category 3 NASM. According to the *NASM Odour Guide Regulation 267/03*, this means that sewage biosolids are an "*odour category 3 (OC3)*". This odour classification is based on "*odour generated from the activity in the field*". [5] Activity in the field – not piles stored 7 metres high in as significant a volume as in the proposed site plan. A recent article compared the proposed volume to one otherwise requiring 550 silos. [6]

The actual odour rating for piles of sewage biosolids must be significantly higher than a category 3 classification – especially considering that it will be disturbed on a regular basis as tractor-trailer truckloads of sewage biosolids are delivered or loaded almost daily year-round. Disturbing sewage biosolids increases the odour emitted. This issue is also referred to in the Nutrient Management Act, 2002 "*agitation of the stored material also leads to odour emissions*". This also refers to odour issues "*when materials are transferred to or from the storage facility*". [4]

The significance of this information can only lead to one conclusion. A fully enclosed facility, including the loading / unloading areas, is necessary in order to sufficiently deal with the known odour issue.

Risk of Spontaneous Combustion

Some literature concludes that with sewage biosolids, it is a matter of when it will spontaneously combust, not if it will. This is a common issue with storage of volumes of damp material. A lower humidity or drier material decreases this risk of fire. There is also the concern relating to the product smouldering for unknown periods of time, potentially resulting in toxic gases being released into the air.

The paramount concern with spontaneous combustion is as follows. The location for the proposed facility is in our small rural municipality with a volunteer fire department. Responding to additional fires at a sewage biosolids storage facility would put an unreasonable strain on the limited resources of our volunteer fire department and may put area residents at risk with the increased response times. Note that if our volunteer fire department is occupied with a fire at this proposed sewage biosolids storage facility and another emergency arises, the backup fire trucks are dispatched from surrounding area municipalities thus significantly increasing the response time and putting residents at risk.

A fully enclosed facility is necessary in order to maintain a lower humidity level so as to minimize the risk of spontaneous combustion.

Integrity of the Product

Sewage biosolids have been processed at a facility with a focus on decreasing the humidity below a certain percentage, e.g. 8%.^[7] This requirement is in place for a reason – to decrease the activity of bacteria and viruses in the sewage biosolids. Bacteria like to grow in damp places. Therefore the humidity level must be maintained at a low value to reduce the risk of increased bacterial growth.

Also, the end user should expect the same quality and integrity of sewage biosolids as achieved at the processing facility. To meet this expectation of the customer, the low humidity level must be maintained at all times.

A fully enclosed facility is necessary in order to maintain a lower humidity level so as to maintain the integrity of the product for the customer.

KNOWN ISSUES WITH SEWAGE BIOSOLIDS

There is a lot of controversy surrounding the use of sewage biosolids. There is mounting evidence regarding the known harm caused by the use of sewage biosolids as they contain numerous chemicals including PFAS (per- and polyfluoroalkyl substances). PFAS are labelled as ‘forever chemicals’ as they are biopersistent i.e. they accumulate in the soil and in our blood. PFAS are known to cause harm to human health and the environment.

The Canadian Food Inspection Agency (CFIA) has recently acknowledged that harmful PFAS are present in sewage biosolids and has consulted with industry to endeavour to determine how to test sewage biosolids for PFAS. They are considering testing one type of PFAS, PFOS, using a limit of 50 ppm (parts per million). There are over 4,700 different types of chemicals. Is testing for one type sufficient? Even if sewage biosolids are tested for several different types of PFAS, what consideration is being given to the cumulative effect of numerous PFAS in sewage biosolids? Also worth noting is that PFOS is included in the *Prohibition of Certain Toxic Substances Regulations*, 2012 which lists substances that are prohibited from use.^[8] Why is testing for a chemical no longer in use considered appropriate as a measurement of PFAS in sewage biosolids? It appears that the testing method considered by CFIA is potentially flawed and therefore questionable in its goal of ensuring sewage biosolids are safe to be applied to our agricultural land.

What does our federal government say about sewage biosolids?

CFIA: “*the application of biosolids ... is a key uptake for PFAS into the food chain*” ^[9]

Environment and Climate Change Canada and Health Canada:

“*the entire class of PFAS has the potential to cause harm to the environment and human health and, therefore, should be considered “toxic substances”*” ^[9]

What is the real life experience of people exposed to use and storage of sewage biosolids?

CTV news report November 2023:

Human 'biosolid' waste spread on fields in Bruce County

<https://london.ctvnews.ca/human-biosolid-waste-spread-on-fields-in-bruce-county-1.6626763>

CNN news report May 2024:

'They told us that this material would be safe.' Toxic PFAS discovered on US farms | CNN

<https://www.cnn.com/2024/05/02/us/video/pfas-forever-chemicals-farmland-food-biosolids-digvid>

CONCLUSION

The proposed site plan must be revised to be a fully enclosed storage and distribution centre, including loading and unloading areas, in order to minimize / eliminate storm water drainage and in order to address the other known issues and concerns with the storage of sewage biosolids.

REFERENCES

1. **Sydenham River Watershed**
September 2019
St. Clair Region Conservation Authority
2. **PFAS in biosolids prompt lawsuits** February 28, 2024
Texas farmers sue fertilizer company, and environmental group plans to sue EPA
American Chemical Society – Chemical & Engineering News ISSN 0009-2347
 - “A liver sample from a stillborn calf on one of the farms contained 610,000 parts per trillion (ppt) of PFOS” (perfluorooctanesulfonic acid - one type of PFAS). The US EPA in 2023 “proposed a limit of 4 ppt for PFOS in drinking water”
3. **Ban on US biosolids: Was the Pontiac at risk?**
The Equity (Quebec newspaper) March 28, 2023
Refers to a Radio Canada report from Fall 2022

“American states such as Maine, New Hampshire, Massachusetts and New York have banned or restricted greatly the spreading of biosolids on their agricultural land. Why? Because soil and drinking water tests have revealed that these sludges may contain unacceptable levels of PFAS.”

“According to the report, over 700 farms and nearby waterways in Maine were permanently contaminated. Livestock had to be slaughtered.”
4. **Ontario Ministry of Agriculture, Food and Rural Affairs**
Nutrient Management Act, 2002
Storage of Non-Agricultural Source Materials (NASM) in a Permanent Nutrient Storage Facility
NASM category 3 – municipal sewage biosolids
Page 6 “**Odour Emissions**”
5. **2012 Non-agricultural source materials odour guide** for Ontario Regulation 267/03 made under the *Nutrient Management Act*, 2002
6. **Ontario Farmer**
October 1, 2024
LaSalle Agri pellet storage project clears site plan hurdle
7. **Windsor Propell Product Label**
 - a. “Ensure bulk storage area is well aerated and moisture content in product does not exceed 8%.”
 - b. “Prevent from entering drain or watercourse.”
 - c. “Protect from moisture infiltration.”
8. **CFIA Federal Survey** on the Health Impact of Forever Chemicals in Food and Biosolid Fertilizer
Executive Summary
9. **BLG** [Borden Ladner Gervais LLP] February 8, 2024
Hold the PFAS, please: Keeping forever chemicals out of the food chain in Canada