July 25, 2022

Gardner Conservation Commission
City Hall
95 Pleasant Street
Gardner, MA 01440

Subject: Notice of Intent (NOI), 850 West Street – City of Gardner Sludge Landfill Expansion

Dear Conservation Commission Members,

I am writing about the subject NOI. I own property abutting City parcel H32-16-4 and also a resident of Gardner MA. Since 2005, I have been a member of the Board of Directors for the North County Land Trust (NCLT) and, as such, have been an advocate for conservation in Gardner and the cities & towns in the NCLT service area. In 2014, my wife Susan and I formed Gardner Clean Air, a grass-roots citizen group to advocate for clean and sustainable solutions for wastewater sludge management and not expansion of the Gardner Sludge Landfill.

According to the Sludge Landfill (SLF) Expansion Engineering Report January 2022, the SLF expansion project will result in the dumping of approximately 4,000 cubic yards per year of sludge over a 17-year period from 2024 to 2042. A total of approximately 68,000 cubic yards of sludge will be dumped at this location in the Wildwood Cemetery Forest (WCF).

My comments are grouped into the following 5 sections.

1. **Risk of Surface Water and Groundwater Contamination**
2. **Failure of the City to Explore the Feasibility for an Environmentally Friendly and Sustainable Solution**
3. **Destruction of Gardner's Natural Resources**
4. **Requested Conservation Commission Action**
5. **Odors**

1. **Risk of Surface Water and Groundwater Contamination**

According to the NOI Narrative section 3, the expansion will be constructed with a double composite groundwater protection system (GWPS) with leak detection. This liner is not guaranteed to never fail

and manmade infrastructure ultimately fails. As such, State regulations prohibit landfills from being sited in a Zone II area for an existing or potential public water supply well (310 CMR 19.038 (2)(c)(1)(a))**. No corrective action and remediation procedure, if nearby wetland resources are contaminated, is provided if this system fails in 1, 5, 10, 25, or 100 years.** The SLF Expansion Engineering Report January 2022 Appendix F Hydrogeological Evaluation Report, submitted to MA DEP with the WP33 permit application, indicates that groundwater in the expansion area flows south and southeast.

The area to the south and southeast of the expansion has many interconnected wetland resources and is a watershed for the Otter River (reference Attachment #2: Gardner Sludge Landfill Vicinity Map - 7/19/22, MassMapper). My property contains a portion of Wetland D (that is also on the project site) and 5 small **spring-fed ponds**. Two of these ponds each have exiting streams that flow through culverts under the Pan Am Railways railroad line to the Otter River. One of the streams flows to another wetland and eventually to a pond on the NCLT-owned 157-acre Ebenezer Keyes Conservation Area (EKCA) prior to entering the railroad culvert. The second stream flows to another wetland on the City-owned 122-acre Cummings Otter River Conservation Area (CORCA) prior to entering another railroad culvert. Any sludge landfill contamination of surface water and/or groundwater will likely impact my wetlands, ponds, and streams.

In terms of surface water, the existing SLF has had wash-out incidents in 2020 and 2022 that have resulted in material exiting from the southwestern outfall pipe near Wetland D. These incidents were reported to MA DEP by me, not the City of Gardner (as required by the Vertical SLF expansion permit issued in 2016). After the 2020 incident, I am aware of no water testing that was done relative to any contaminants exiting the outfall pipe. However, the City was found by the US EPA to be lacking a stormwater permit for this pipe. Attachment #3 is a May 26, 2022 email from Alan Rousseau to Dave Boyer (MA DEP) with two attached emails from the City describing the 4/11/2022 erosion incident at the Sludge Landfill. The April 2022 incident is still being looked into by MA DEP at this time.

The Wildwood Cemetery Forest (WCF) has a large intact glacial period Esker that has been noted in Gardner's Open Space Plans over the years. This Esker has provided a natural surface boundary between the SLF and Wetland C & the Vernal Pools in the WCF and CORCA. **The Applicant has not revealed how this expansion will impact the Esker.**

The SLF expansion plans call for a new stormwater infiltration basin #1 and piping that will now connect the SLF to Wetland C. **This introduces risk to contamination of Wetland C**.

The SLF expansion plans also call for a new stormwater infiltration basin #2, outlet pipe, and emergency overflow spillway in the 100' buffer zone for Wetland D. **This introduces risk to contamination of Wetland D.** Outfall pipes to Wetland C & D buffers and an emergency spillway to the Wetland D buffer should not be permitted.

In terms of groundwater, liner leakage will be flowing to the wetlands, ponds, and streams on my property, the EKCA pond, the CORCA wetlands, and the Otter River. I have a private drinking water well on my property. Any contamination of surface or ground water poses a risk to my private well that services my Camp on the property. The NOI Narrative also mentions an unspecified number of other private wells within 0.5 mile and two public drinking wells within one mile of the expansion. However, there are 71 private wells in the one-mile radius based on Gardner and Templeton Assessor property card records. **The Commission should require the Applicant to list addresses and show on a plan all the private wells within a 1-mile radius.**

This project poses a substantial risk of contaminating surface water and/or groundwater in the future. The Conservation Commission should not approve disturbances or construction of outfall pipes to Wetlands C and D.

2. **Failure of the City to Explore the Feasibility for an Environmentally Friendly and Sustainable Solution**

According to the Mass Sludge Survey 2018 v1.1 (published in September 2019) by the North East Biosolids and Residuals Association (NEBRA) for the Massachusetts Clean Energy Center, **only 18%** of the wastewater sludge produced in Mass was sent to landfills. The other 82% was disposed of through incineration or applied to soils. According to Jennifer Wood (Environmental Engineer with Mass DEP NPDES and Residuals Program), no other Mass city or town is seeking to create or expand a sludge landfill. Athol, MA discontinued use of their sludge landfill roughly 20 years ago due to public outcry resulting from their inability to control odors. Athol currently hauls out for incineration to Upper Blackstone in Millbury MA.

If sludge landfills were a good solution, the majority of communities with a waste water treatment plant would be trying to construct a sludge landfill. Conversion of wastewater sludge to energy and recycling of the residual material is the future.

The NOI Narrative Section 4 contains an analysis of 9 alternatives. This analysis is inadequate so should not be accepted by the Commission. It contains no detailed references, data, or calculations to back it up.

Over the past 10 years, the City has not conducted a feasibility study on any alternative to the SLF Expansion. The City has not looked at public/private sector partnerships or grant programs that could assist the City in properly exploring options to the SLF Expansion. Alternatives #1 and #2 are not really alternatives because Gardner has a wastewater treatment plant and the City can't dump untreated wastewater into the Otter River.

Alternative #3 and #4 involve land application and a composting facility. These alternatives should not have been dismissed. According to The Mass Sludge Survey 2018 v.1.1, these methods are utilized for 38% of the sludge disposal in Massachusetts. Composting is currently done by Ipswich, MA utilizing a private contractor (Agresource). Montague MA is currently evaluating feasibility studies for a new compost facility. Previously, Montague had a compost capability that earned over $1.2 M for a 7-year period.

Alternative #5 mentions Anaerobic Digestion (AD) which is done on a large scale at Deer Island in Winthrop MA and Greater Lawrence Sanitary District in North Andover MA. Thus, it is a feasible alternative. Residual material is converted to fertilizer by a private contractor. In Dartmouth MA, Commonwealth Resource Management Corporation successfully operates a private sector AD facility at smaller scale. Fitchburg MA is re-examining implementing a private sector run AD facility at the West Fitchburg wastewater treatment plant.

Alternative #6 involves constructing an incinerator, a process which is utilized for 43% of the sludge disposal in Massachusetts according to The Mass Sludge Survey 2018 v.1.1. To utilize this alternative, Gardner would need to do a feasibility study for an incinerator that meets U.S. EPA air emissions regulations.

Alternative #7 involves Gasification which is currently being pursued by Taunton MA and is being reviewed in the MEPA process. More information will be forthcoming about the viability of this new technology so this alternative should not be dismissed so quickly.

Alternative #8 involves constructing a new SLF elsewhere in the City. Although I do not see this as a good solution, I have seen no analysis of this alternative.

Alternative #9 involves hauling out the sludge for disposal. Many communities utilize this alternative which results in incineration or fertilizer conversion / composting at another facility in or out of Massachusetts. PFAS concerns have created a challenge in the sludge disposal industry for all methods of sludge disposal. However, because PFAS has such a wide impact, solutions will be forthcoming to deal with this challenge.

Overall, the City has not conducted a sufficiently detailed feasibility study on any alternative to the SLF. Instead, the City seems to have chosen to continue on the SLF path primarily due to a 37-year-old site assignment for a portion of the Wildwood Cemetery Forest.

The City has not explored the alternative of partnering with any neighboring communities or pursued a private sector partnership for a viable alternative to the SLF expansion. In addition, the City has rejected pursuit of a phased construction of the SLF expansion and therefore will be committing the City to a 17-year SLF solution to the year 2042. With this strategy, Gardner will not be able to take

advantage of innovation in the other alternatives or partner with other communities in pursuit of sustainable solutions prior to 2042.

3. **Destruction of Gardner's Natural Resources**

The Forest Management Plan done for the City-owned 128 +/- acre Wildwood Cemetery Forest (WCF) describes the important attributes on this property including a detailed 2-½ page description of wildlife habitat, watershed, and forest. The Plan has the following stated goals:

The City of Gardner would like to improve and protect the forest resources on the Wildwood Cemetery property for the benefit of the residents of Gardner. Protecting water quality is a high priority. Maintaining and improving aesthetics near the Cemetery is extremely important as well. These goals will be accomplished by periodically harvesting timber resources, enhancing wildlife habitat and educating the public on forest stewardship matters.

I have observed evidence of a large number deer at this site. Over the past year, I have observed black bear on my abutting property. The sludge landfill expansion is totally inconsistent with the goals of the WCF Forest Management Plan. The Forest Management Plan is available on the City website.

4. **Requested Conservation Commission Action**
    1. **Cut-and-Fill Analysis** – According to the NOI Project Narrative, the site topography varies considerably between elevations of 980 and 1040, consisting of steeply sloped ridges, mounds, and valleys. The Commission should request a detailed cut-and-fill analysis. This has previously been requested by the Conservation Commission for subdivision and solar farm projects with similar topography.
    2. **Peer Review** – The NOI has been described by the Gardner Conservation Agent as VERY large. It looks large to me. Considering the size and complexity of information submitted as well as the nature of the project and potential impact to wetland resources, the Commission should require a peer reviewer be hired by the Commission and paid by the applicant. This is consistent with other complex projects reviewed by the Commission. This will provide assistance to the Commission and Conservation Agent with analysis of the NOI.
    3. **Site Visit** – Because this is a public project being done on City-owned property, the Commission should conduct a site visit that is open to the public. This is consistent with other projects reviewed by the Commission.
    4. **Wildlife Management Study** – The WCF and CORCA have substantial wildlife including mammals and birdlife. The Gardner Wetland Protection Ordinance has a policy and conditions section whereas the Commission may require a wildlife study of the project area to be paid by the applicant. The Commission should require such a wildlife study.

5. **Odors**

Persistent odors negatively impact the recreational use of the nearby Ebenezer Keyes Conservation Area, within ½ mile, and the abutting Cummings Otter River Conservation Area. This impacts Gardner residents, including the large Environmental Justice Community that now exists in the City of Gardner. A portion of this Environmental Justice community is within one-mile of the City property where the expansion is located. This SLF expansion project will increase and prolong the number of years of unpleasant odors.

Thanks in advance for your consideration of my comments.

Sincerely,

Alan N. Rousseau
211 Betty Spring Road
Gardner MA 01440

Attachments:

Attachment #1: Gardner Sludge Landfill Expansion Hydrogeological Evaluation Report - January 2022, Woodard & Curran

Attachment #2: Gardner Sludge Landfill Vicinity Map - 7/19/22, MassMapper

Attachment #3: May 26, 2022 email from Alan Rousseau to Dave Boyer (MA DEP) with two attached emails from the City describing the 4/11/2022 erosion incident at the Sludge Landfill