



CITY OF GARDNER
BOARD OF HEALTH
95 PLEASANT ST
GARDNER, MASSACHUSETTS 01440-2630
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Date: February 24, 2025

Mayor Mike Nicholson
City of Gardner

Dear Mayor Nicholson:

During the January 28, 2024 Board of Health meeting, the board members voted to send a letter to the Mayor informing you of their concerns regarding the potential threat posed to public health by the current conditions at the Gardner solid waste landfill.

The following is a brief summary on the current status of corrective action plans filed with MassDEP. This letter also includes a summary of recent changes in monitoring requirements, along with testing results after those changes, showing levels of 1,4-dioxane in exceedance of reportable limits at groundwater monitoring wells and a surface water sampling site located on private property abutting the landfill.

A third-party inspection completed in 2021 by Civil Environmental Consultants Inc. identified erosion of let-down channels in the landfill cap as a corrective action item. Attached is a corrective action plan (Attachment A) sent to MassDEP in November of 2021 stating that the city intends to repair the eroded areas no later than spring of 2022.

A third-party inspection completed in 2023 also identified the erosion of the landfill cap and added two damaged groundwater monitoring wells as corrective action items. The attached corrective action plan (Attachment B) was sent to MassDEP in December of 2023 stating that the city intended to complete erosion control work by December 15, 2024, and repair the damaged wells by the end of the calendar year 2024.

In May of 2010, Brown and Caldwell sent the attached letter (Attachment C) to MassDEP stating that the city intended to screen most groundwater monitoring wells under EPA Method 8260, which has a detection limit for 1,4-Dioxane of 500ug/L. After reviewing the 2023 groundwater monitoring report, MassDEP notified the city that future screenings for the contaminant 1,4-Dioxane are required to be done under EPA Method 8270, which has a detection limit for 1,4-Dioxane of 0.3ug/L.

Monitoring samples taken in April of 2024 were analyzed under EPA Method 8270, and the results from 5 sampling locations were in exceedance of the reportable limit of 0.3 ug/L. Please see the attached Memorandum from CEC to MassDEP dated May 20, 2024 (Attachment D).

The MassDEP's Office of Research and Standards (ORS) drinking water guideline for 1,4-dioxane is 0.3 µg/L (micrograms per liter, sometimes described as parts per billion, or ppb). This type of guideline, known as an ORSG, is set to protect against cancer and non-cancer health effects after long-term exposures. USEPA has derived a similar value, using the same data, of 0.35 µg/L. The ORSG and USEPA values are not identical due to difference in mathematical rounding.

MassDEP considers 1,4-dioxane an emerging contaminant because it is toxic, widely used so that pathways for human exposure exist, and health protection standards are needed. 1,4-dioxane is a synthetic

chemical with many uses as a solvent. It is used as a stabilizer for chlorinated solvents used in degreasing operations and is present in many products (e.g., paint, varnish remover, antifreeze, airplane deicing solutions and an impurity in many personal care products, etc). Based on toxicity studies, EPA has categorized 1,4-dioxane as likely to be carcinogenic to humans. It is also to undergo Tier 1 screening as an endocrine disruptor under the EPA Endocrine Disruptor Screening Program. In addition, growing evidence exists that 1,4-dioxane may be more prevalent in groundwater throughout the United States than previously realized, potentially due to releases from hazardous waste sites and landfills. Enhanced monitoring efforts for 1,4-dioxane are underway. For example, the EPA has listed 1,4-dioxane under the Unregulated Contaminant Monitoring Rule 3 (UCMR3) in order to collect information on the frequency and levels of 1,4-dioxane in public drinking water supplies across the United States, including those in Massachusetts. Based on these findings and other determinants, EPA will determine if a national drinking water standard, or Maximum Contaminant Level (MCL), for 1,4-dioxane should be set to protect public health.

Fact sheets on 1,4-dioxane can be found on MassDEP websites:

<https://www.mass.gov/info-details/emerging-contaminants#1,4-dioxane->

<https://www.mass.gov/info-details/faqs-14->

[dioxane#:~:text=The%20MassDEP's%20Office%20of%20Research,effects%20after%20long%2Dterm%20exposures.](https://www.mass.gov/info-details/faqs-14-dioxane#:~:text=The%20MassDEP's%20Office%20of%20Research,effects%20after%20long%2Dterm%20exposures.)

The source of the contamination has not been determined, however the Board of Health feels that it would be most prudent to complete any open corrective action plans filed with MassDEP, and any other repairs to the landfill environmental control systems (erosion, leachate collection) as quickly as possible.

In the fall of 2024, the city accepted a bid in the amount of \$173,486 for completion of the erosion control repairs from J. Bates and Sons inc.

Soil X Corp assessed the damaged groundwater on February 5, 2025 and determined that the existing wells should be able to be repaired. They will be submitting an estimate of the cost as soon as it is available.

Civil Environmental Consultants Inc provides third-party inspections, routine maintenance/monitoring, and minor repairs. A representative from CEC will be attending the Board of Health meeting scheduled for February 24, 2025, in order to address any questions from the Board in relation to contaminant exceedances and current corrective action plans filed with MassDEP.

Concerned residents have raised the question as to whether a Licensed Site Professional (LSP) should be employed to assist with the solid waste landfill. The Board feels that a cost estimate should be obtained, and funding options should be explored in order that an LSP may be hired to review these matters and provide some guidance as to how the city should proceed.

Sincerely,

Susan Avallone, RN, Chair

Michelle Parker, MD, Member

Attorney Geoffrey Tobia, Member

Micah Blondeau, RS, Director of Public Health