



City of Cambridge

Executive Department

YI-AN HUANG
City Manager

CMA 2025 #279
IN CITY COUNCIL
November 24, 2025

To the Honorable, the City Council:

Please find attached from DPW Commissioner John Nardone a response to Awaiting Report 25-60, which requested a comprehensive report on Gold Star Mothers Memorial Park, the following information is provided.

Very truly yours,

Yi-An Huang
City Manager





City of Cambridge Department of Public Works

John F. Nardone, Commissioner

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To: Yi-An Huang, City Manager
From: John Nardone
Commissioner, DPW
Date: November 18th, 2025
Subject: **POR 2025 #138**

In response to the Policy Order referenced above requesting a comprehensive report on Gold Star Mothers Memorial Park, the following information is provided.

On Thursday, October 16, 2025, the City held a public meeting to review preliminary findings, share information about the soil testing program, and discuss next steps for Gold Star Mothers Park. Meeting materials, including the presentation and summary handout, are available here: [Gold Star Mothers Park Community Presentation October 16, 2025](#)

Overview of the City's Approach to Environmental Assessment and Management

The City of Cambridge approaches environmental assessment and management of its parks and open spaces using a risk-based, science-informed framework consistent with state and federal standards. This means that soil testing is performed when there is a reason to believe contamination may be present, such as evidence of prior industrial use, historic filling, or when soil will be disturbed and removed from a site as part of construction.

This approach reflects accepted practice across Massachusetts and other older urban areas, where trace contaminants can exist below ground as a legacy of historic development but are typically isolated from public contact by pavement, turf, or clean soil cover.

In every instance where environmental testing has been performed, the City has acted promptly and transparently, working closely with qualified environmental professionals and regulatory agencies to ensure that all parks meet current health and safety standards. These efforts are part of the City's broader commitment to maintaining safe, high-quality public spaces while using resources effectively and focusing attention where it provides the greatest public health benefit.

Summary of Full Testing Protocols Used at Gold Star Mothers Park

What We Did: Sampling and Testing

- When construction began in the area of the basketball court, crews uncovered buried fill material (ash, brick, concrete, debris) beneath the surface. To support off-site disposal of

this material and understand whether that material posed a risk, the City's consultant collected soil samples and sent them to a certified environmental laboratory for a broad suite of analyses. These included tests for metals (e.g., lead, arsenic), industrial chemicals (e.g., PCBs and similar compounds), hydrocarbons (oil/grease-type compounds), and other general soil chemistry indicators.

- After initial results showed elevated levels of certain contaminants, the investigation expanded to include additional locations across the park (165 locations total). Samples were collected systematically on a grid, at varying depths (near-surface (12" deep) and deeper), to understand both how widespread and how deep the contamination extends.
- Monitoring wells were also installed to collect groundwater samples to evaluate whether groundwater is impacted with the same contaminants found in soil, and the potential for contamination to move off-site.

What We Compared Against: Benchmarks and Safety Limits

- Laboratory results were compared to established regulatory standards used by state and federal environmental agencies to decide whether further action is required. These benchmarks are intentionally conservative and are designed to provide a large margin of safety when determining whether remediation is needed.
- When concentrations exceed these regulatory thresholds (sometimes called "reportable concentrations"), state law requires that the findings be reported and that a formal response process be initiated.
- In rare cases where contamination could pose a potential short-term hazard, stricter and more immediate response measures apply. Because certain specific locations of the park exceeded these thresholds, the park was fenced off promptly and formal notifications were submitted to the Massachusetts Department of Environmental Protection (MassDEP) for review and approval.

Key Takeaways to Date

- Contaminants above regulatory safety thresholds were found in buried fill layers and shallow soils in and around the former basketball court area; deeper soils generally did not exceed thresholds.
- Sampling elsewhere in the park also revealed elevated levels of certain metals, industrial chemicals, and hydrocarbons in localized areas.
- Immediate protective measures, including fencing and restricted access, were implemented while the City continues working with environmental authorities to fully characterize the site and determine appropriate cleanup actions.
- Groundwater testing results have recently been received and are all below applicable state and federal standards, indicating no evidence of contaminant migration or groundwater impacts.

Timeline and Strategy for Full-Site Testing and Remediation

Design work is underway to guide both the cleanup and long-term improvements to Gold Star Mothers Park. The next phase will involve developing a detailed remediation plan to determine how impacted soils will be managed, whether by removing impacted material, placing clean soil and protective caps over certain areas, or a combination of both.

Because some of the contaminants identified fall under both state and federal jurisdiction, the remediation plan will require review and approval by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP). Coordination with both agencies is already in progress.

Once regulatory approvals are secured, on-site cleanup is anticipated to begin in 2026 or 2027. In the interim, the park will remain fenced and secured, and environmental consultants will continue monitoring and submitting required progress reports to the agencies. Each report will include updates on schedule, findings, and next steps.

Additionally, the City in coordination with regulatory agencies and their environmental consultants, are taking steps to install protective measures over portions of the Park in hopes of reopening these areas to the public more quickly, prior to full reconstruction of the park

Triggers for Environmental Testing in Open Space Construction

Environmental testing during park or open-space construction is typically triggered in two ways:

1. When soil is removed from a site: Whenever a project involves excavation and off-site disposal of soil, state regulations require testing to determine whether the material can be reused, recycled, or must be sent to a licensed disposal facility. These tests screen for potential contaminants such as metals, petroleum compounds, or industrial chemicals.
2. When field conditions raise concern: Even when testing is not initially required, additional samples are collected if contractors or inspectors observe or smell anything unusual (such as ash, debris, stained soil, or chemical odors) that may indicate contamination.

These procedures are standard practice for public construction projects and help ensure that both the work site and any removed materials are managed safely and in compliance with environmental regulations.

Soil Testing at Other Cambridge Parks and Playgrounds

Over the past several years, the City has completed environmental soil testing at several park and open-space sites as part of capital improvement projects. Testing is conducted when a site's history or planned construction suggests there may be potential for soil impacts. The City's approach is risk-based and consistent with accepted environmental practice, focusing testing where warranted by site conditions, rather than conducting routine sampling at every park.

Recent park projects and soil testing summary:

- **Gold Star Mothers Park (2024–2025):** Soil testing identified areas requiring remediation. A comprehensive cleanup and park reconstruction plan is in design and will be reviewed by state and federal agencies.
- **Clement Morgan Park (2024):** Soil testing confirmed limited petroleum and lead impacts from historic site uses. These are being managed through risk-based design and construction measures.
- **Sennott Park (2024):** No soil testing was performed, as site history and planned improvements did not indicate the need for investigation.
- **Binney Street Dog Park (2018–2022):** Investigations identified residual contaminants consistent with historic industrial fill, including low levels of metals and petroleum compounds. The site was managed under MassDEP oversight, with clean soil added to provide protective cover.
- **Triangle Park (2016–2022):** Assessments and remediation activities were performed both prior to the site's transfer to the City and during subsequent park construction. The park is comprised of several small parcels, some of which were subject to an existing Activity and Use Limitation (AUL) to ensure appropriate long-term management of underlying fill materials. Testing identified petroleum compounds and metals. Soils were characterized, managed, and capped with clean materials consistent with MassDEP standards.
- **Timothy J. Toomey, Jr. Park (2021):** Soil testing confirmed volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and total petroleum hydrocarbons (TPH). These impacts were attributed to the site's historic uses and to off-site releases that had migrated from an adjacent property. Soils were characterized, managed, and capped with clean materials consistent with Massachusetts Department of Environmental Protection (MassDEP) standards.

Across all sites, results were reviewed by qualified professionals and, where necessary, coordinated with MassDEP and EPA. Appropriate measures, such as selective soil removal, engineered barriers, and clean soil cover, were implemented to ensure the parks remain safe for public use.

Current Policies and Best Practices for Routine Soil Testing

The City's current approach to soil testing in parks is risk-based and event-driven. Testing is conducted:

- When new construction or renovation involves soil disturbance or off-site disposal; or
- When on-site conditions (such as odors, unusual fill, or visible staining) warrant investigation.

This targeted approach ensures that resources are directed to sites where there is a credible potential for environmental concern, while avoiding unnecessary disturbance or cost where soils are already safely covered. Public communication is provided whenever testing identifies conditions requiring action or oversight by environmental agencies, as demonstrated at Gold Star Mothers Park.

Recommendations for Establishing a Citywide Standard

Going forward, the City may wish to formalize its risk-based management framework into a written standard that:

- Defines the conditions under which testing is triggered (e.g., when site history indicates potential contamination, during major earthwork, or upon discovery of suspect material);
- Establishes consistent procedures for documentation, agency coordination, and public communication when environmental findings occur; and
- Confirms that routine, proactive testing of all park soils is not warranted unless new information suggests a specific risk.

Such a policy would align with current regulatory expectations and professional best practices, ensuring consistency, transparency, and efficient use of public resources while maintaining the City's strong commitment to community safety and environmental stewardship.

Information about lead exposure sources for children, efforts to reduce lead levels in children, and an overview of childhood lead data for Cambridge children over time

To place the City's park-related environmental work in a broader public health context, the next section summarizes how lead exposures typically occur and how children's lead levels have changed over time in Cambridge.

Sources of Lead Exposure

One of the most concerning items for parents of young children is potential exposure to lead. Case investigations in Massachusetts and elsewhere have shown that two risk factors are most often responsible for lead exposure in children:

1. housing-based risk (older windows, underlayers of lead-containing paint, and soils several feet from the “rain curtain” around a house); and
2. occupational exposure by parents or other adults in the household (dust from renovation, paint scraping or other building trades brought into the home via dust on work clothes).

Other possible lead exposures include:

- Handmade pots, dishes, crafts and sports equipment: glazed pottery, beanpots; Samovars; fishing sinkers; bullets; stained-glass
- Products from other countries: candy, candy/wrappers from Mexico; makeup; toy jewelry; imported cans of food; home remedies, especially red, yellow, orange or white powders used for stomach aches (such as Azarcon or Paylooah)
- Lead in soil and water: dirt; plumbing pipes (solder)

Lead is predominantly absorbed into the body through the gastrointestinal tract; the most important mitigation steps involve preventing ingestion. With exposures from sources outside the home, good preventive measures include:

- Removing shoes before entering the home;
- Washing hands with soap and water, especially before eating; and
- Making sure children are not eating dirt/soil

For exposure within the home, in addition to hand washing, measures include:

- Cleaning paint chips and paint dust with a mop or wet towels; and
- Making sure that there is not peeling paint in the home.
- Getting soil tested from areas within a few feet of the house or apartment building where children may spend time.

Additionally, consuming a diet with adequate iron and vitamin C can help prevent the body from absorbing as much lead; individuals who are iron deficient absorb lead at higher rates.

Tracking Lead Exposure in Children in Massachusetts and Cambridge

Massachusetts law requires that all children be screened for lead poisoning multiple times through 3 years of age (at 9-12 months, 2 years, and 3 years). In High Risk Communities, the law requires an additional test at 4 years of age. Lead levels for children in Cambridge are consistently below the Massachusetts average; as a result, Cambridge is not considered a High Risk Community.

Lead in blood is measured in micrograms per deciliter. Elevated Lead Level is defined as 10 ug/dL (micrograms/deciliter) or greater in blood. 5 - 9 ug/dL is considered a Level of Concern. The most recent average Blood Lead Level (BLL) for children in Cambridge is approximately 0.7 ug/dL, well below the Level of Concern and Elevated Level.

Cambridge consistently has lower than average (MA) rate of elevated childhood blood lead levels. Among major cities in Massachusetts, Cambridge has among the lowest incidence of elevated lead in young children (0.7%). In addition, Cambridge has among the highest screening rates of Non-High Risk Massachusetts cities (71%).

