Sherman Street Combined Sewer Overflow Tank and Facilities

Community Meeting #3

Wednesday, October 21, 2026 | 6:00 pm

Virtual

CITY OF CAMBRIDGE

KLEINFELDER
Bright People. Right Solutions.

The Project Team

- **City of Cambridge**
  - Jim Wilcox, City Engineer, DPW
  - Lucica Hiller, Senior Project Manager, DPW
  - Sam Lipson, Director of Environmental Health for Cambridge Public Health
  - Kristen Kelleher, Director of Communications, DPW
- **Design Team – Kleinfelder & Stantec**
  - Geotechnical, environmental, structural, civil, process, electrical & controls, and traffic management engineers
  - Licensed site professionals, hydraulic modelers, landscape architects, building architects, constructability experts, professional cost estimators

KLEINFELDER
Bright People. Right Solutions.

Stantec

CAMBRIDGE DEPARTMENT OF PUBLIC THE WORKS

CITY OF CAMBRIDGE

Agenda October 2026 meeting

- Overview of the Sherman Street tank concept
- Where we are now:
  - What's new since we last met
  - 30% design
    - 30% Basis of Design Report; how the tank will work; stormwater management; site restoration, odor & noise control; Cost estimate
- Environmental investigations this year
  - How excavated soil will be managed; dust control
- Traffic management
- What's next: 60% design

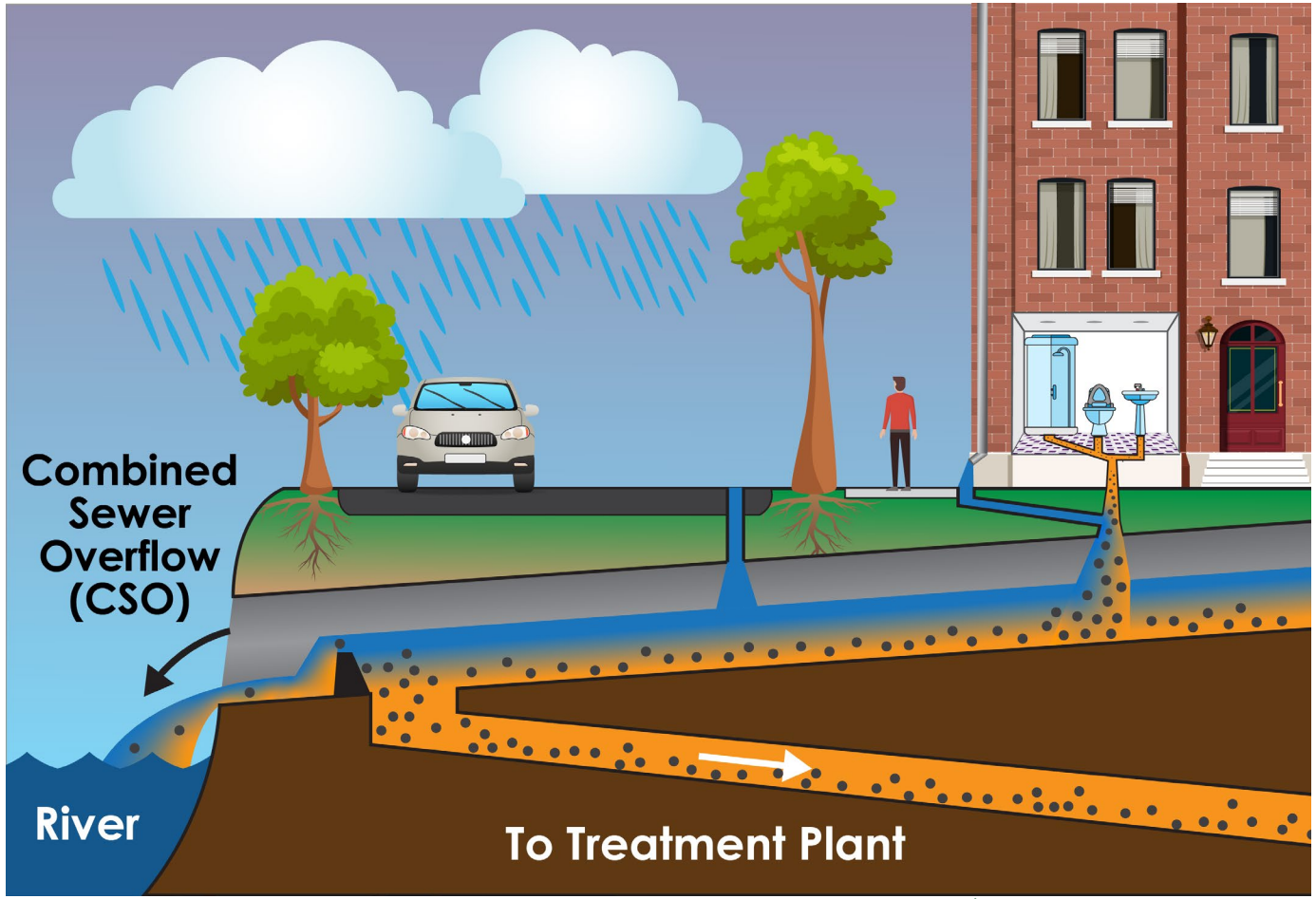
CITY OF CAMBRIDGE

Why the Sherman Street Tank Matters

~55% of Cambridge uses a combined sewer system

Heavy storms can send sewage and stormwater from this area into Alewife Brook.

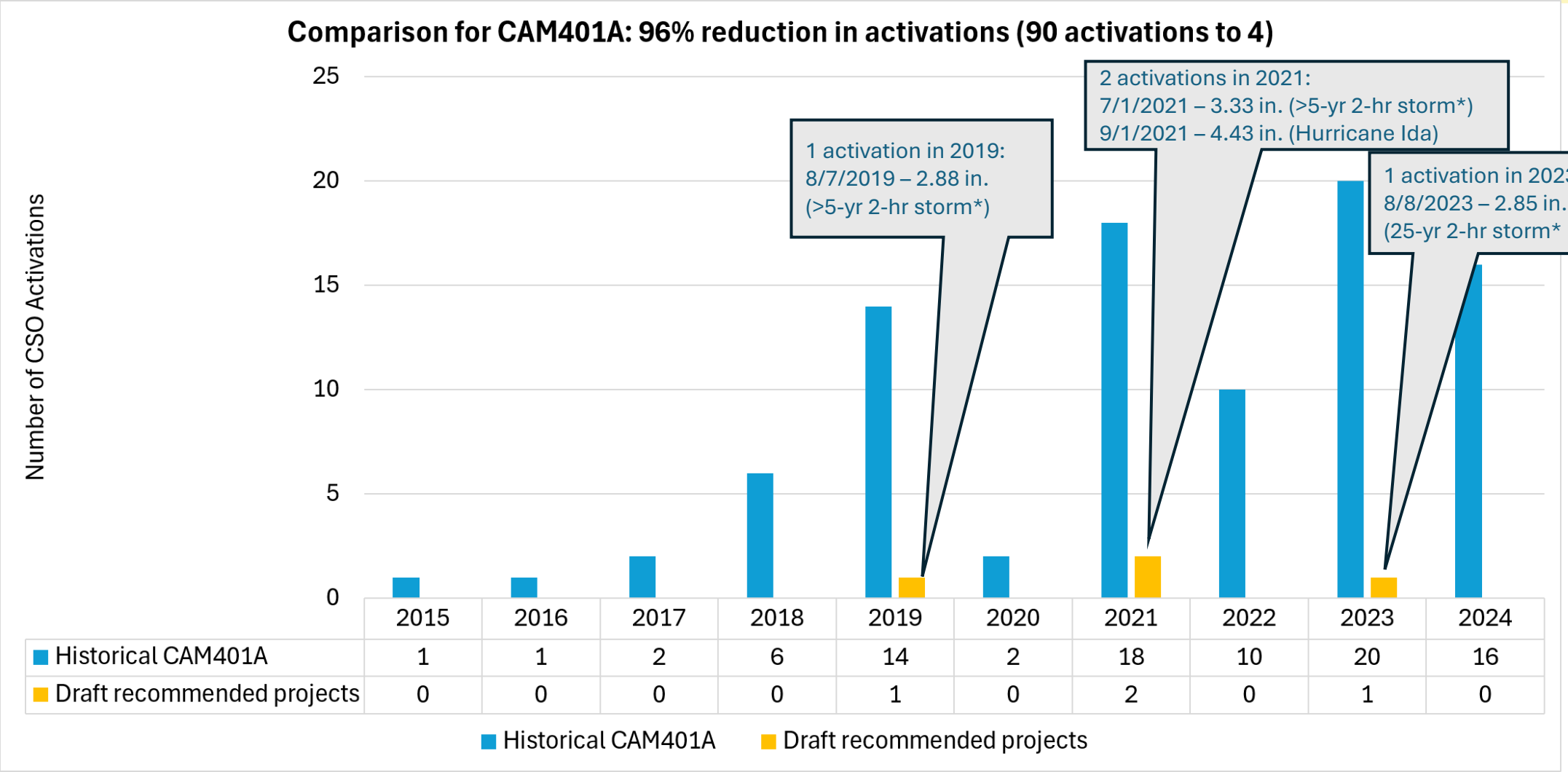
CAM401A is the City's most active combined sewer overflow (CSO) outfall.



A wet-weather combined sewer overflow

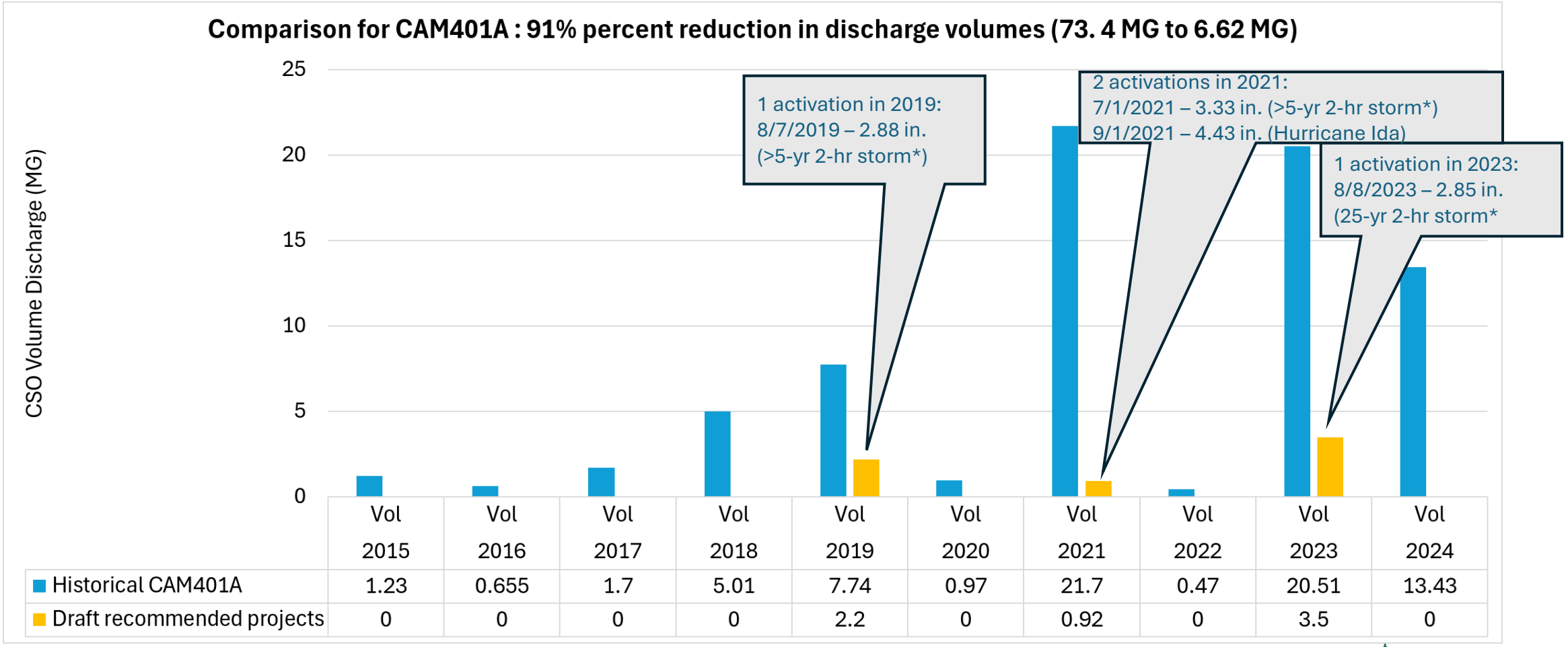
CITY OF CAMBRIDGE

If the Tank Was Built Before 2015



*Return periods based on Atlas 14 https://hdsc.nws.noaa.gov/pfds/

If the Tank Was Built Before 2025



	Vol 2015	Vol 2016	Vol 2017	Vol 2018	Vol 2019	Vol 2020	Vol 2021	Vol 2022	Vol 2023	Vol 2024
Historical CAM401A	1.23	0.655	1.7	5.01	7.74	0.97	21.7	0.47	20.51	13.43
Draft recommended projects	0	0	0	0	2.2	0	0.92	0	3.5	0

*Return periods based on Atlas 14 https://hdsc.nws.noaa.gov/pfds/

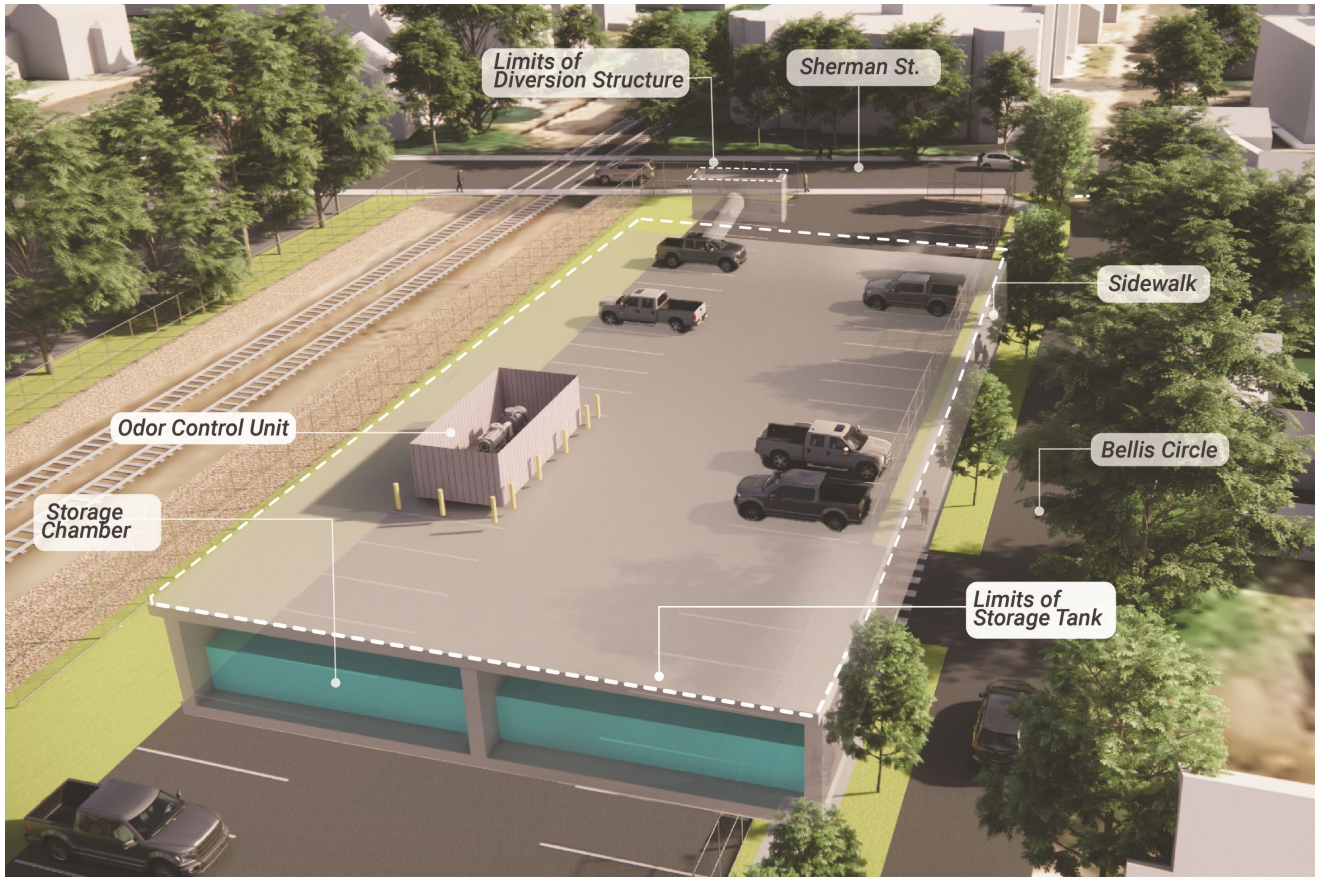
CITY OF CAMBRIDGE

The Proposed Underground Tank

2.1 million gallons of storage below 135 Sherman Street

The tank:

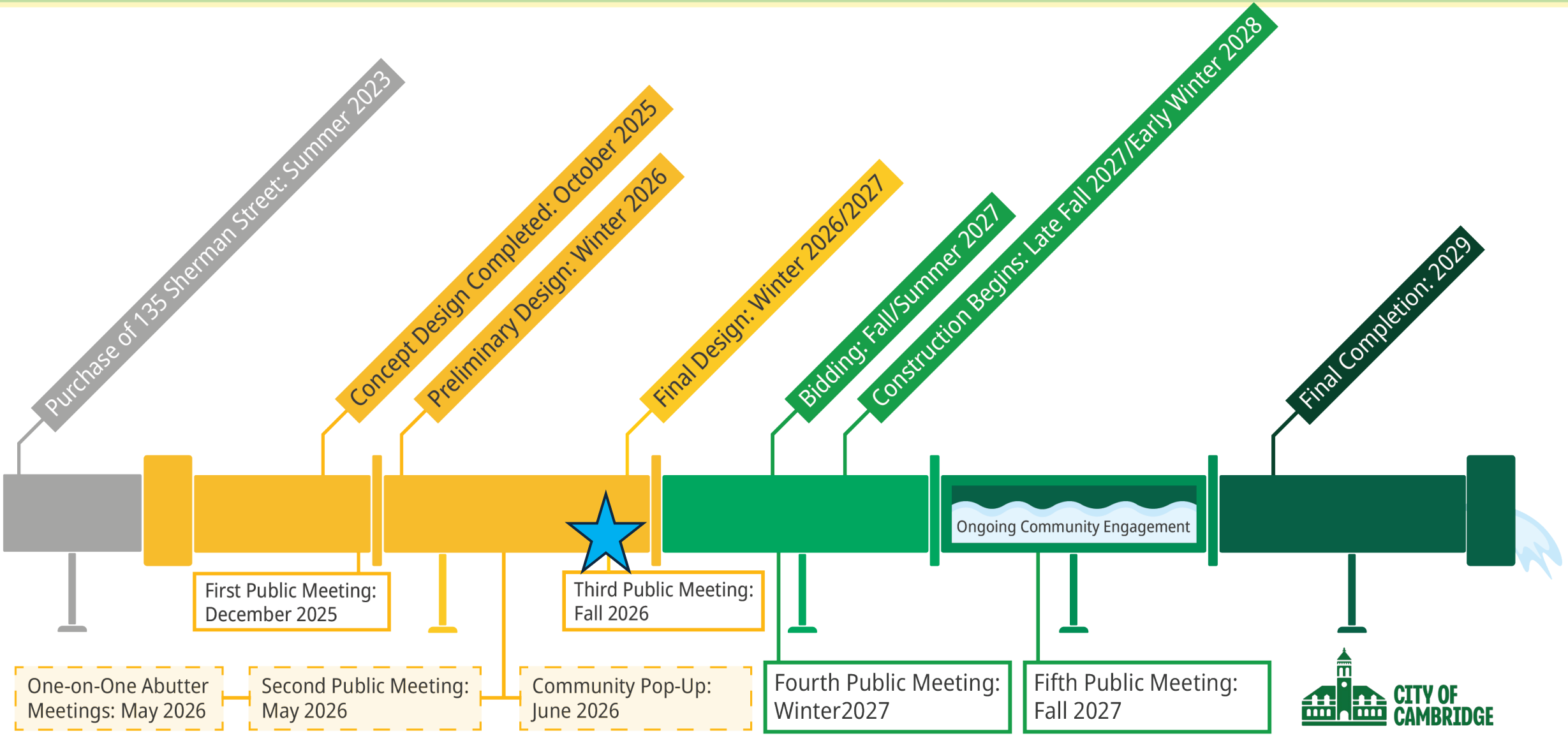
- Holds combined sewer and stormwater flow.
- Sends it to treatment after the storm passes.
- Significantly reduces CSOs to the Alewife Brook.



Concept illustration

CITY OF CAMBRIDGE

Where We Are Now: Outreach & Construction Schedule



What's Happened Since We Started

March 27 - April 2, 2026: Soil testing

April 2026: Began survey work to locate underground utilities

April 30, 2026: Updated draft CSO Control Plan published for public comment

May 2026: Tree analysis site walk conducted

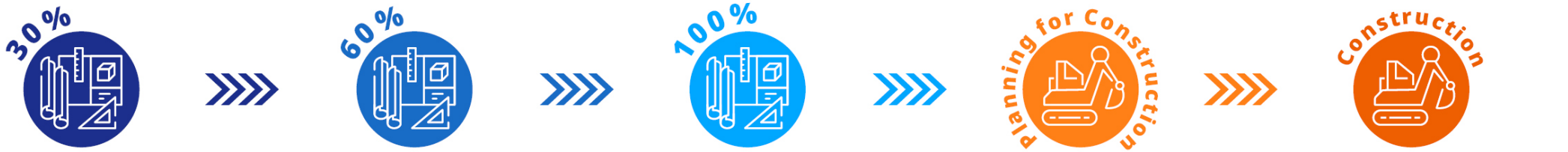
August 2026: Proposed schedule and Frequently Asked Questions documents posted on project site

October 2026: 30% Basis of Design Report published; inspection of the CAM401A regulator structure

CITY OF CAMBRIDGE

Where We Are Now: Design Schedule

135 Sherman Street Schedule



30% DESIGN
Fall 2026

Major deliverables:
Basis of Design Report, Environmental Conditions Memorandum, Geotechnical Report, Drawing Set, Cost Estimate, and Community Meeting

Phase Summary:
The City will review early plans and updated costs.

60% DESIGN
Winter 2026

Major deliverables:
Detailed drawings and requirements, updated cost estimate, community meeting

Phase Summary:
The City will review detailed plans and updated costs.

100% DESIGN
Spring 2027

Major deliverables:
Final drawings and requirements, updated cost estimate

Phase Summary:
The City will review final plans and updated costs.

PLANNING FOR CONSTRUCTION
Summer–Fall 2027

Major action items:
Final bid package prepared, project out to bid, contract awarded, early construction preparation, community meeting

Phase Summary:
The City will prepare the bid package, select a contractor, and review early construction plans.

CONSTRUCTION
Late Fall 2027/ Early Winter 2028

Major action items:
Equipment mobilizes, construction begins. More details to come.

Phase Summary:
Construction will begin at 135 Sherman Street.

How the Tank Will Work

1. **Capture** — Flow is diverted into the tank when the combined sewer system is full.
2. **Store** — The tank has chambers for storage of smaller and larger overflows.
3. **Empty** — Solids-handling pumps dewater the tank.
4. **Flush** — The floor of the tank is automatically washed.
5. **Protect** — Large debris and grit are captured proactively.

CITY OF CAMBRIDGE

1. Capture Flows: Diversion Concrete Vault

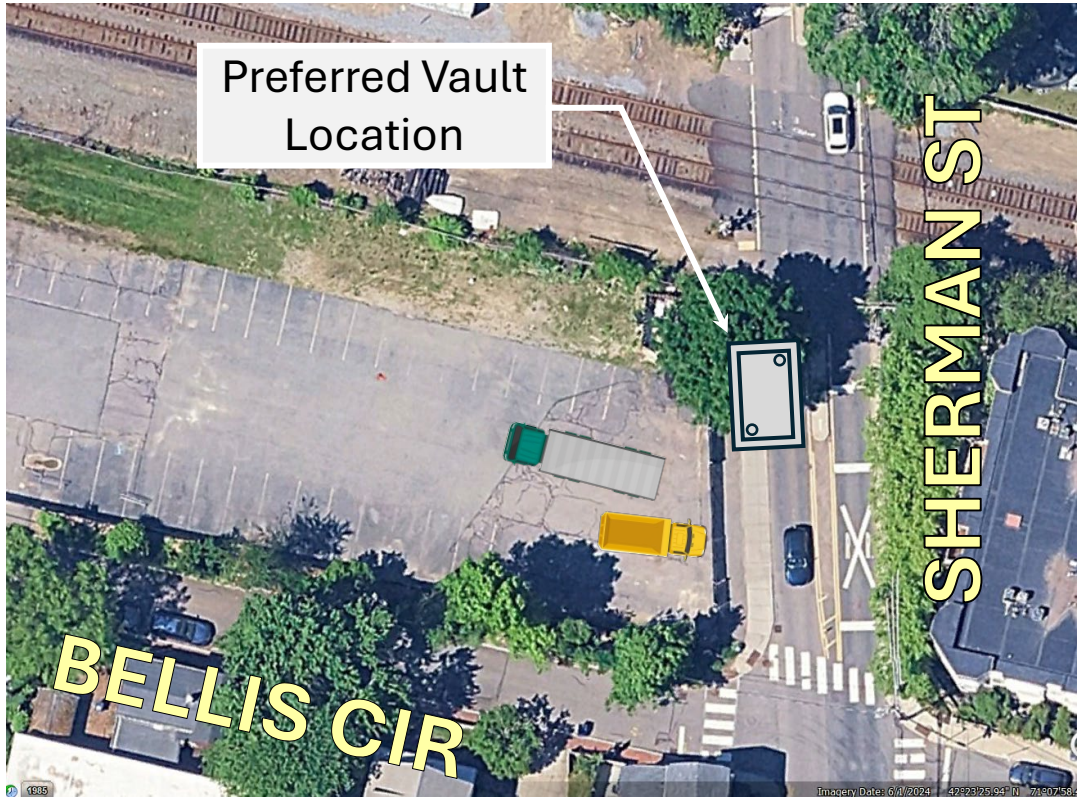
**30% design, subject to change*

Capture combined sewer overflow

A new diversion structure on Sherman Street redirects combined sewer overflow to the tank.

Siting Considerations

- Hydraulics of CAM401 Regulator
- Site driveway entrance
- Proximity to Bellis Circle
- Shade tree impacts (17” oak)



Preferred siting of the diversion structure

CITY OF CAMBRIDGE

2. Store: Geotechnical Wall Concrete Tank

**30% design, subject to change*

Reduce risk of vibrations

Secant piles (or similar) are drilled prior to interior excavation/bracing and drilled foundation piles.

Reduce risk of ground settlement

In-situ and permanent excavation support system (no extraction). Maximizes tank width to reduce zone of influence.

Reduce volume of soil

Most compact construction method

Same type as Main City Library



Secant pile construction at Main City Library

3. Empty the Tank: Dewatering Pumps

**30% design, subject to change*



Dewatering pumps at the City's Parking Lot 6 tank

< 24 hours to empty a full tank

Two submersible pumps

One online pump and one standby pump sit inside the storage tank.

Wait for sewer capacity

System checks the sewer has room before pumping water from the tank.

CITY OF CAMBRIDGE

4. Flush the Tank: Tipping Buckets

**30% design, subject to change*

Proven technology
Five tipping buckets each with a dedicated flushing lane.

Passive operation
City water fills each bucket, and a wave flushes sediment toward a trough.

Maintenance
Surface access supports inspection and reduces the need for tank entry.



Example Tipping Bucket from past project

5. Protect: Debris Screening & Grit Capture

**30% design, subject to change*

Remove large debris that can clog pumps

Underground trash rack stops debris from entering the tank.

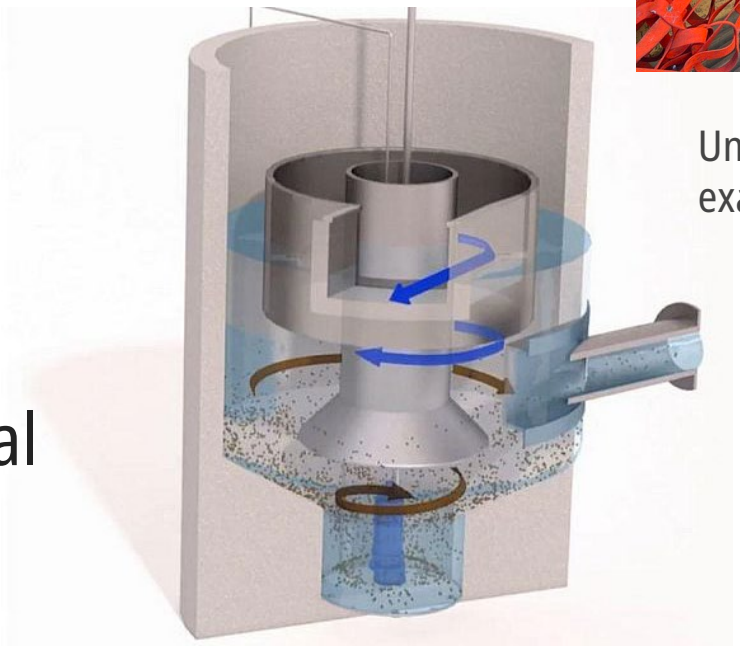
Remove grit when pumped back to sewer

Manhole with hydrodynamic insert captures grit to prevent historical accumulation.

Simplify maintenance

City crews remove collected material on-site with a vactor truck.





Underground trash rack and grit separator examples

CITY OF CAMBRIDGE

Managing Stormwater: On-Site System

**30% design, subject to change*

Plan for whole site redevelopment

Enable the tank and future phases (multi-use path, future building).

Recommended approach

Runoff flows to an underground infiltration system, providing stormwater treatment and on-site retention.

Next design step

Refine drainage and paving plans and confirm layout with the City Arborist.



Example of subsurface infiltration system on another project

Site Restoration, Odor & Noise Control

**30% design, subject to change*

Site restoration

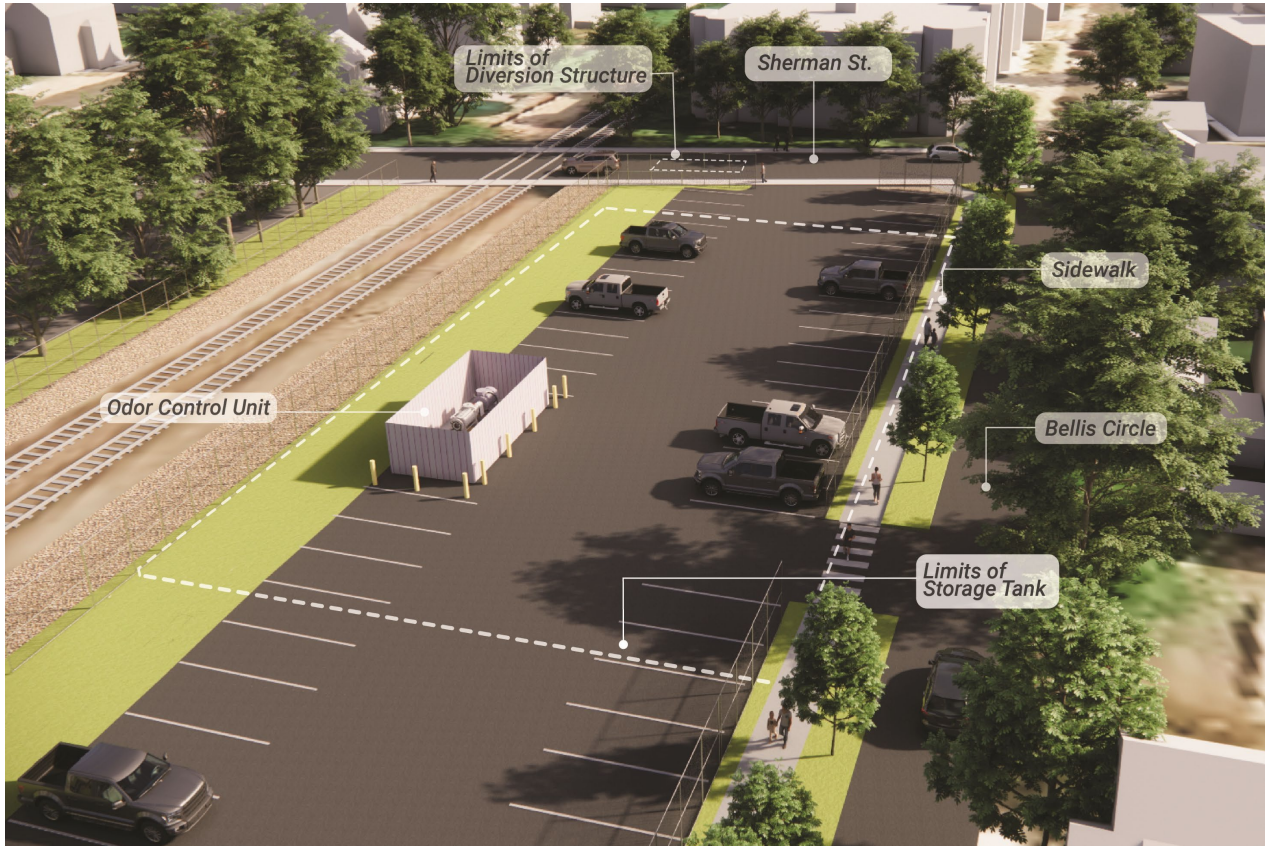
Paved lot, accessible sidewalk, tree protection and new plantings.

Odor control

Activated carbon system treats air exhaust from the tank.

Noise control

A sound barrier screens the equipment.



Concept illustration

CITY OF CAMBRIDGE

Cost Estimate: Current Status

**30% design, subject to change*

30% design cost estimate

Construction cost is $35.8 million (with escalation + contingency)

What does this include besides the permanent storage facility?

- Temporary and environmental controls
- Geotechnical monitoring
- Demolition of unknowns
- MBTA coordination
- Soil disposal at a landfill
- On-site stormwater system
- Site restoration
- Tree plantings
- Perimeter sidewalk and roadway paving
- CAM401A regulator modifications
- 44”x48” brick sewer rehab

What could change the cost significantly?

Tank size, geotechnical conditions, unplanned MBTA requirements, additional utility improvements, market conditions.

CITY OF CAMBRIDGE

Environmental Investigations During Design

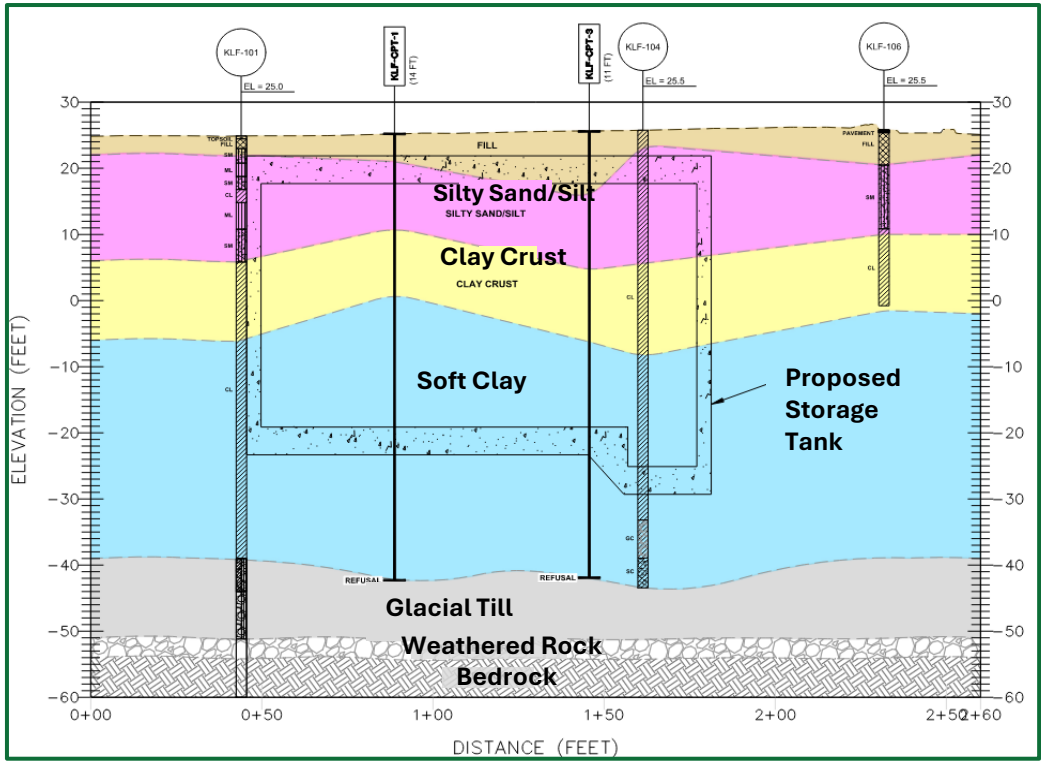
BY THE NUMBERS

10 soil borings

9 soil samples

2 groundwater samples

Detected concentrations were *below* state residential reporting thresholds



Underground profile of site

CITY OF CAMBRIDGE

Threshold criteria

Why are these threshold criteria set?

To protect people from health risks based on how they could come into contact with the soil

How are these threshold criteria set?

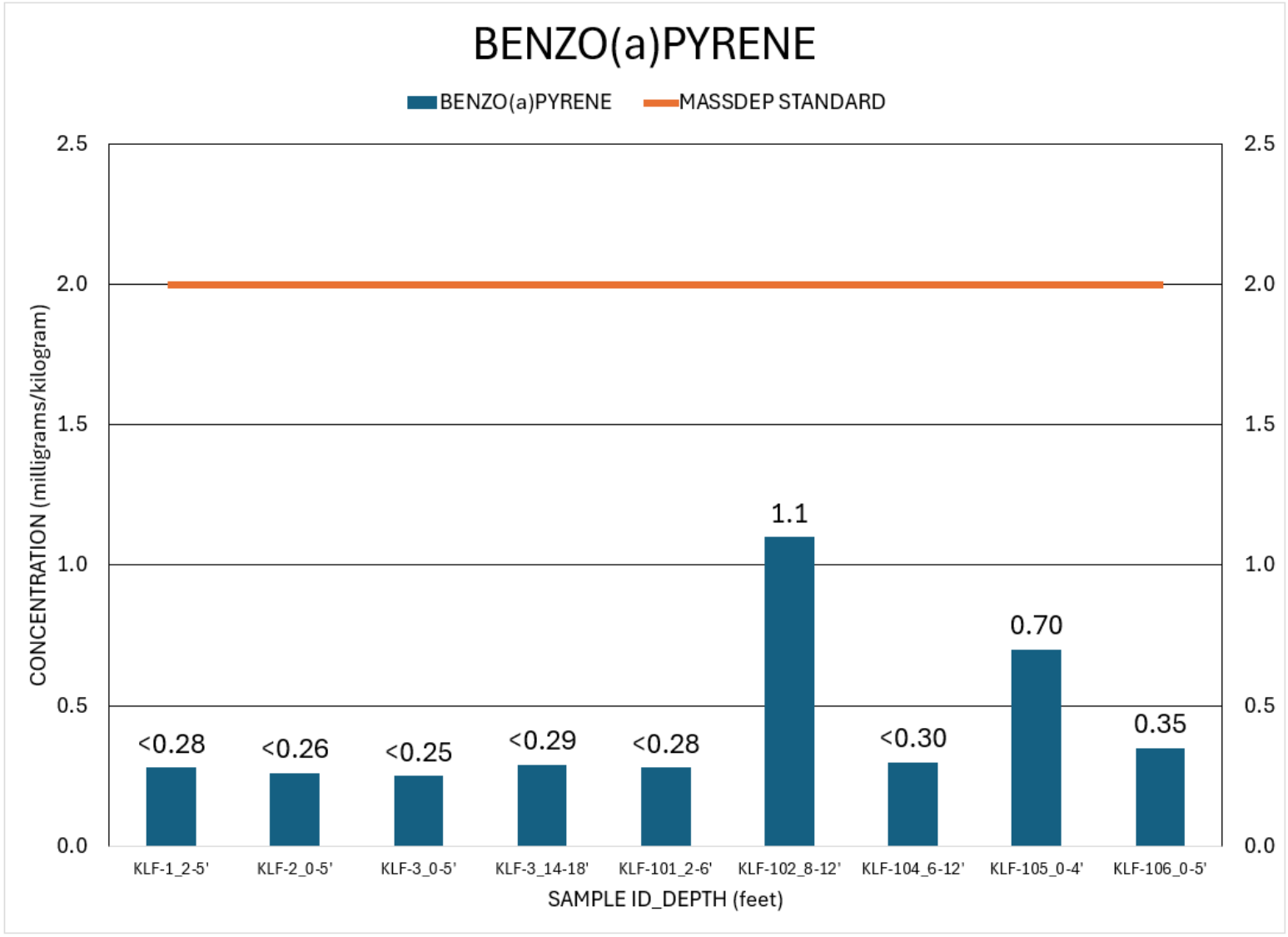
Using information about a contaminant's potential health effects and how people could be exposed to it (exposure pathway)

What are the exposure pathways?

- Primary: Ingestion (swallowing) and skin contact
- Secondary: Inhalation (breathing)

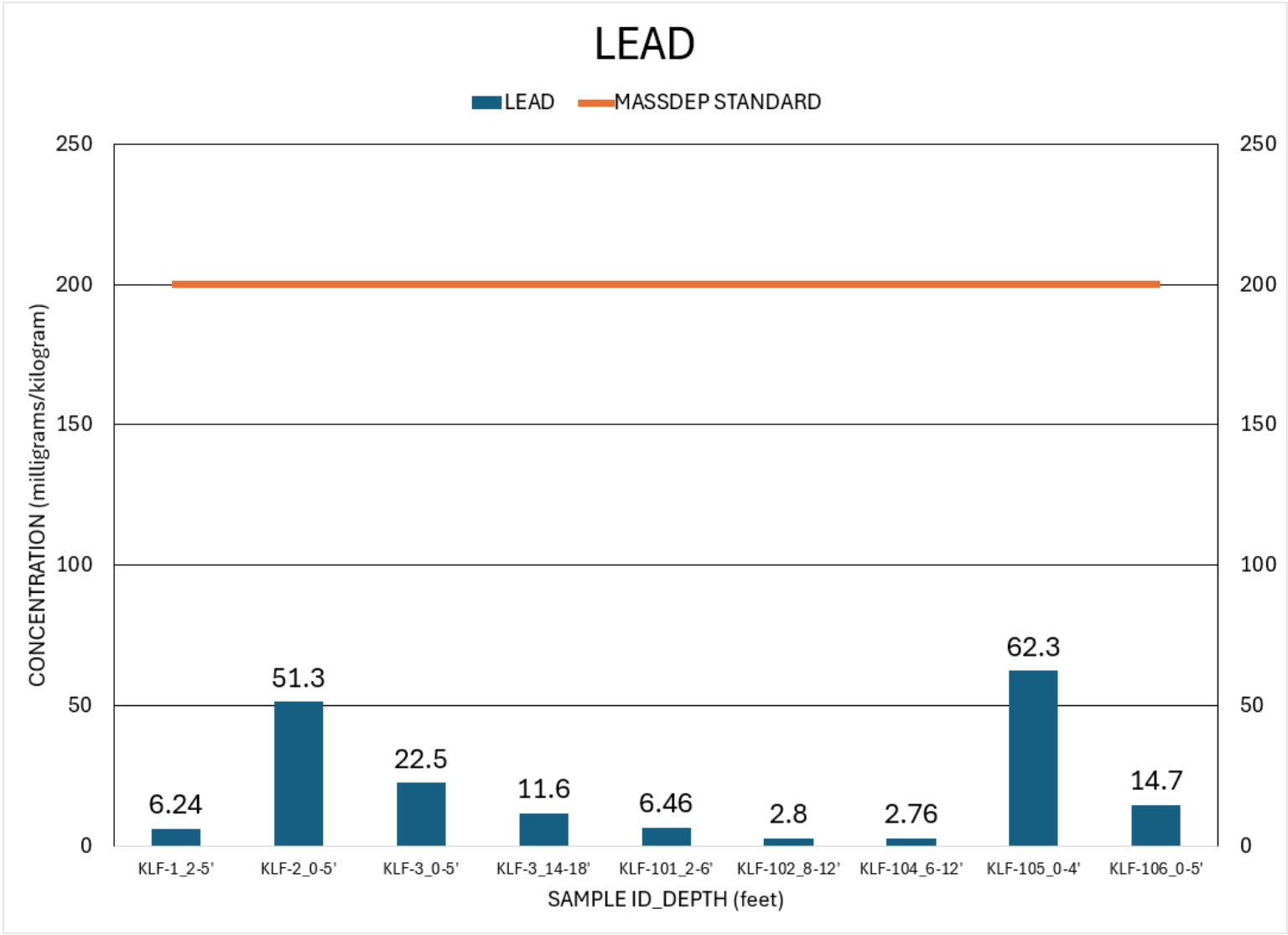
CITY OF CAMBRIDGE

Benzo(a)Pyrene Concentrations in Soil Samples



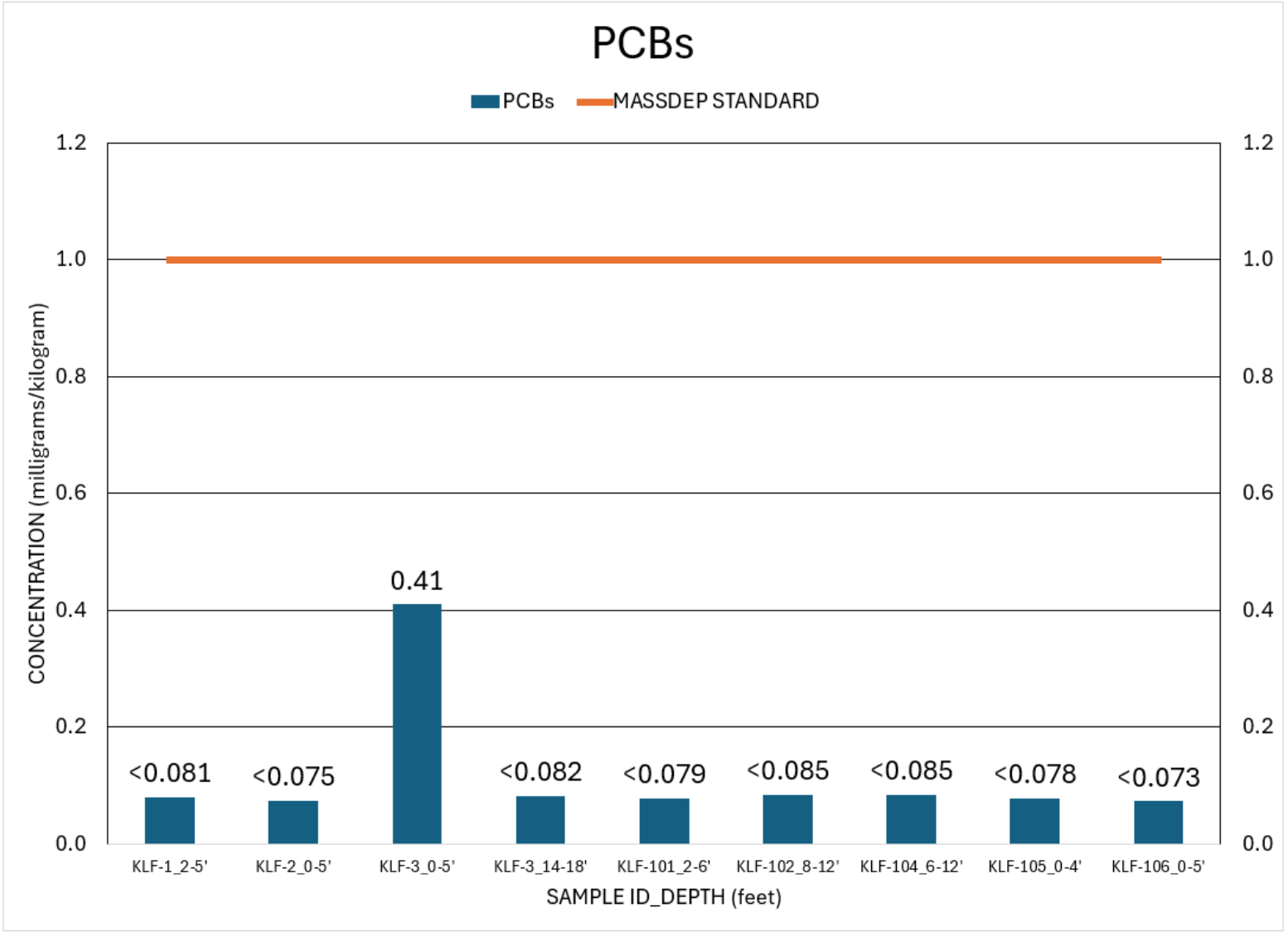
CITY OF CAMBRIDGE

Lead Concentrations in Soil Samples



CITY OF CAMBRIDGE

PCB Concentrations in Soil Samples



CITY OF CAMBRIDGE

How Excavated Soil Will Be Managed

**30% design, subject to change*

Additional sampling

Soil will be sampled every 500 cubic yards up to the depth of the total excavation that will occur.

Certified oversight

A Mass. Licensed Waste Site Cleanup Professional (LSP) guides soil handling.

Approved disposal

Use properly licensed facilities for off-site loads.



Geotechnical boring of soil material from the site

CITY OF CAMBRIDGE

Dust Control

**30% design, subject to change*

- Standard practices for projects throughout the City
- Examples may include:
  - Misting water
  - Salting in winter
  - Monitoring for changing wind conditions
  - Active site suppression
  - Covering stockpiles every night
  - Screen fencing around perimeter
- More information will be shared as design progresses

CITY OF CAMBRIDGE

Traffic Management

**30% design, subject to change*

Special focus

Reduce truck traffic on Sherman Street, Bellis Circle & Rindge Avenue, minimize MBTA horn blows, and maintain safety at the railway crossing.

No route decision yet

However, truck traffic will be present on Bellis Circle and Sherman Street during portions of construction.

Traffic Management

**30% design, subject to change*

Alternative trucking route under discussion

Create a haul route to New Street using the northern edge of Danehy Park and inactive part of the MBTA corridor.



Preliminary truck hauling route to New Street

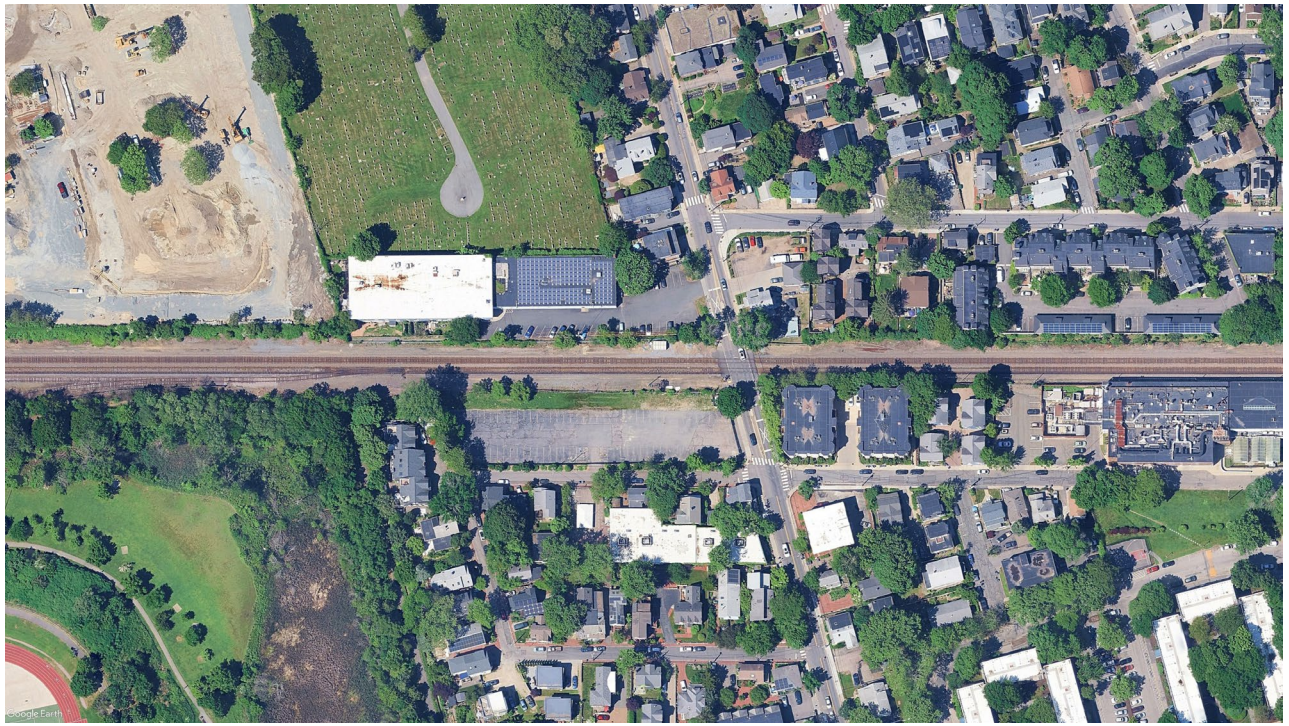
What's Next: Investigation Work

Within Sherman Street

- Test pits to locate utilities
- Sewer camera inspections

Along the site edges

- Tree root evaluation
- Boundary survey along MBTA property line



Site context

CITY OF CAMBRIDGE

What's Next: 60% Design

Target: winter 2026/2027

More design detail:

- Drawings and construction requirements
- Draft requirements for monitoring vibration, noise, and dust
- Draft requirements for managing traffic during construction
- Draft requirements for property condition surveys
- Updated cost estimate

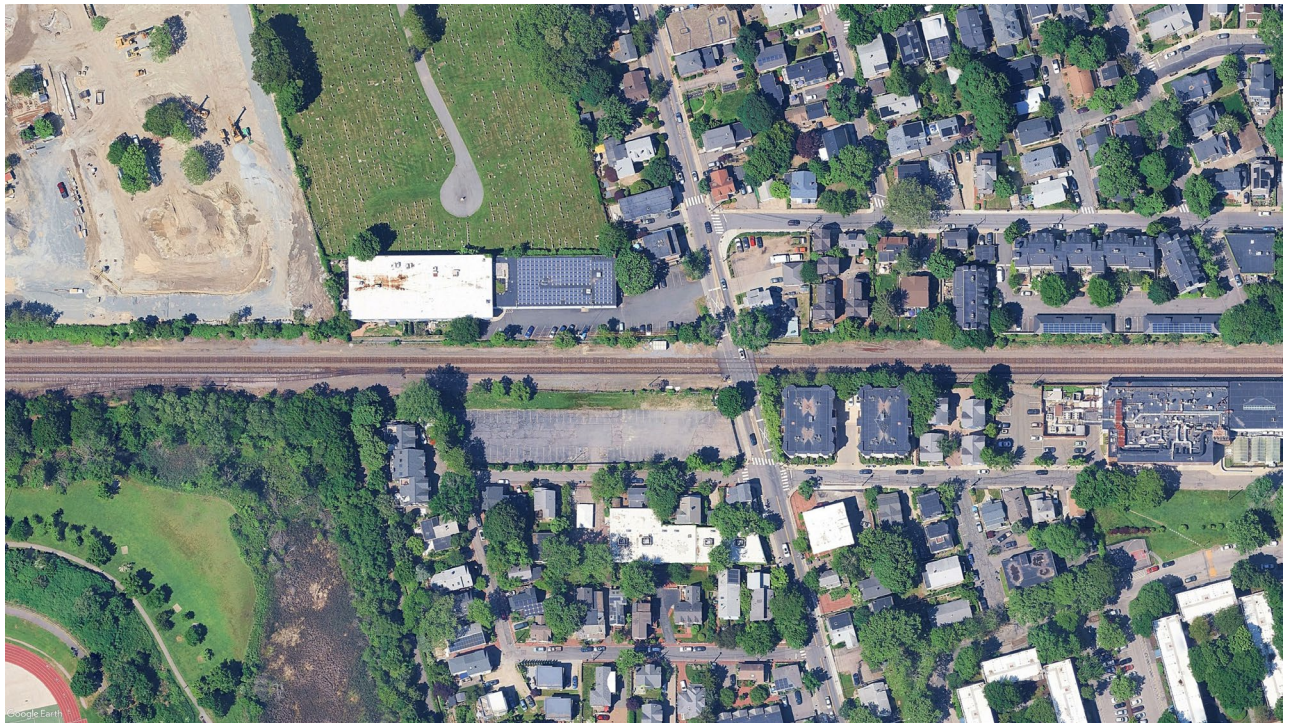
CITY OF CAMBRIDGE

Other City Activity at the Site

Electrical work

Dagle doing electrical work under separate contract

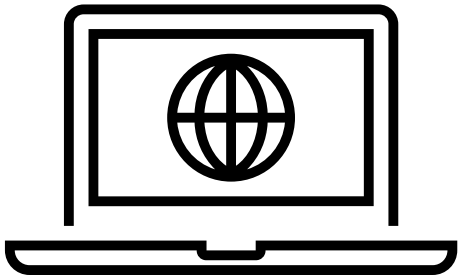
- Upgrading flow metering equipment
- Trenching for electrical conduit
- Working in existing cabinets on-site



Site context

CITY OF CAMBRIDGE

Where You Can Find Information



Project Page:
camb.ma/shermanstreetfacility

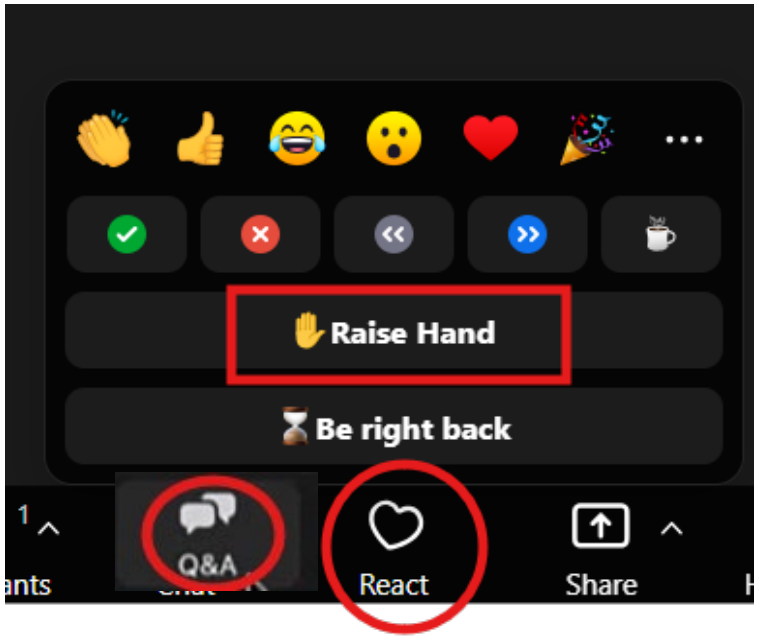
To sign up to receive updates, visit the project page and click the orange box that says “Sign Up Now,” or scan the QR code on the left.

CITY OF CAMBRIDGE

Instructions to Submit Your Questions

How to Participate

- We will take comments in the order hands are raised
- If calling in, dial *9 to raise your hand / *6 to unmute
- Questions can be submitted using the Q+A function
- Please be respectful to attendees and City staff



Answering Questions

- The project team will provide answers to questions
- The project team may batch similar questions together
- The meeting is scheduled to end at 8 p.m.
- Contact kkelleher@cambridgema.gov for any remaining questions or feedback

CITY OF CAMBRIDGE

QUESTIONS & ANSWERS