



Neponset River Capen Street Investigation Milton, MA



**Executive Office of Energy and Environmental Affairs (EOEEA)
Department of Environmental Protection (MassDEP)
Department of Conservation and Recreation (DCR)**

Prepared by MassDEP, DCR & MACTEC Engineering & Consulting, Inc.
Contractor to MassDEP



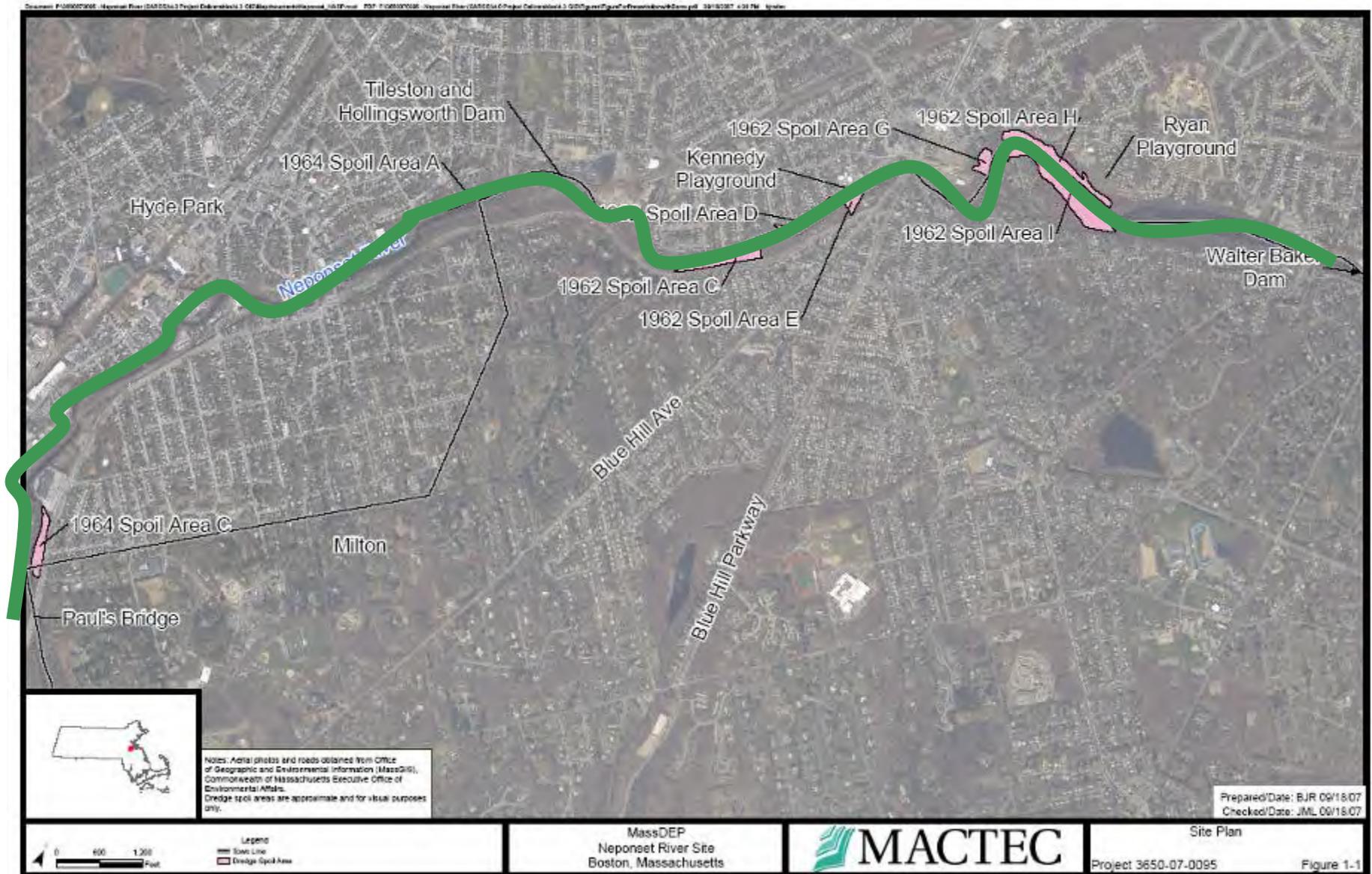
Overview of Presentation

- Background
- Past Sampling and Analysis
- Future Sampling and Analysis
- Exposure Discussion
- Preventative Measures

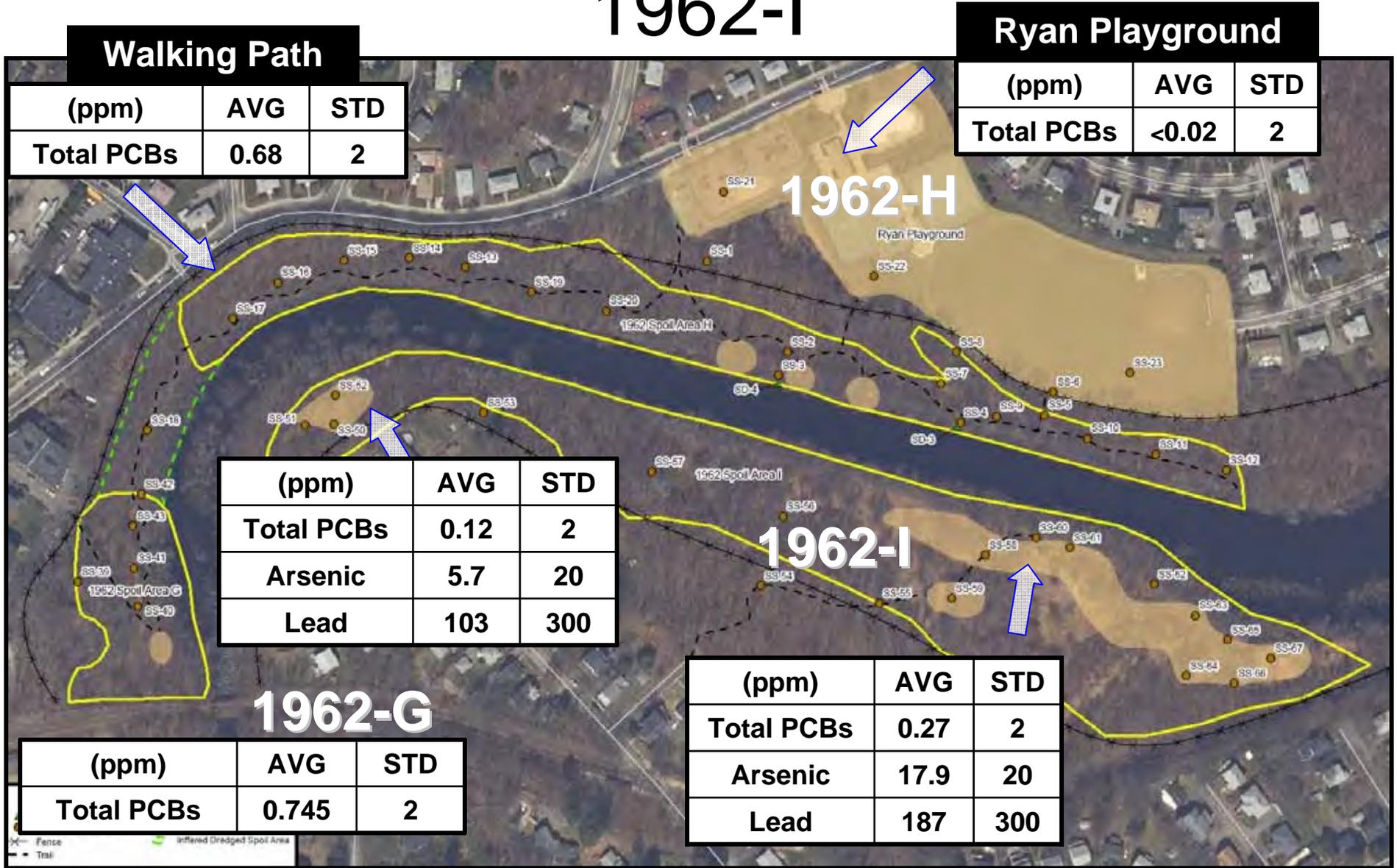
Neponset River Dredge History

- 1955 flooding of Neponset River and across southern New England
- In 1962 and 1964, MDC performed repair work and flood control, including dredging:
 - 1962: Walter Baker Dam to Tileston-Hollingsworth Dam
 - 1964: Tileston Hollingsworth Dam to Paul's Bridge
- USGS sediment study found elevated PCB concentrations in Neponset River sediment
- Concern over potential for dredge spoils to be impacted with PCBs
- Concern for public health

STUDY AREA



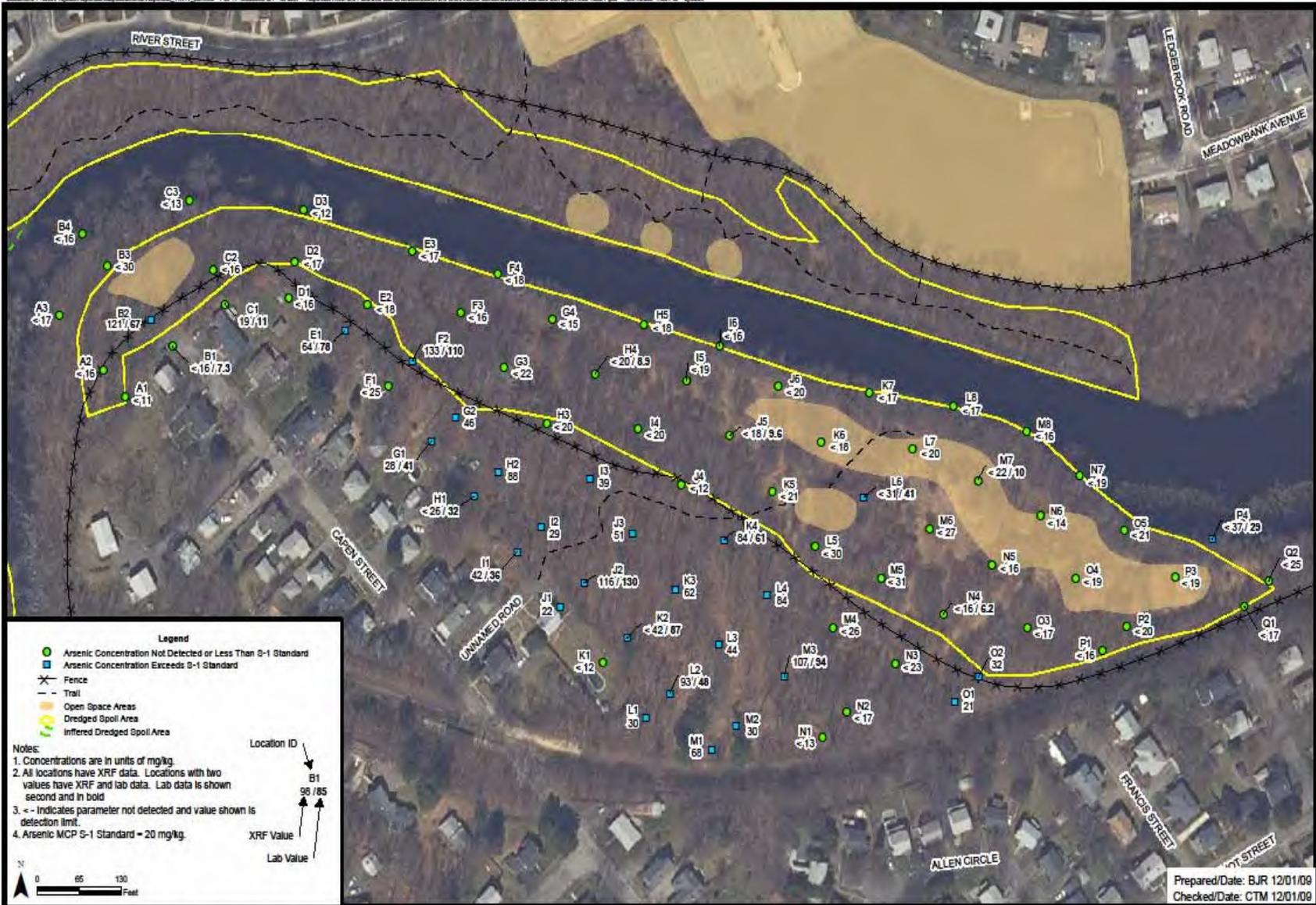
Dredge Spoil 1962-G, 1962- H & 1962-I



ppm = parts per million

Soil Sampling Program

- Samples were collected from the top 0-1 foot throughout the DCR land and tested for arsenic and lead.
- Arsenic and lead contamination was identified at levels of concern between the dredge spoils area and the Capen Street neighborhood.



Notes: Aerial photos obtained from Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs. Fence lines, trails, and dredge spoil areas are approximate and for visual purposes only.

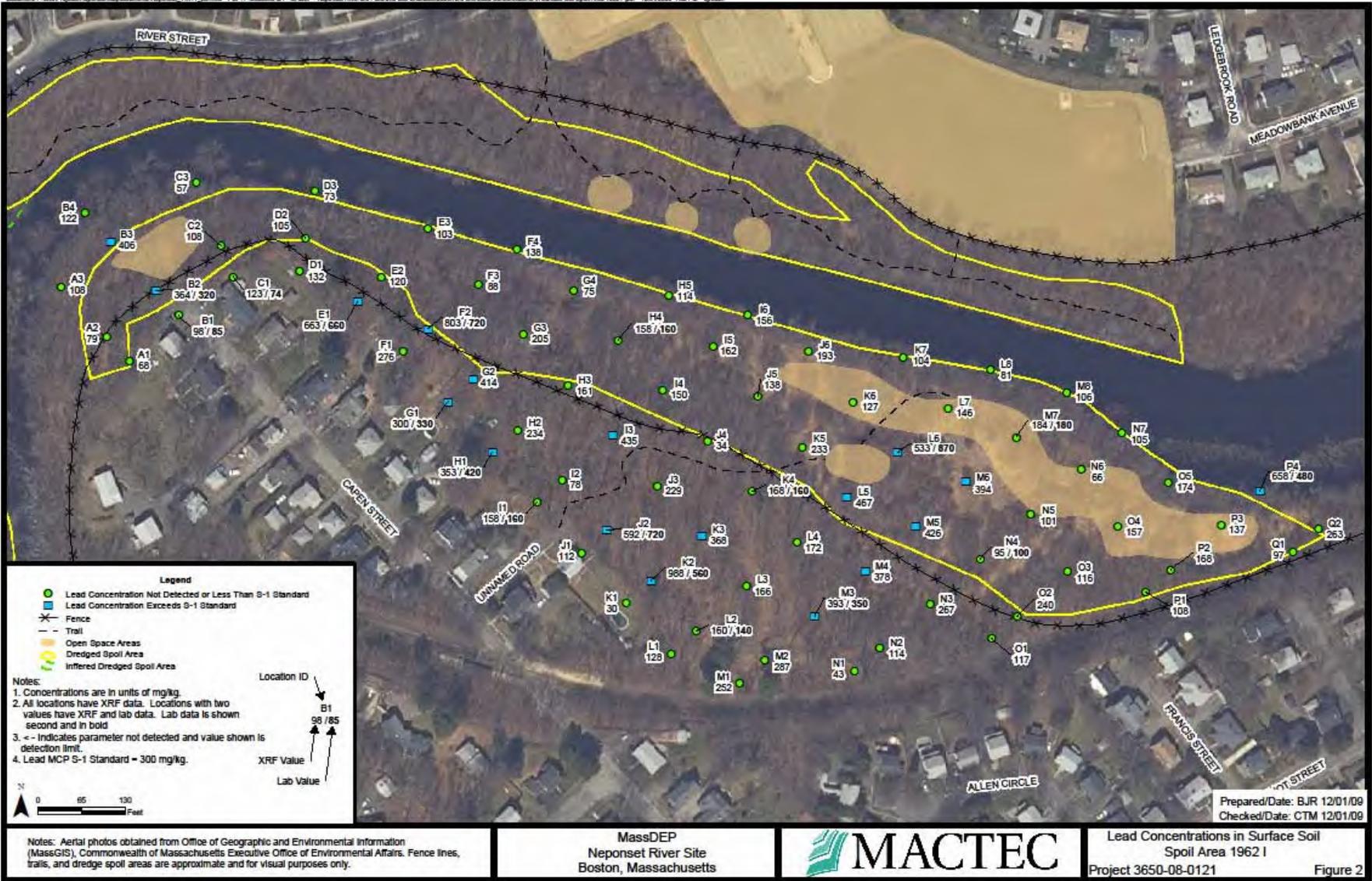
MassDEP
Neponset River Site
Boston, Massachusetts



Arsenic Concentrations in Surface Soil
Spoil Area 19621

Project 3650-08-0121

Figure 1



Possible Sources of Contamination

- DCR Land was a former sand and gravel pit in the early 1900's. We do not know what it was filled with.
- Lead Arsenate pesticide spraying could have occurred along railroad tracks.

Purpose of Sampling

- Determine if arsenic and lead contamination exists in surface soils on residential properties at levels of concern.
- Determine if actions are necessary to eliminate access to any soil that presents a health risk.

Sampling – Private Properties

- Surface soil sampling - 20 foot by 20 foot grid – Tested for Arsenic and Lead.
- Sample collection - Hand auger - 0-1 foot
- Samples collection to 3 feet at 5% of locations.
- Evaluate data to determine if remedial actions are necessary.

Exposure Discussion

- Contact with soil containing arsenic and/or lead at elevated levels may put one at risk.
- Generally the top foot of soils is thought to be “readily accessible”.
- Potential Exposure Pathways:
 - Skin contact
 - Incidental ingestion
 - Inhalation of dust (typically negligible unless soil is significantly disturbed).

Exposure Discussion

- MassDEP has identified levels of concern for arsenic and lead in soil in the “Massachusetts Contingency Plan” (the MCP).
- Soil levels above MCP standards may pose a health risk.
- MCP requires evaluation of both short term (<5years) and long term risk.
- If there is a short term risk, access and exposure to soils will be prevented or eliminated.

MCP Soil Standards

Chemicals in soil at levels greater than or equal to the following could pose a potential health risk over a lifetime:

Total Arsenic: 20 parts per million (ppm)

Total Lead: 300 ppm

Chemicals in soil at levels greater than or equal to the following could pose a short term risk:

Total Arsenic: 40 ppm

Total Lead 1,000 ppm

STEPS TO PREVENT EXPOSURE

- Minimize skin contact with soil and wash soil from skin whenever possible.
- MassDEP recommends that this soil not be used to garden vegetables.
- Avoid tracking soil from potentially contaminated areas into your home.
- Minimize activities likely to produce high levels of dust.

ACCESS AGREEMENTS

- MassDEP requires each owner to sign an access agreement prior to sampling their property.
- Access agreements are available for your review and signature at the sign in table.

QUESTIONS & COMMENTS

Contact:

Christopher Pyott

MassDEP Northeast Regional Office

205B Lowell Street

Wilmington, MA 01887

(978) 694-3353

Christopher.Pyott@state.ma.us