

Weston & Sampson

transform your environment

DUE DILIGENCE

ASTM Phase I ESA

- At a minimum ASTM E1527-21 or E2247-23
- Support property transfer, inform construction/remediation costs, tool for reducing liability
- Liability protections unique to MA – work with MassDEP / AG Office



STATE REGULATIONS

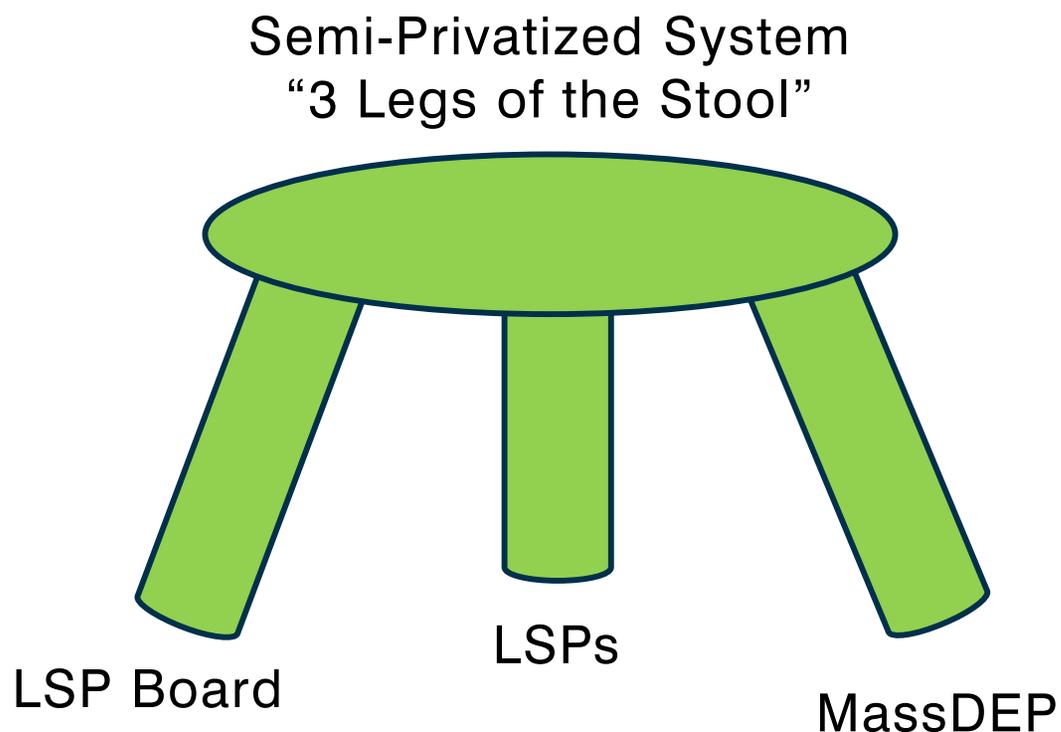
The Massachusetts Contingency Plan

Statute: MGL c. 21E

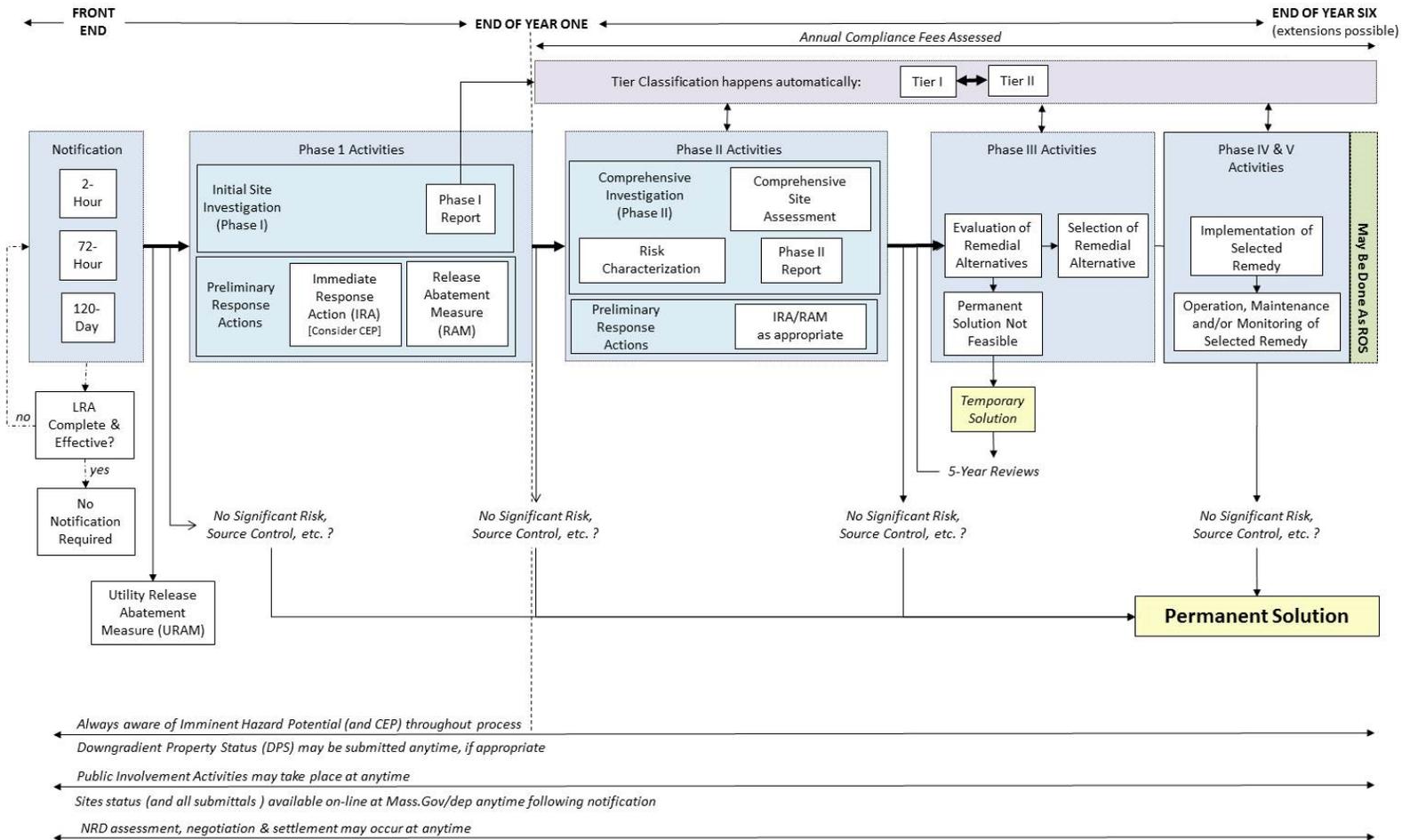
Regs: Massachusetts
Contingency Plan (MCP) – 310
CMR 40.0000

Basics:

- **Release-Based Inclusion** -
Enter the system when
release is discovered
- **Risk-Based Closure** -
Regulatory closure possible
without cleaning up to
background



Streamlined MCP Process: Notification-to-Closure



RISK ASSESSMENT

Cleanup Standards – Soil Categories

Table 40.933(9)

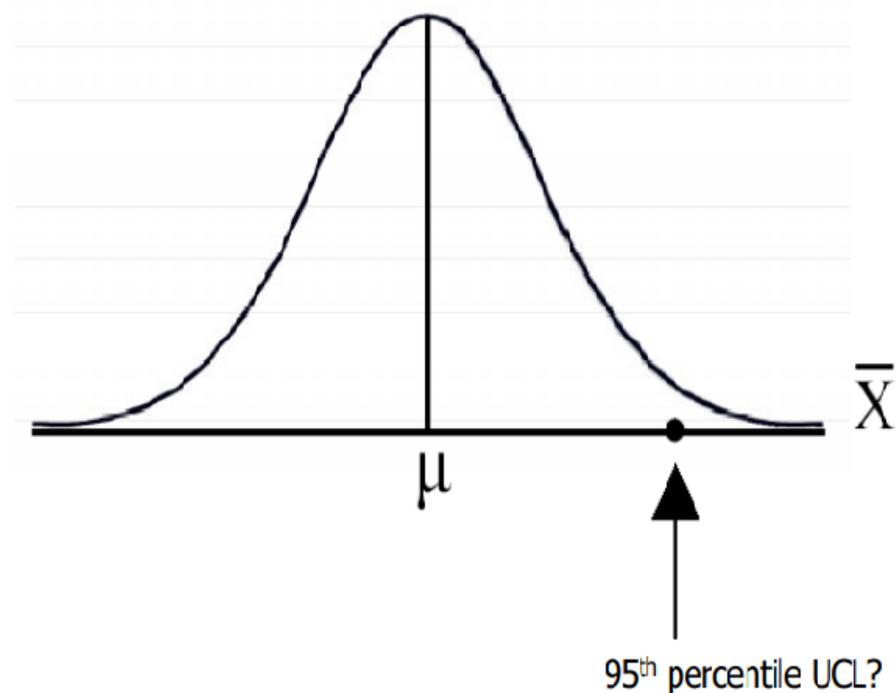
SOIL CATEGORY SELECTION MATRIX - HUMAN EXPOSURE POTENTIAL

Accessibility 1 of Soil 1	RECEPTOR CHARACTERISTICS							
	CHILDREN PRESENT				ADULTS ONLY PRESENT			
	HIGH FREQUENCY		LOW FREQUENCY		HIGH FREQUENCY		LOW FREQUENCY	
	High Intensity	Low Intensity	High Intensity	Low Intensity	High Intensity	Low Intensity	High Intensity	Low Intensity
ACCESSIBLE (SURFICIAL) SOIL 0 <= 3' (unpaved)	CATEGORY S-1		S-2		S-1	CATEGORY S-2		
POTENTIALLY ACCESSIBLE SOIL 3 <= 15' (unpaved) or 0 <= 15' (paved)	CATEGORY S-2				S-2	CATEGORY S-3		
ISOLATED SUB-SURFACE SOILS > 15' or under the footprint of a building or permanent structure			CATEGORY S-3					

* - Category S-1 also applies to any accessible soil where the current or reasonably foreseeable use of the soil is for growing fruits and vegetables for human consumption.

All About Risk and Exposure

- Exposure Point Concentration (EPC)
 - What a “receptor” would be exposure to
 - Averages/Mean for small sites / spills
 - Statistical modeling for big sites, systematic sampling, non-point sources



Common Types of Receptors

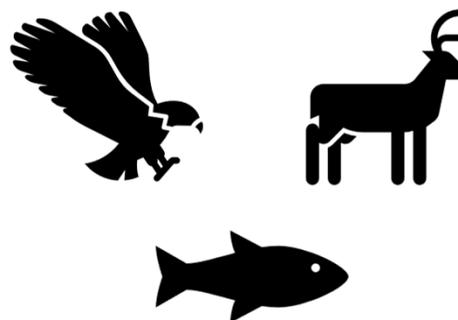
- Human

- Residents
- Trespassers
- Women of childbearing age
- Construction workers
- Children



- Environmental

- Wildlife
- Fish and shellfish
- Plants
- Threatened/endangered species



RISK ASSESSMENT

Advantages of Risk-Based Closure



CLOSURE

MCP “Tools for Closure”

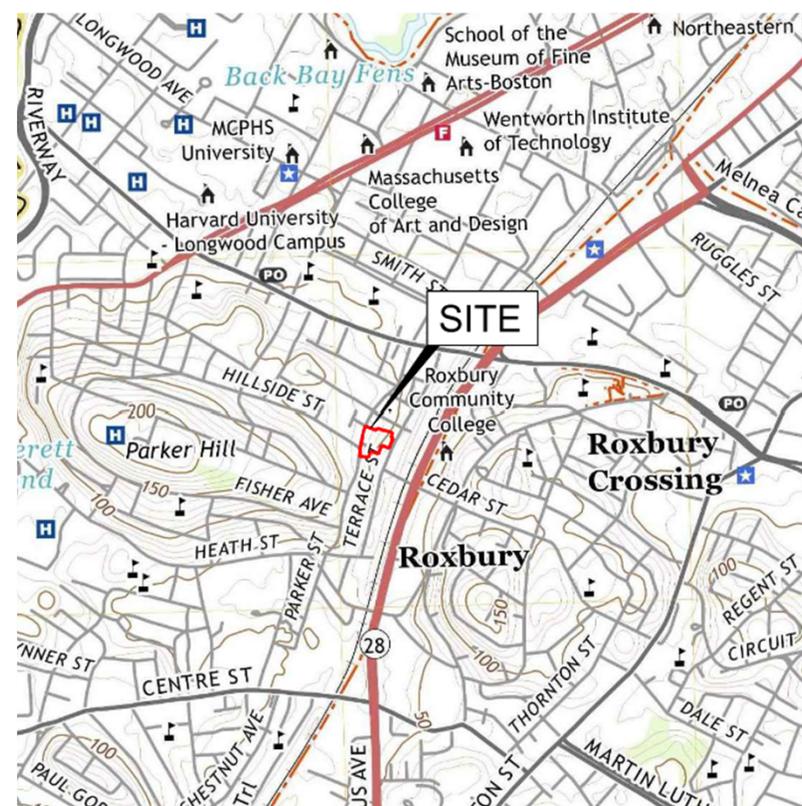
What is the risk and how can we mitigate?

- Institutional Controls
 - Activity and Use Limitation (AUL)
- Engineering Controls
 - Cap/cover system
 - Sub-slab depressurization system (SSDS)
- Receptor elimination
 - Restrict / manage access
- Iterative paths – partial Permanent Solution
- Permanent Solution Statement, Temporary Solution Statement, Remedy Operation Status

CASE STUDY

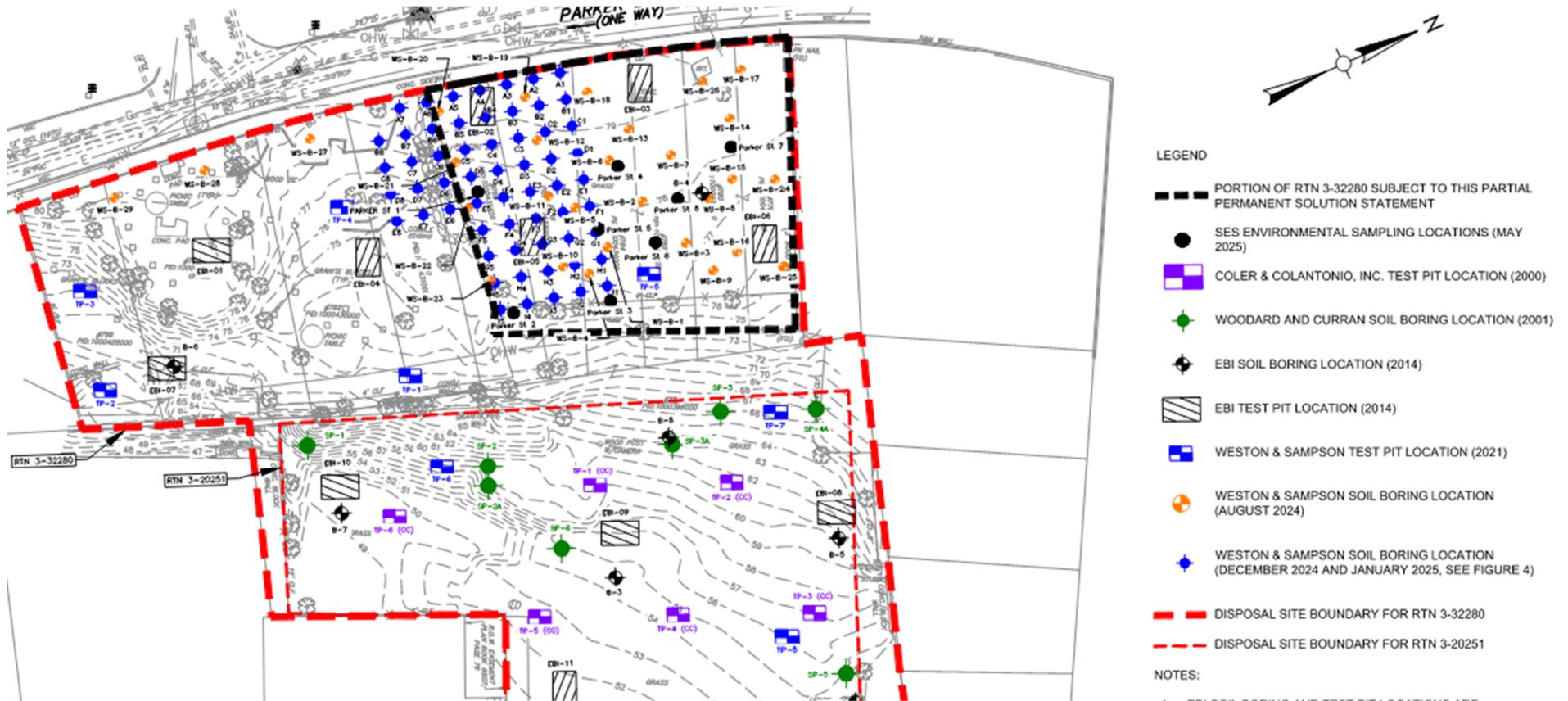
Parker-Terrace Project - History

- 11 contiguous city-owned parcels in Mission Hill, Boston
- History of commercial / industrial and residential uses
- Impacted soil (fill material – metals, PAHs)
- Regulated under the MCP, but City has exempt municipality status
- Brownfields Cleanup Grant awarded in FY22 - \$650k + \$130k match



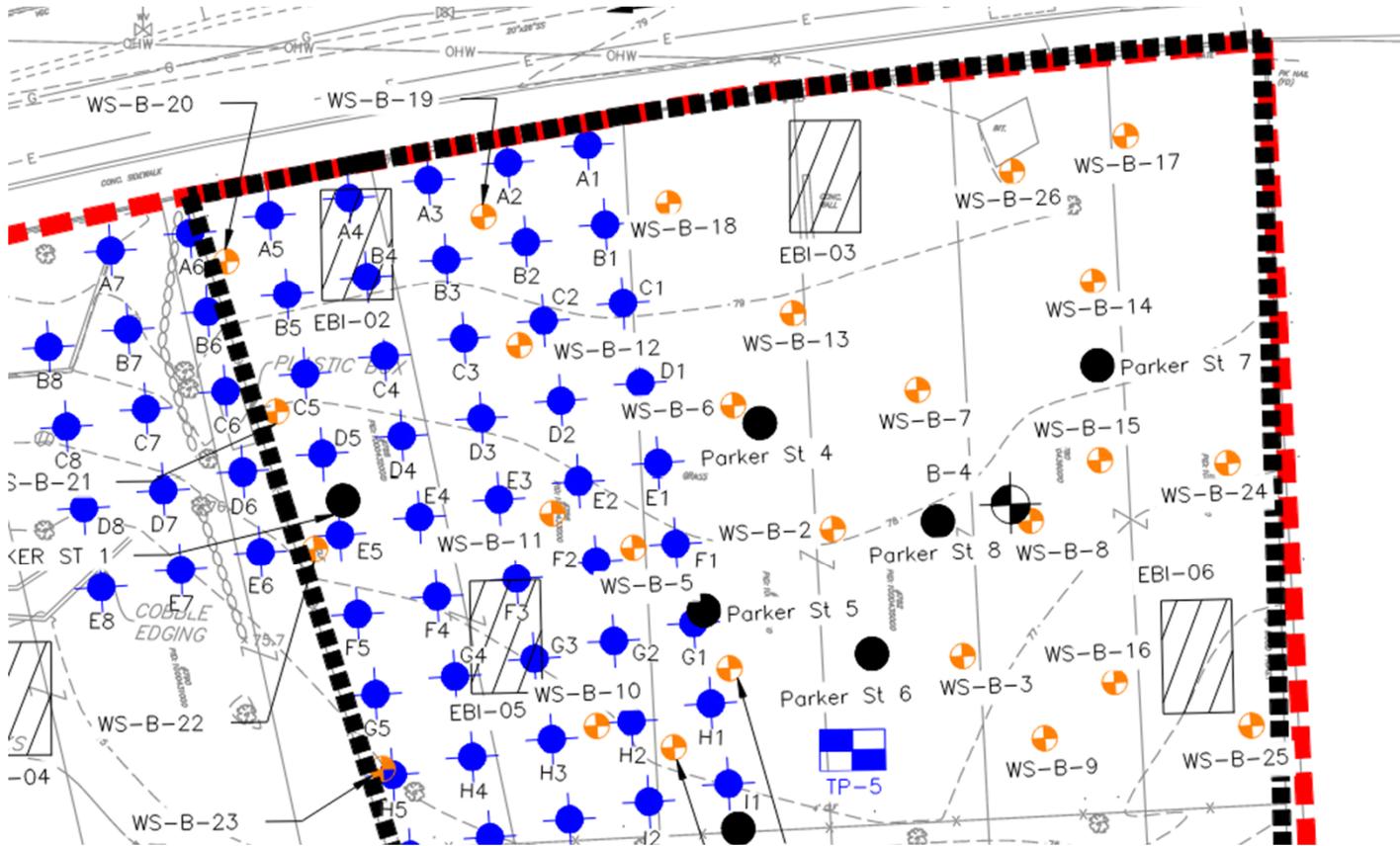
CASE STUDY

Parker-Terrace Project – Due Diligence / Sampling



CASE STUDY

Parker-Terrace Project – Due Diligence / Sampling



LEGEND

-  PORTION OF RTN 3-32280 SUBJECT TO THIS PARTIAL PERMANENT SOLUTION STATEMENT
-  EBI SOIL BORING LOCATION (2014)
-  EBI TEST PIT LOCATION (2014)
-  WESTON & SAMPSON TEST PIT LOCATION (2021)
-  WESTON & SAMPSON SOIL BORING LOCATION (AUGUST 2024)
-  WESTON & SAMPSON SOIL BORING LOCATION (DECEMBER 2024 AND JANUARY 2025, SEE FIGURE 4)
-  SES ENVIRONMENTAL SAMPLING LOCATIONS (MAY 2025)
-  DISPOSAL SITE BOUNDARY FOR RTN 3-32280

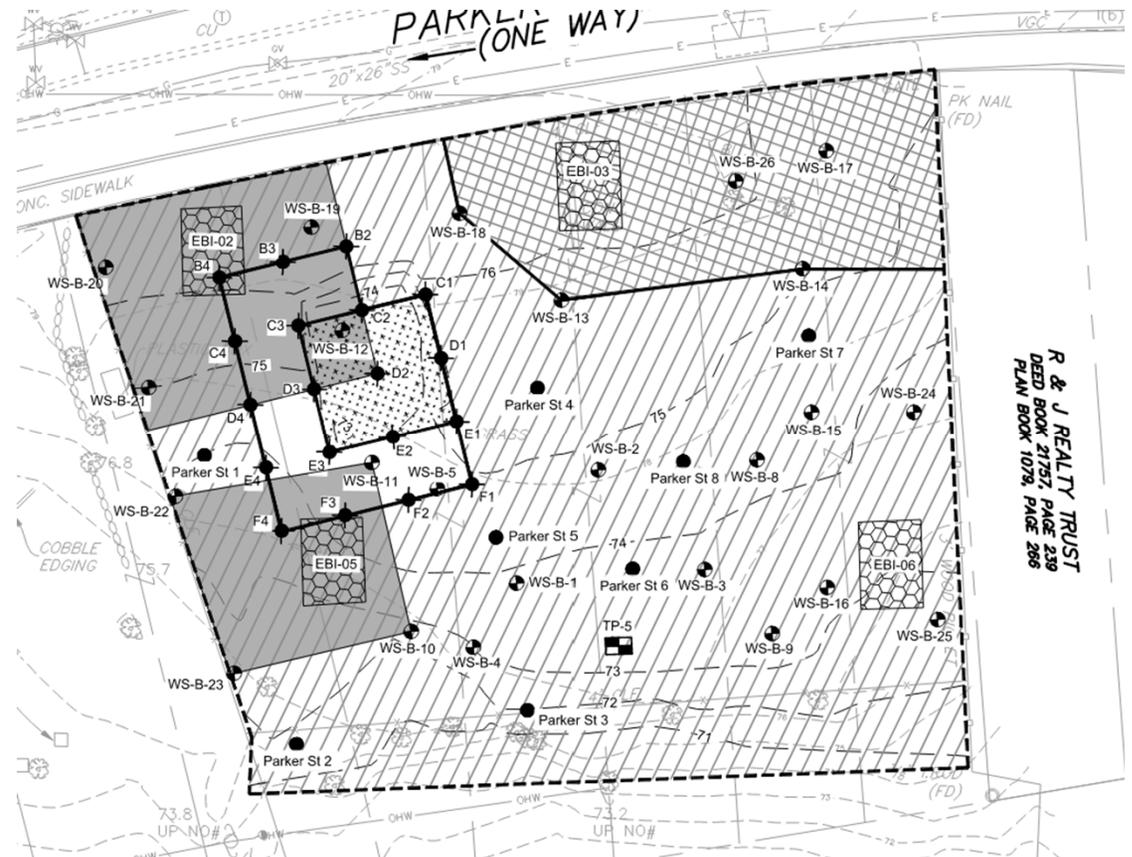
NOTES:

1. EBI SOIL BORING AND TEST PIT LOCATIONS ARE REFERENCED FROM "EXISTING CONDITIONS PLAN, 778-796 PARKER STREET & 77 TERRACE STREET, SCALE 1" = 20" CREATED BY DESIGN CONSULTANTS, INC. ON JANUARY 16,

CASE STUDY

Parker-Terrace Project – Remedial Approach

- Include Grant funding as cost offset in RFP
- Focus EPA Cleanup Grant funding in one defined area
- Proposed Community Garden Area
- Close management of waste streams to control cost
- Minimize impacts on community
 - Truck route enforced
 - Dust monitoring / control



CASE STUDY

Dust Monitoring & Control

- Dust monitors - PM10
 - 15 Min Average
- Residential setting - $70 \mu\text{g}/\text{m}^3$
 - National Ambient Air Quality Standard (NAAQS) $150 \mu\text{g}/\text{m}^3$
- All excavation areas and piles covered in poly



CASE STUDY

Dust Monitoring & Control



Lead Stabilization & Soil Management

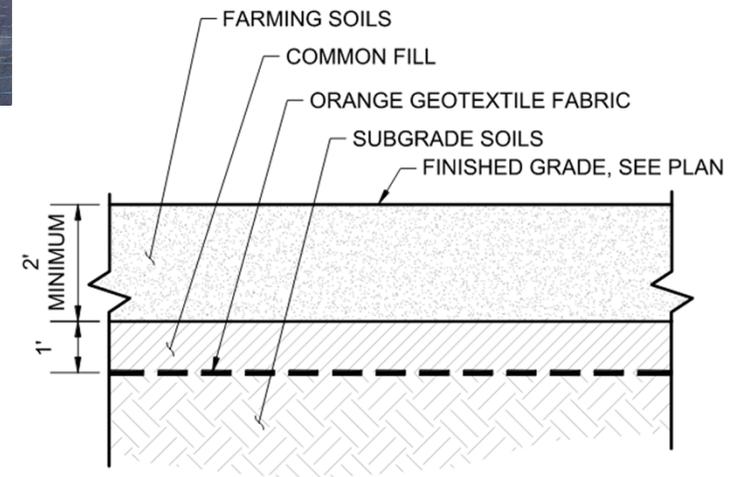
- Soil characterized as hazardous due to leachable lead (TCLP failure)
- Dry amendment to stabilize soil with leachable lead
- Two* separate waste streams
 - In-state Landfill
 - Out-of-State Landfill



CASE STUDY

Cover System

- Mirafi RS380i
 - Orange, woven demarcation geotextile
- Minimum 3' cover soil
 - Minimum 1' crushed stone
 - minimum 2' farming soils



Project Completion & Regulatory Closure

- Partial Permanent Solution Statement with Conditions
 - Only applies to 12,000 SF area, not entire Disposal Site
 - Condition is concentrations of OHM consistent with Anthropogenic Background
- City to transfer title once grant closed (very soon)
- Response actions / regulatory closure for rest of site on developer

