An aerial photograph of the Greenwich High School campus. The image shows several buildings, parking lots, and sports fields. Overlaid on the image are several semi-transparent rectangular boxes: a large green box in the upper left, a red box in the upper right, and a large green box in the center. The text is overlaid on the left side of the image.

# Public Information Meeting Greenwich High School

Phase 1 Remedial Action Plan  
under the CT Voluntary Remediation Program

January 15, 2020

# Agenda

- Welcome and Introductions
- Background and Current Status
  - Activities to date
  - How did we get here?
  - Public Input Opportunities
- Phase I Remedial Action Plan
  - Remediation Target Areas
  - Remediation Approaches
- Schedule of Activities
- Public Comment Period
- Open House

# Introductions

- Town of Greenwich
  - Toni Jones, Superintendent Greenwich Public Schools
  - Amy Siebert, Commissioner Public Works
- CT DEEP
  - Jeff Wilcox, Remediation Division Project Manager
  - Peter Hill, Remediation Division Section Head
  - Gary Trombly, PCB Coordinator
- USEPA
  - Kim Tisa, Region 1 PCB Coordinator
- AECOM
  - Patrick Haskell, LEP
  - Mike Doherty, P.E.
- McCarter & English, Town legal counsel
  - Jane Warren

# Background and Current Status



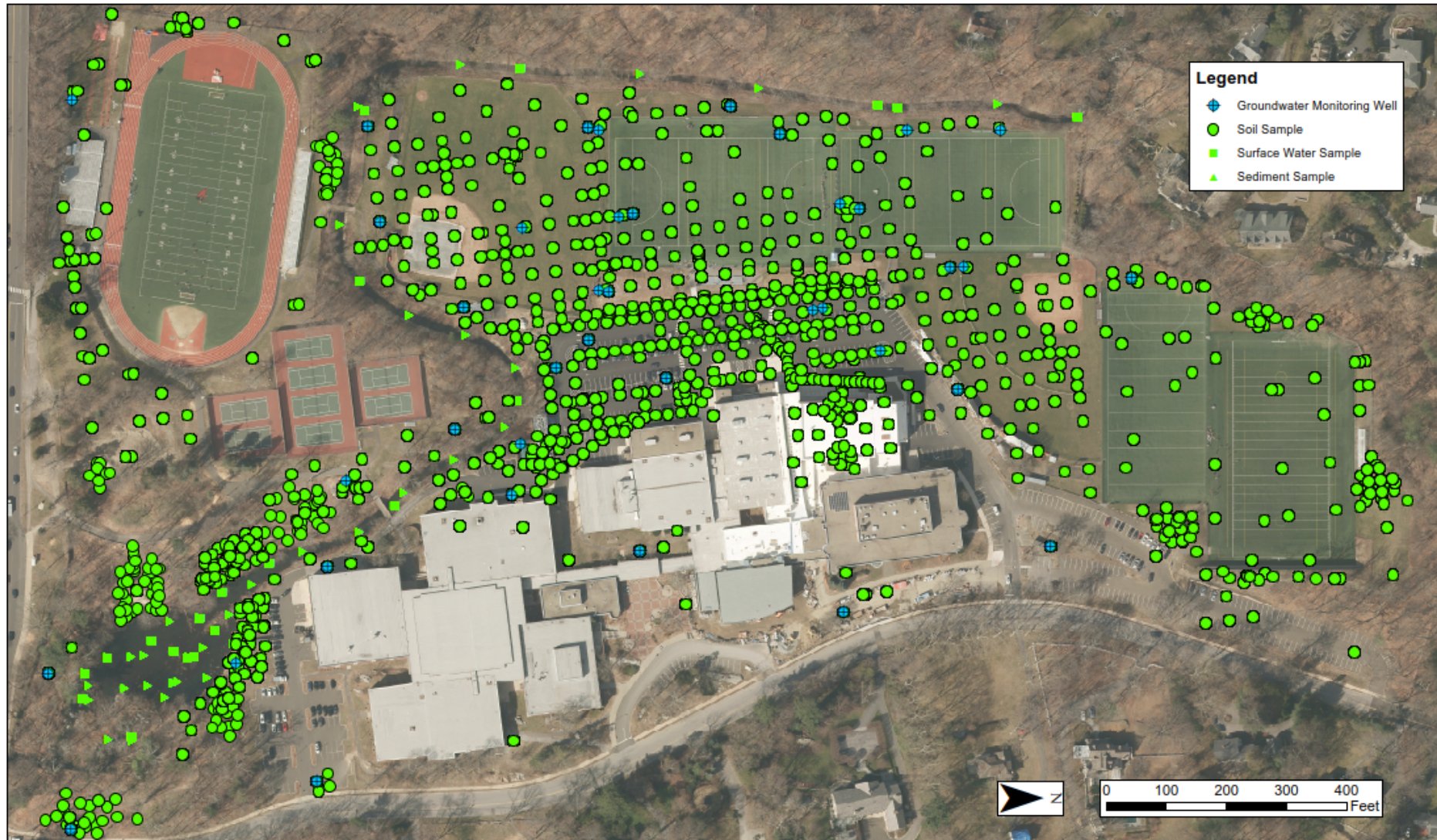
# A lot has happened over the last few years!

- Remedial Investigation, Risk Assessments
  - Completed in 2013
  - Updated by current activities
- Interim Remedial Actions
  - 2011 completed to continue to ensure property is safe and accommodate site activities
  - 2014 activities to address southern portion of site
  - 2015 activities to address western parking lot area and site operations
- MISA construction
  - Included removal of contaminated soil
- Ongoing monitoring and additional site investigation through to the present

# How is this Phase I of Remediation?

- Entered CT Voluntary Remedial Program (VRP) in 2017
  - Investigation completed in May 2019 to supplement earlier environmental testing and meet CT VRP requirements
- Continue to work with CT DEEP and EPA
- Regular groundwater monitoring
- Phase I Remedial Action Plan (first Phase under CT VRP)
  - To address known issues and to allow renovation of Fields #6 and #7
- Second Phase of Remediation Under CT VRP
  - To address areas around Fields #2, #3 and #4
  - Address renovation of Fields #3 and #4

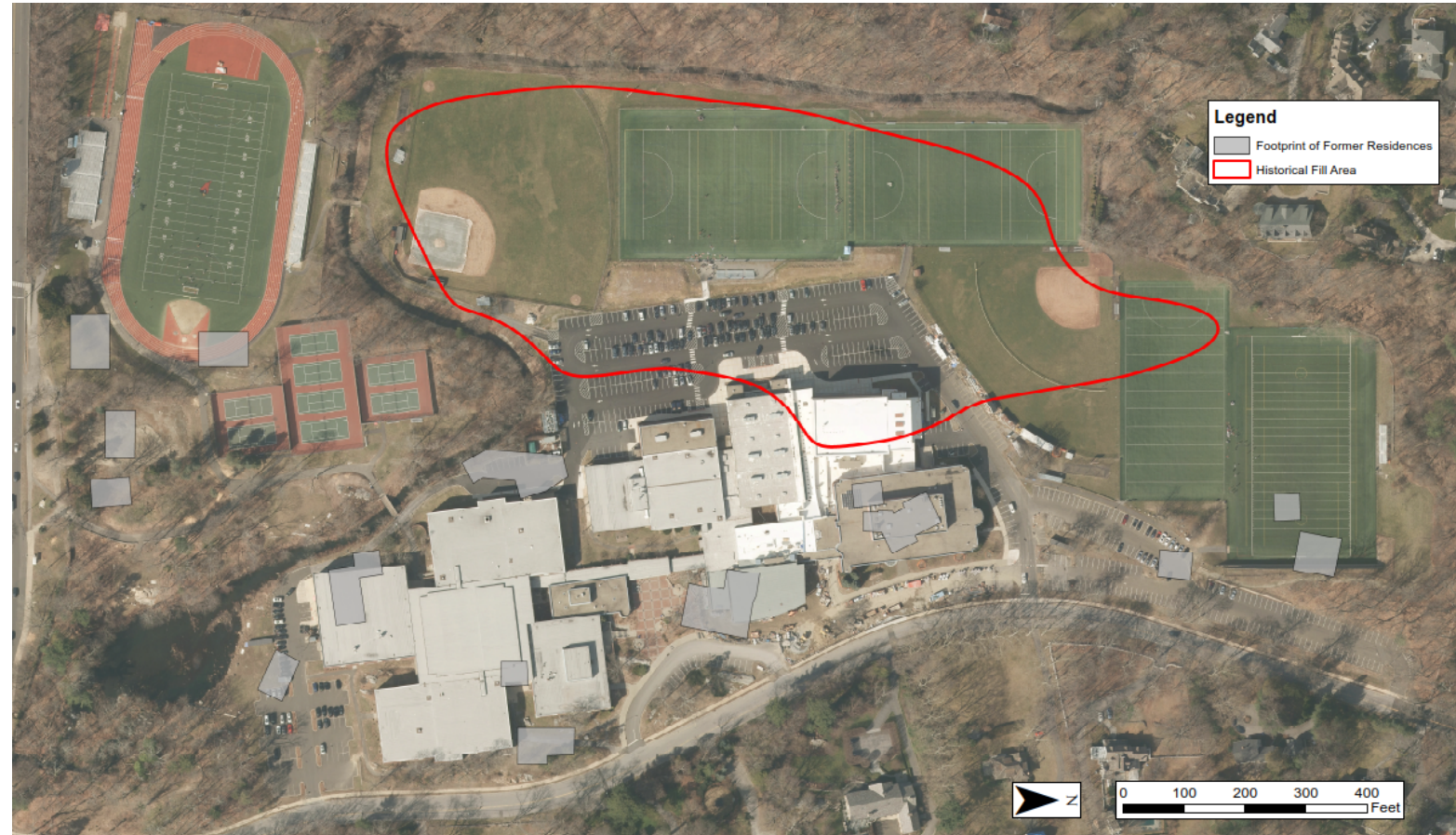
# Site Investigation Overview





# Background – How did the property get impacted?

- Filling of wetlands during site development - where athletic fields are now
- Other areas of concern investigated under VRP
  - Fuel tanks
  - Other physical plant features
  - Former residences
  - Pesticide use



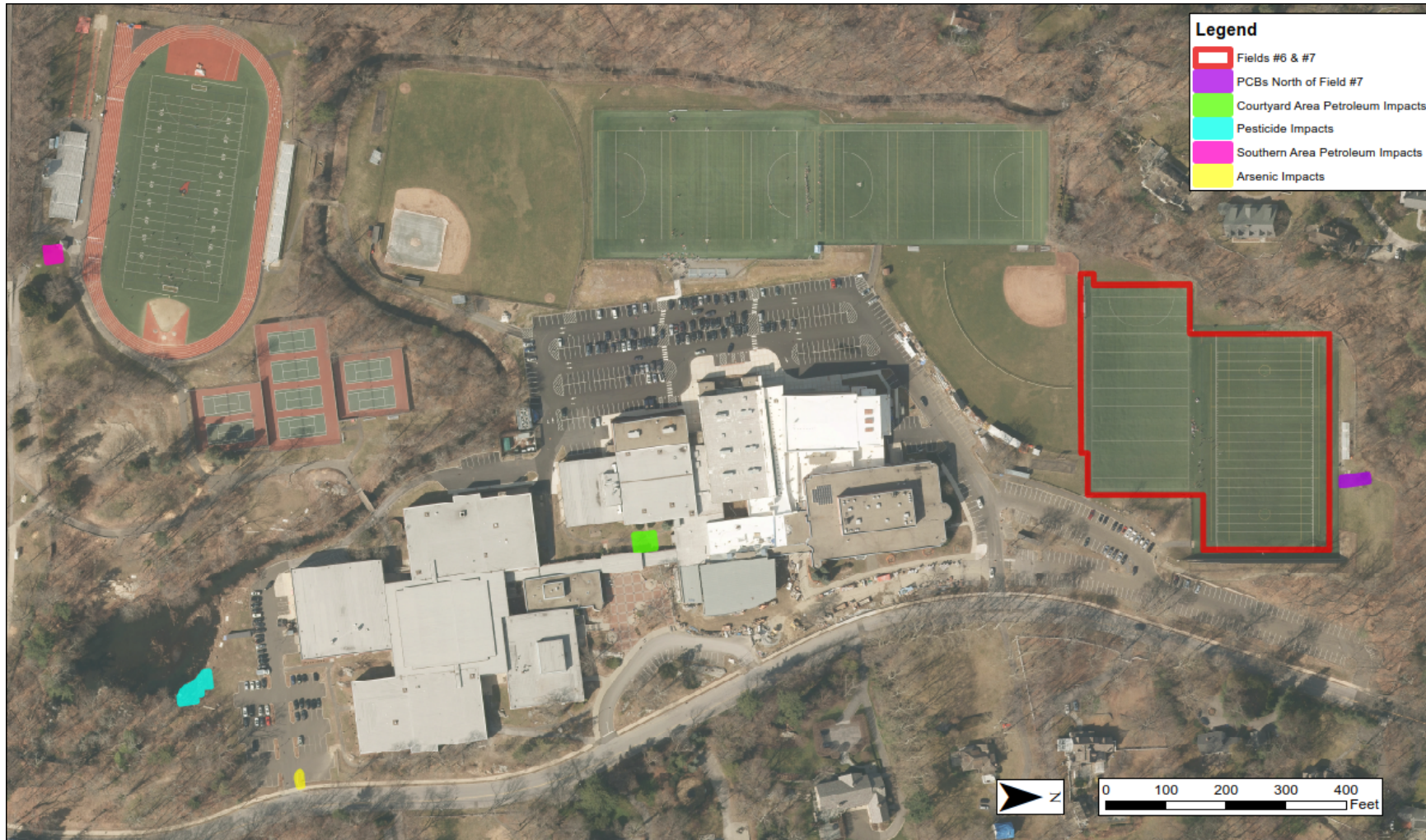
# Public Input Opportunities

- Please share your comments:
  - In person at this meeting OR...
- Written comments can be submitted:
  - Tonight – grab a comment form and leave it with our team OR...
  - Write to: Jeffrey Wilcox, CT DEEP, 79 Elm Street, Hartford, CT 06106  
**OR** [Jeff.Wilcox@ct.gov](mailto:Jeff.Wilcox@ct.gov)
- Public Comment Period
  - Through February 1, 2020
  - Public can provide input on the cleanup plan
- Phase I Remedial Action Plan can be reviewed at:
  - CT DEEP
  - On the Greenwich Public Schools website



# Remedial Action Plan First Phase under CT VRP

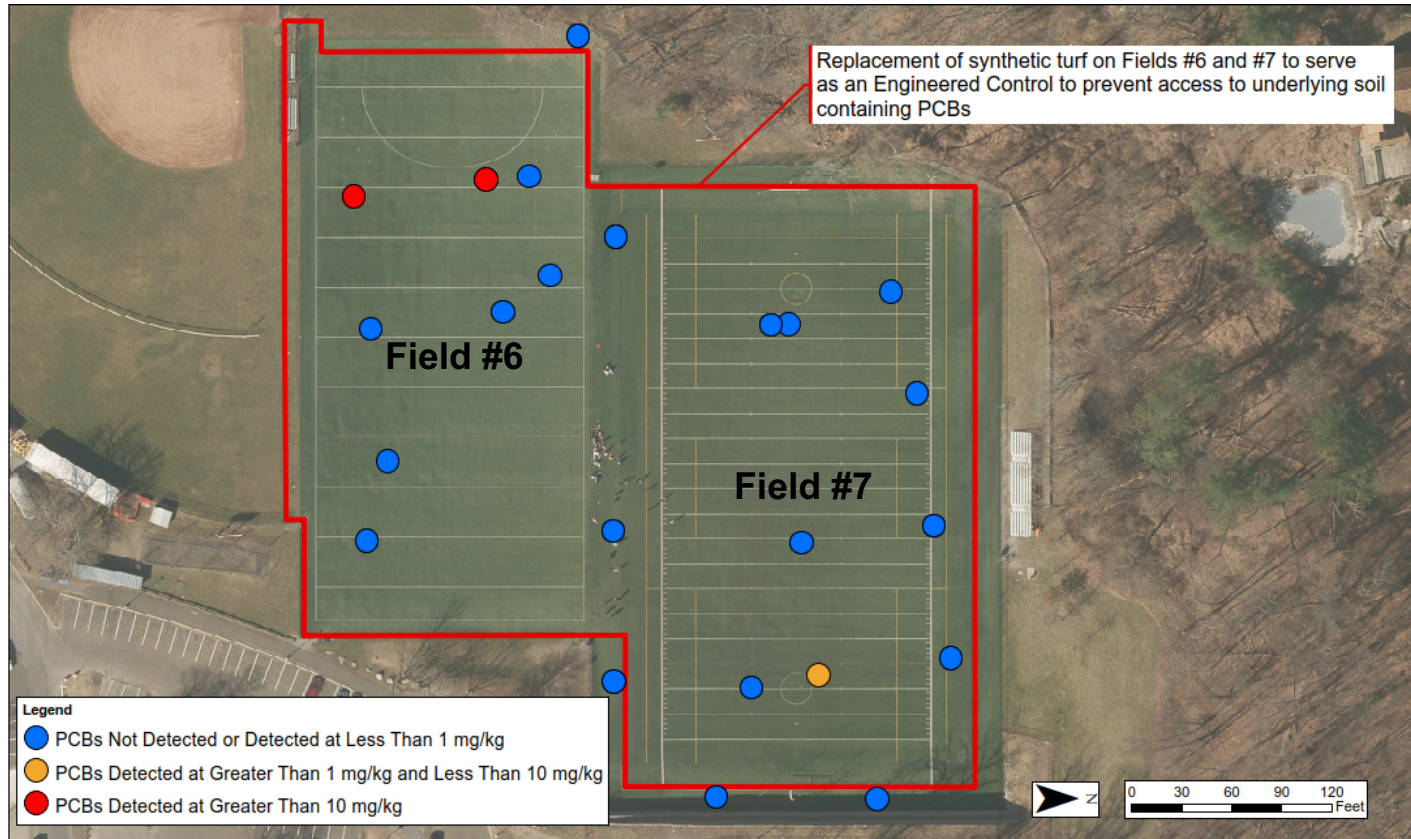
# Remediation Target Areas



- Replace Fields #6 & #7
  - Engineered Control for underlying soil with PCBs
- PCBs North of Field #7
  - Excavation of soil with PCBs
- Courtyard Area
  - Excavate soil with petroleum
- South of Cider Mill Pond
  - Excavate soil with chlordane
- South Parking Lot Entrance
  - Excavate soil with arsenic
- Cardinal Stadium Area
  - Excavate soil with petroleum



# Remediation Target Area – Fields #6 and #7



## – PCBs in deep soil

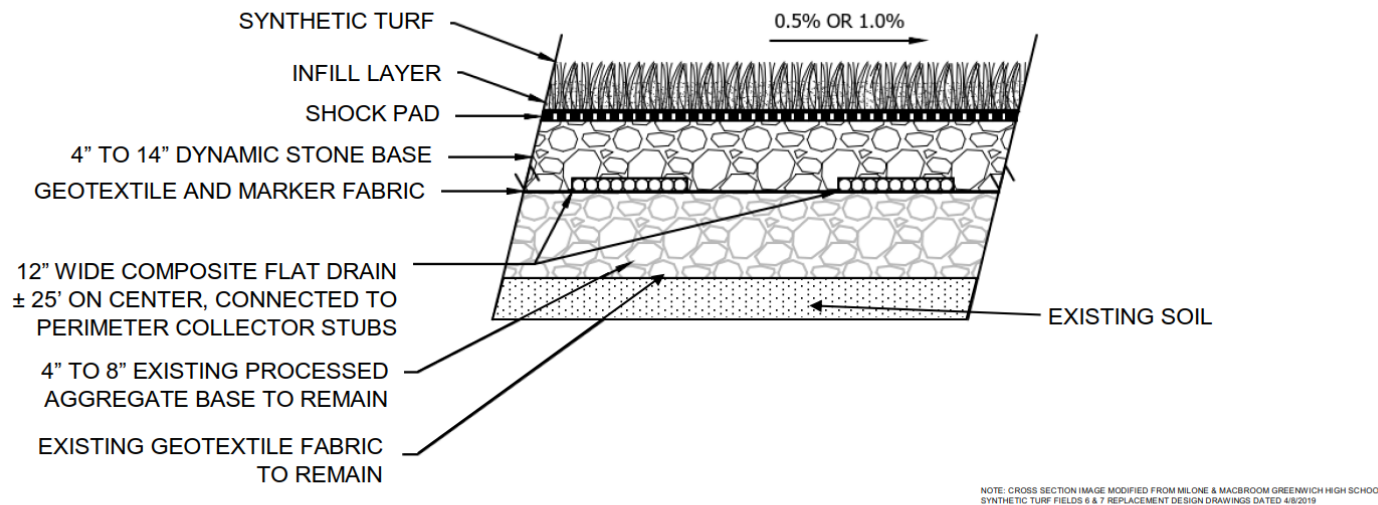
### • Field #6

- >50 ppm PCBs at depths of >10 feet below ground surface (bgs)
  - Concentrations up to 223.3 ppm
  - Present in thin layer of fill material observed at 11-12 feet bgs
  - PCBs <1 ppm in shallower soil

### • Field #7

- 1.8 ppm PCBs detected at depth of 1-2 feet bgs in one sample
- Plan to use field turf & underlying stone base as Engineered Control

# Engineered Control for Fields #6 and #7



**SYNTHETIC TURF FIELD CONSTRUCTION CROSS SECTION**

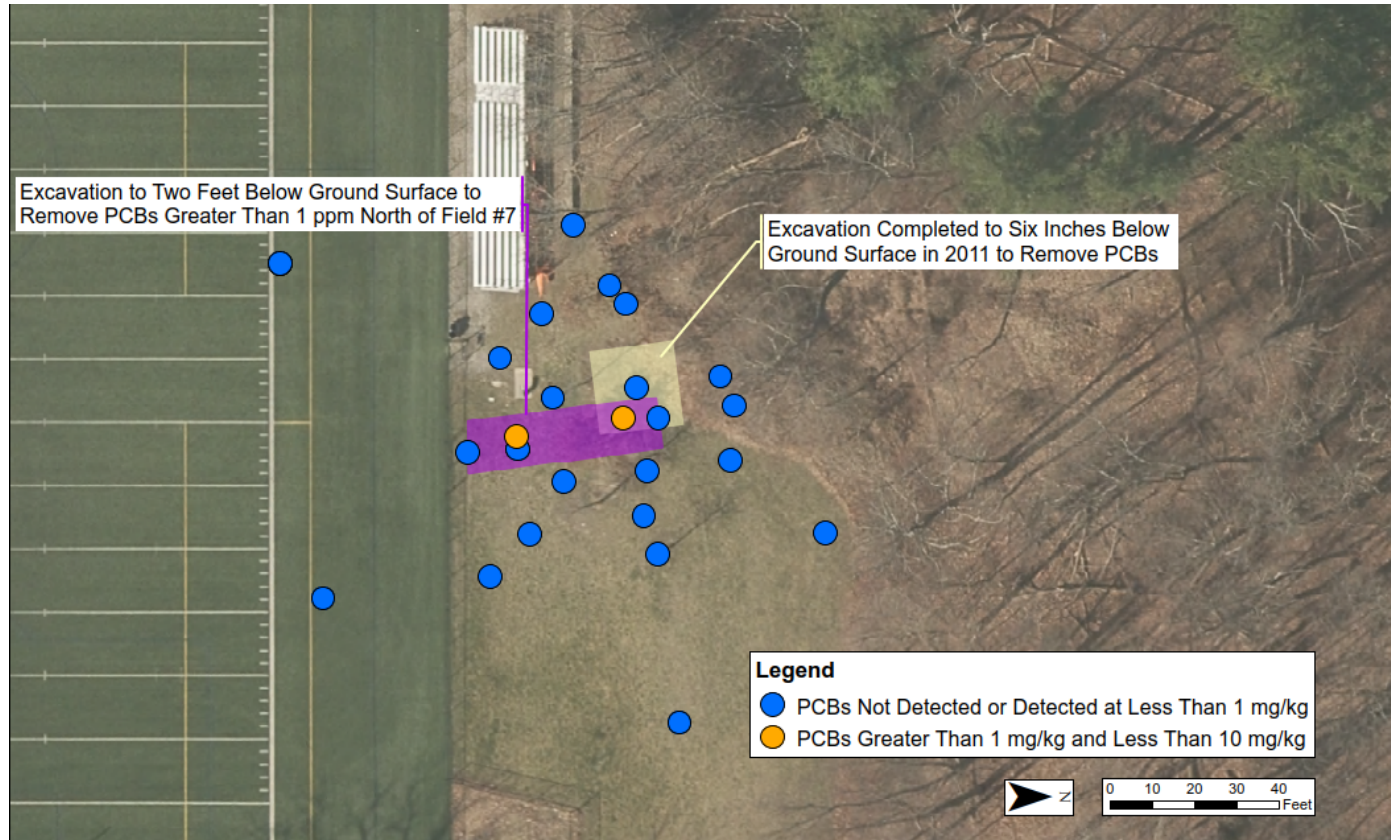
## – What it is

- A physical barrier between people and contaminated soil
  - Clean stone overlain by artificial turf
- Inspected and maintained to ensure the barrier remains intact

## – Why it's safe

- Prevents exposure to PCBs
  - PCBs under the field are immobile
- Marker fabric under turf to warn maintenance workers not to dig
- Environmental Land Use Restriction to require maintenance

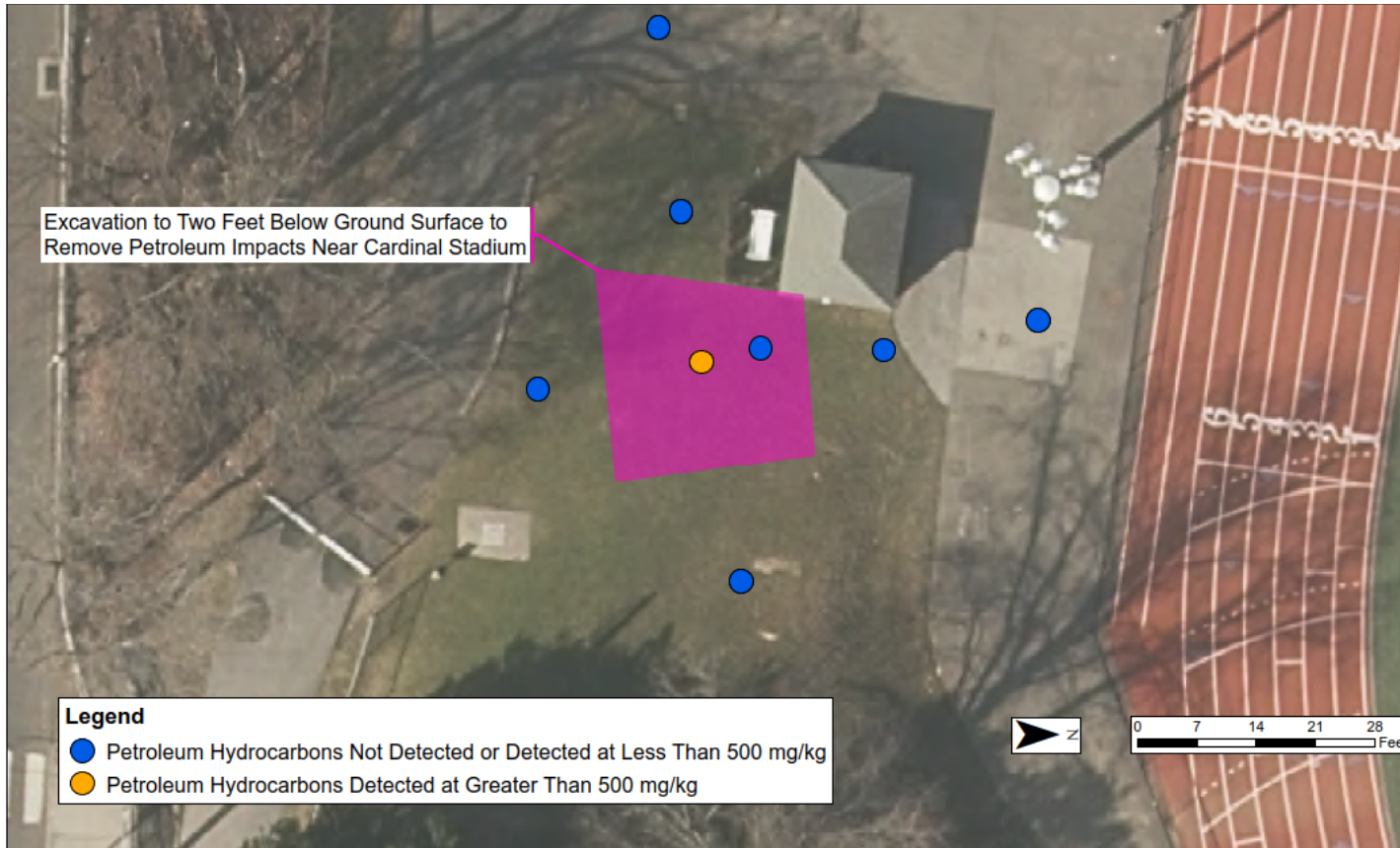
# Remediation Target Area – North of Field #7



- PCBs found in shallow soil north of Field #7
  - Concentrations of approximately 1.4 mg/kg found at 1 to 2 feet bgs
  - Cleanup level is 1 mg/kg
  - Delineated in all directions
  - Does not extend under Field #7
- Focused excavation planned in accordance with EPA regulations

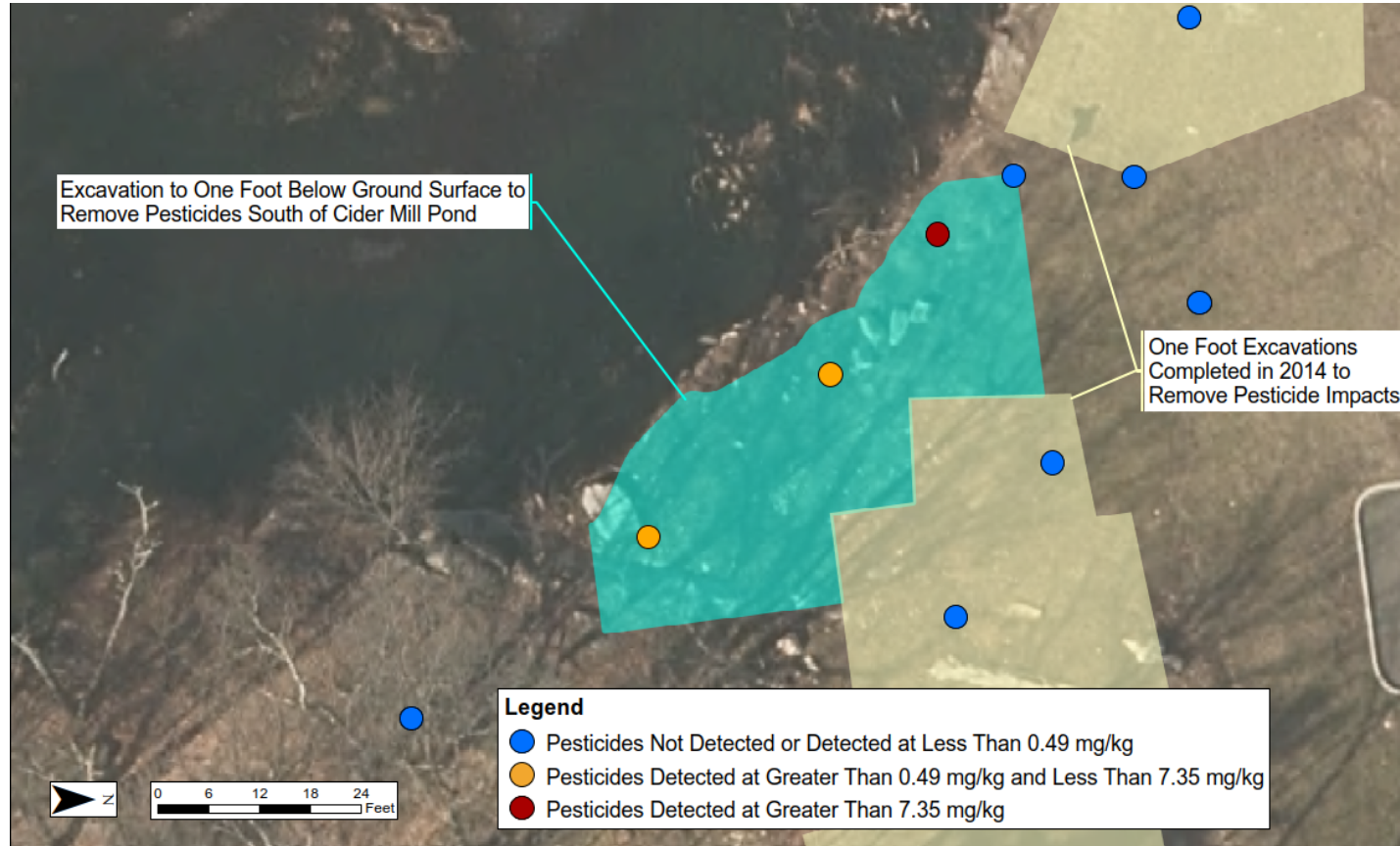


# Remediation Target Areas – Petroleum Impacts



- Petroleum hydrocarbons found in a stained soil layer at one location in courtyard
  - Focused excavation to 4 feet bgs planned using visual observations of staining as guide
- Petroleum impacts found near Field #1 outbuilding
  - Delineated to small area
  - Focused excavation planned to 2 feet bgs

# Remediation Target Area – Pesticides Near Cider Mill Pond



- Chlordane detected in shallow soil near Cider Mill Pond
  - Chlordane likely from termite treatment at the former residence in this area
- Focused excavation to top of shallow bedrock planned to remove affected soil

# Remediation Target Area – Arsenic in South Parking Lot



– Arsenic detected in shallow soil near entrance to high school parking lot

- Concentrations 100x natural background levels
- Excavate to 4 feet bgs



# Site Controls

- Access will be limited during work, which will be performed during Summer 2020
- Truck traffic entering and exiting the site will be controlled
- Air monitoring for dust will occur around the perimeter of the work area
  - Protects site workers, other site users, the surrounding community, and the environment
- Sediment and erosion controls



# Post-Remediation Activities

- Verification sampling performed after excavation areas
- Excavated soil disposed off-site at a permitted facility
- Excavation along Cider Mill Pond restored with grass and native plants
- Other excavations restored with grass and/or plantings as appropriate for location

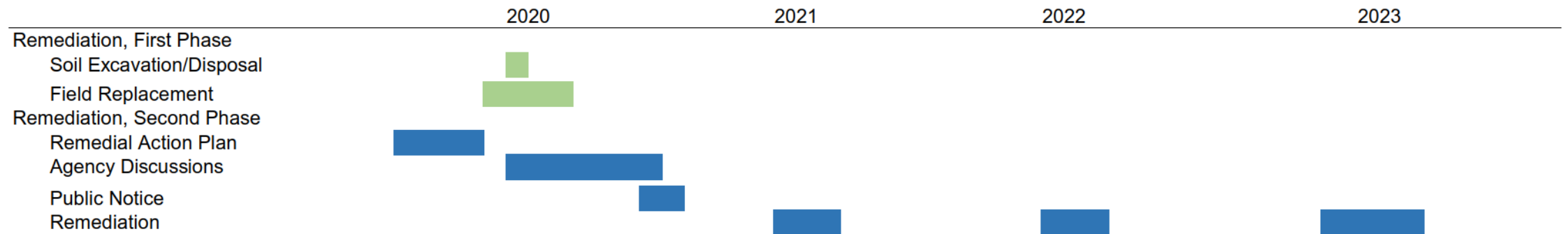




# Anticipated Schedule

# Anticipated Remediation Schedule

- Remediation, First Phase
  - Soil excavation June 2020
  - Field Replacement Summer 2020
- Remediation, Second Phase
  - Remedial Action Plan, Spring 2020
  - Agency discussions Summer/Fall 2020
  - Public Notice, Winter 2020-2021
  - Remediation begins Summer 2021
    - Remediation likely continues for three or more summer sessions



# Public Comment Session

# Public Input Opportunities

- Public Comment Period
  - Through February 1, 2020
  - For public to provide input on the cleanup plan and use of Engineered Control
- Remedial Action Plan can be reviewed at:
  - CT DEEP
  - on the Greenwich Public Schools website
- Written comments can be submitted:
  - On comment forms tonight OR
  - To: Jeffrey Wilcox, CT DEEP, 79 Elm Street, Hartford, CT 06106  
**OR** [Jeff.Wilcox@ct.gov](mailto:Jeff.Wilcox@ct.gov)

# Additional Questions & Answers



**AECOM** Imagine it.  
Delivered.