



# **Lower Darby Creek Area Superfund Site Community Update**

Clearview Landfill Remedial Action  
September 21, 2017

Josh Barber  
EPA Remedial Project Manager

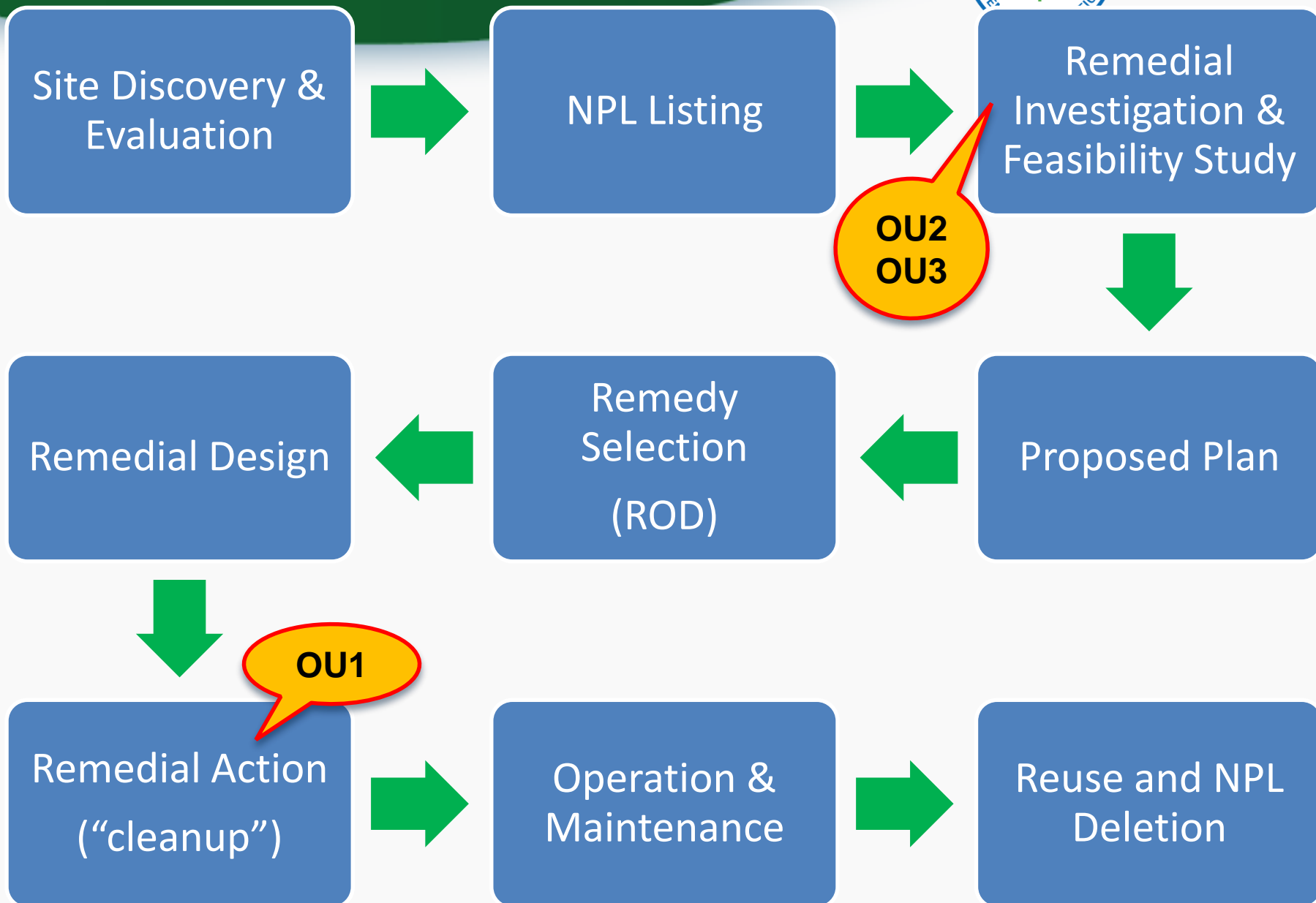


# Lower Darby Creek Area (LDCA) Superfund Site

- Clearview and Folcroft Landfill (LF)
- 3 different “Operable Units” or “OUs”
- Clearview LF 2 miles upstream of Folcroft LF
  - OU1 – Soil and Waste
  - OU3 – Groundwater
- Folcroft in John Heinz NWR (OU2)



# The Superfund Process





# How Did We Get Here?

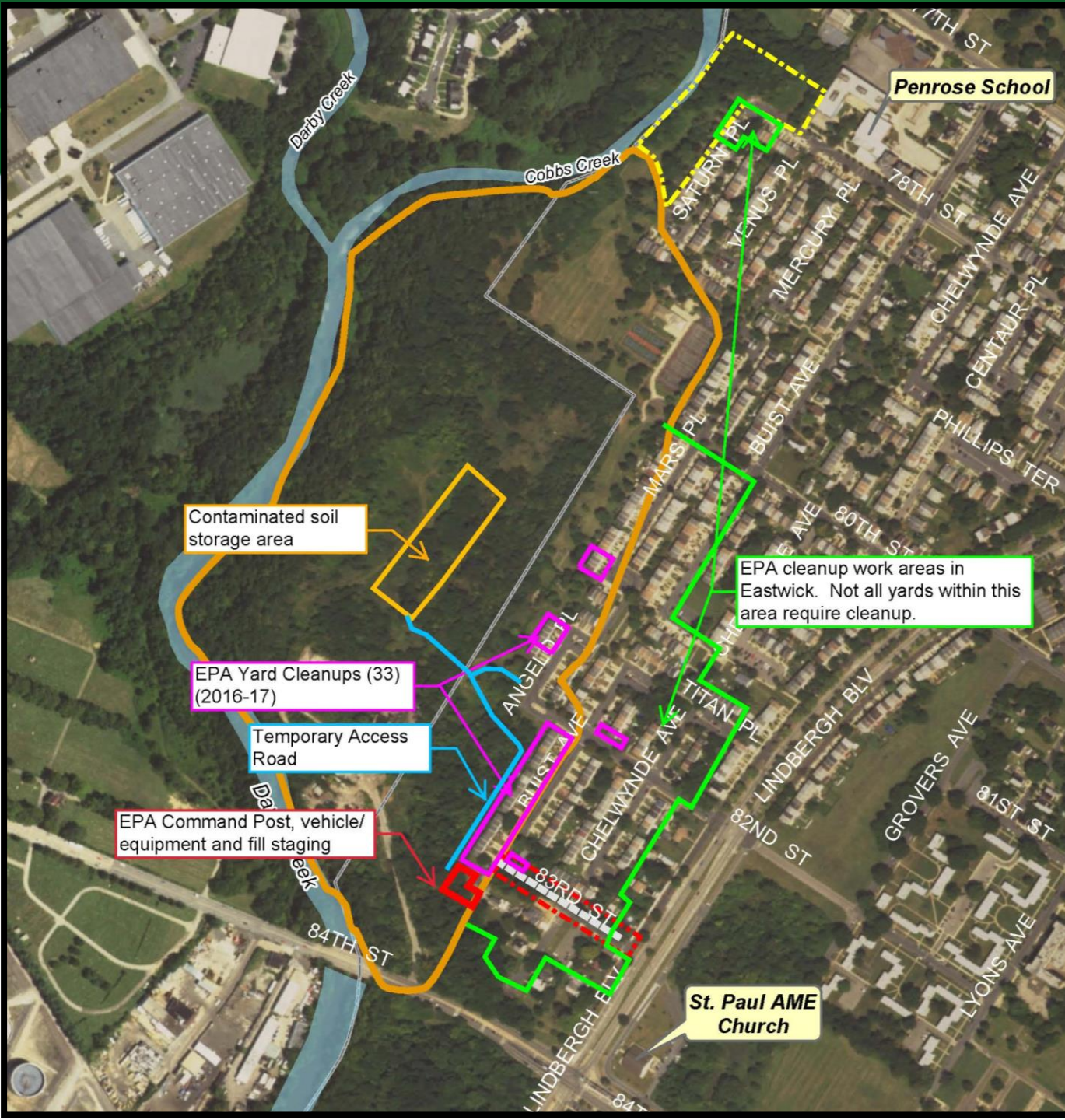
- LDCA Site became Superfund Site in 2001
- EPA selected the cleanup plan (or “**Remedial Action**”) for the Clearview Landfill (OU1) in September 2014.
- Soil testing during the Remedial Design identified yards with contaminants above cleanup levels.

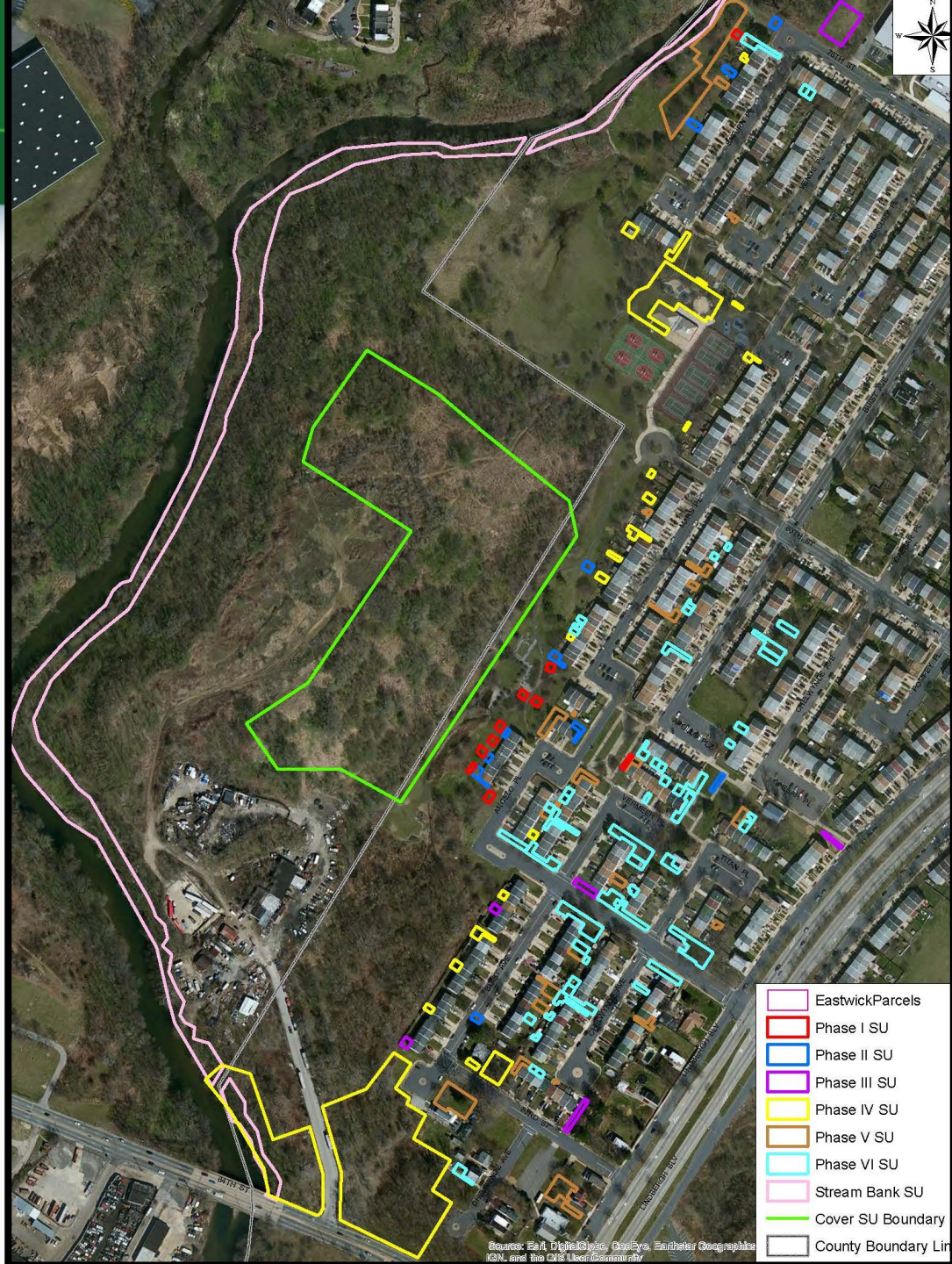




# EPA Continues Residential Yard Cleanup

- EPA is continuing the cleanup of residential yards contaminated with Polycyclic Aromatic Hydrocarbons (PAHs).
- Lead and Polychlorinated Biphenyls (PCBs) are also sometimes present in soil. Usually below EPA cleanup levels.
- This cleanup will be conducted under a Superfund “**Remedial Action**.” It is the first phase of the larger cleanup plan for the Clearview Landfill OU1.
- EPA performed a “**Removal Action**” which addressed 33 yards with the highest concentrations of PAHs.





-  EastwickParcels
-  Phase I SU
-  Phase II SU
-  Phase III SU
-  Phase IV SU
-  Phase V SU
-  Phase VI SU
-  Stream Bank SU
-  Cover SU Boundary
-  County Boundary Lin

Sources: EA A. DiStefano, GeoEye, Earthstar Geographics, IGN, and the City of Westchester



# What are PAHs?

- Polycyclic Aromatic Hydrocarbons (or “PAHs”) can be natural or mad-made.
- Formed during burning of coal, oil, gas, tobacco, meat, etc.
- Levels of PAHs found in Eastwick yards are NOT an immediate health threat.
- But, some PAHs are carcinogenic and long-term exposure over a lifetime (30-70 years) may increase cancer risk.





# How might I be exposed to PAHs?

- PAHs in Eastwick will stick to soil. So, the most likely way to touch PAHs is through skin contact with contaminated soil.
- Contaminated soil on skin can then be ingested (hand to mouth contact).
- Much of the contaminated soil is below the ground surface.
- Grass, weeds, hard surfaces (concrete) can minimize or eliminate potential for touching contaminated soil.



# What should I expect if my yard is cleaned up?

- EPA staff will schedule time to meet with you.
- The top 1' to 2' feet of contaminated soil removed from yards and replaced with clean soil.
- Areas of yards with sub-surface utilities will have top 6" removed and replaced.
- EPA contractors will typically use a medium-sized excavator, skid-steer, dump trucks.





















Air Conditioned

ENVIRONMENTAL  
**ER**  
RESTORATION





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# How long will the cleanup of my yard take?

- Average of one week to complete yard cleanup start-to-finish.
- But, because homes are in rows, homes on each row will likely experience several weeks of activity even after their contaminated soil has been removed and replaced.
- Excavated soil will be temporarily stored and covered on landfill. This soil will be placed under the new landfill cover built during a later phase of the “**Remedial Action.**”
- EPA Command Post established at S. 83<sup>rd</sup> St. and Buist Ave.



# What about the rest of the OU1 Cleanup?

- Businesses currently operating on the landfill will be permanently relocated.
- Contaminated soil and wastes from within the City Park boundaries will be excavated and consolidated to reduce the size of the landfill.
- An Evapotranspiration Cover (ET) will be constructed over this waste and contaminated soil. Areas outside of the cover will be restored.



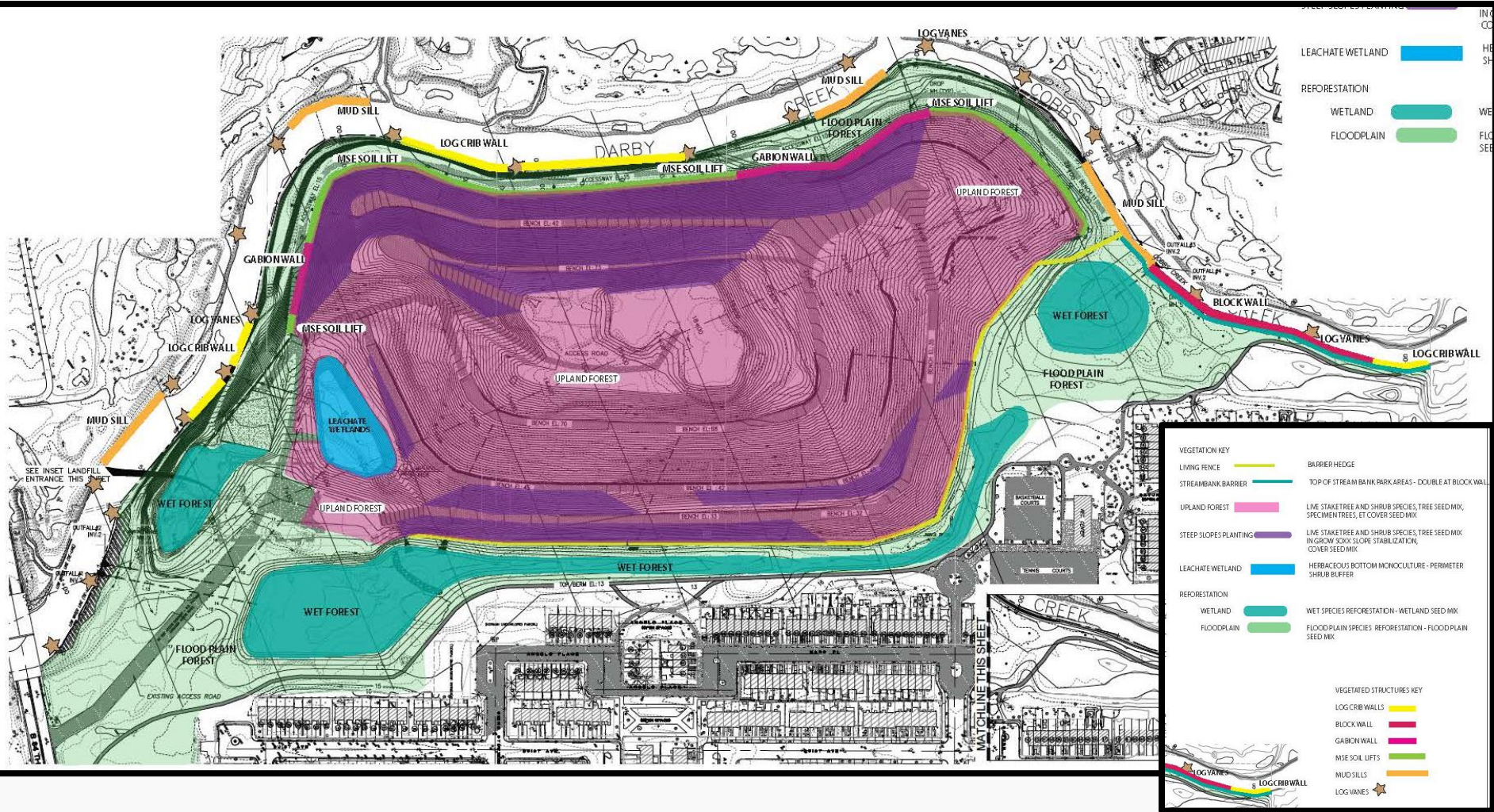
## What about the rest of the OU1 Cleanup?

- Contaminated water (“leachate”) seeping out of the landfill creek banks will be collected by an underground trench.
- This collected water will be pumped to new engineered wetlands to be built as part of the OU1 cleanup for treatment.
- The landfill creek banks will also be repaired and made stable to prevent any future erosion of waste or contaminants.
- Physical and legal controls will be used to protect the cleanup in the future. Long-term monitoring and maintenance will be conducted by EPA and Pennsylvania Department of Environmental Protection.





# Clearview ET Cover Features



- LEACHATE WETLAND
- RESTORATION
- WETLAND
- FLOODPLAIN

**VEGETATION KEY**

- LIVING FENCE
- STREAMBANK BARRIER
- UPLAND FOREST
- STEEP SLOPES PLANTING
- LEACHATE WETLAND

**RESTORATION**

- WETLAND
- FLOODPLAIN

**VEGETATED STRUCTURES KEY**

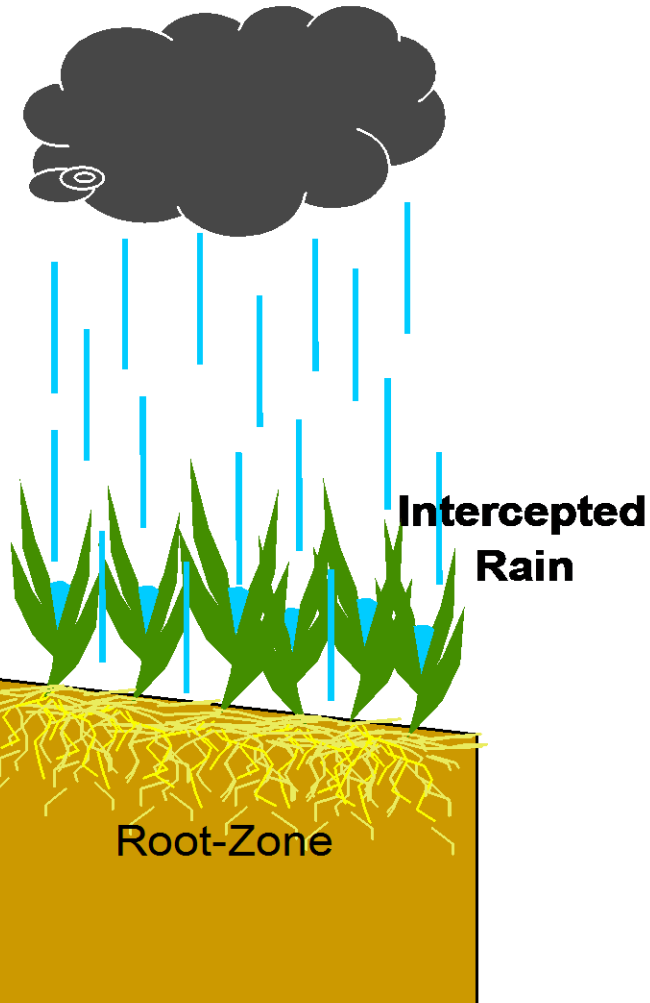
- LOG CRIB WALLS
- BLOCK WALL
- GABION WALL
- MISE SOIL LIFTS
- MUD SILLS
- LOG VANES

**VEGETATION KEY (continued)**

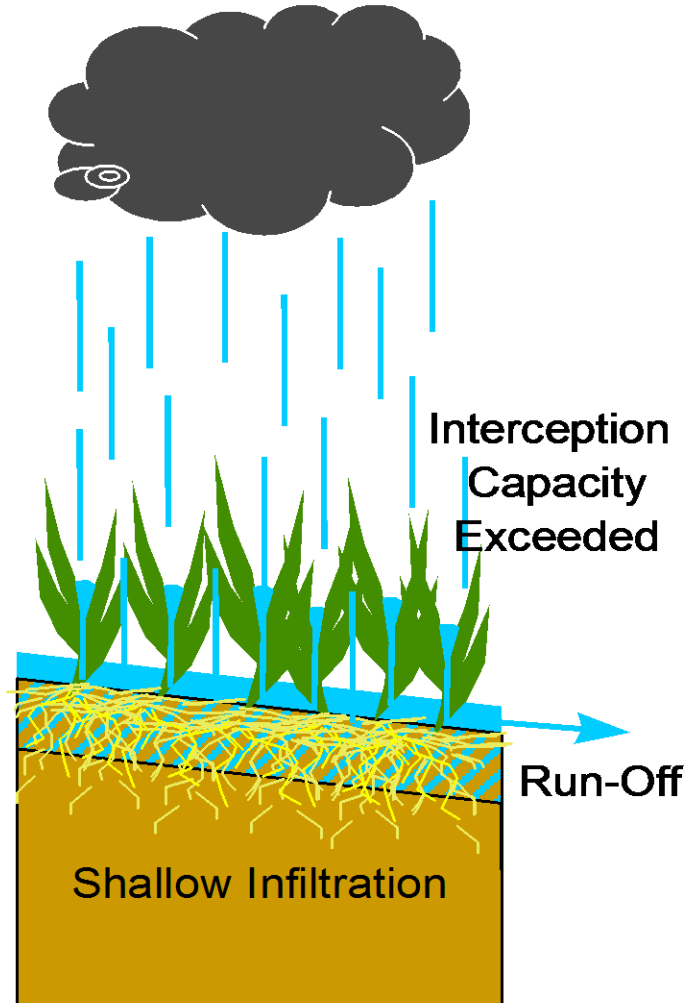
- BARRIER HEDGE
- TOP OF STREAM BANK PARK AREAS - DOUBLE AT BLOCK WALL
- LIVE STAKE TREE AND SHRUB SPECIES, TREE SEED MIX, SPECIMEN TREES, ET COVER SEED MIX
- LIVE STAKE TREE AND SHRUB SPECIES, TREE SEED MIX, IN GROW SLOPE STABILIZATION, COVER SEED MIX
- HERBACEOUS BOTTOM MONOCULTURE - PERIMETER SHRUB BUFFER
- WET SPECIES RESTORATION - WETLAND SEED MIX
- FLOODPLAIN SPECIES RESTORATION - FLOODPLAIN SEED MIX

# ET Sponge and Squeeze

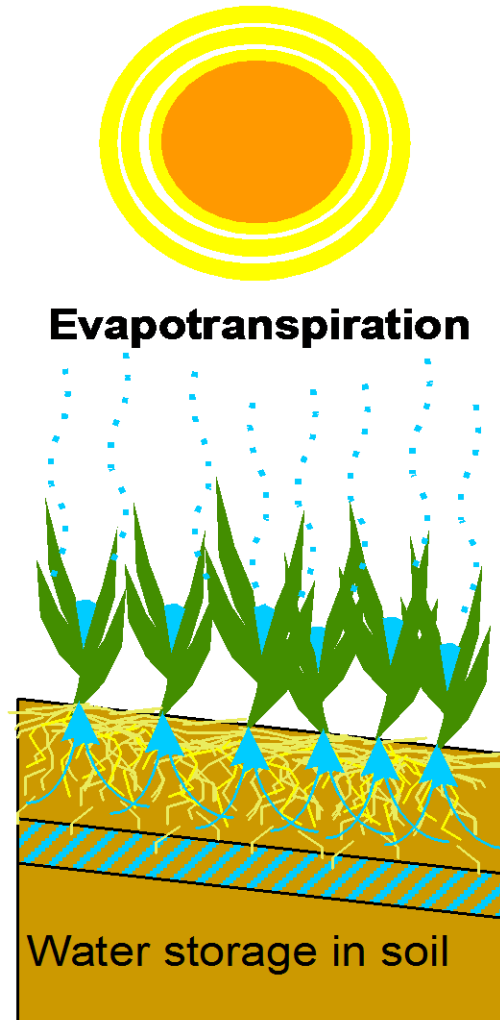
START OF RAIN  
EVENT



DURING RAIN  
EVENT



AFTER RAIN  
EVENT

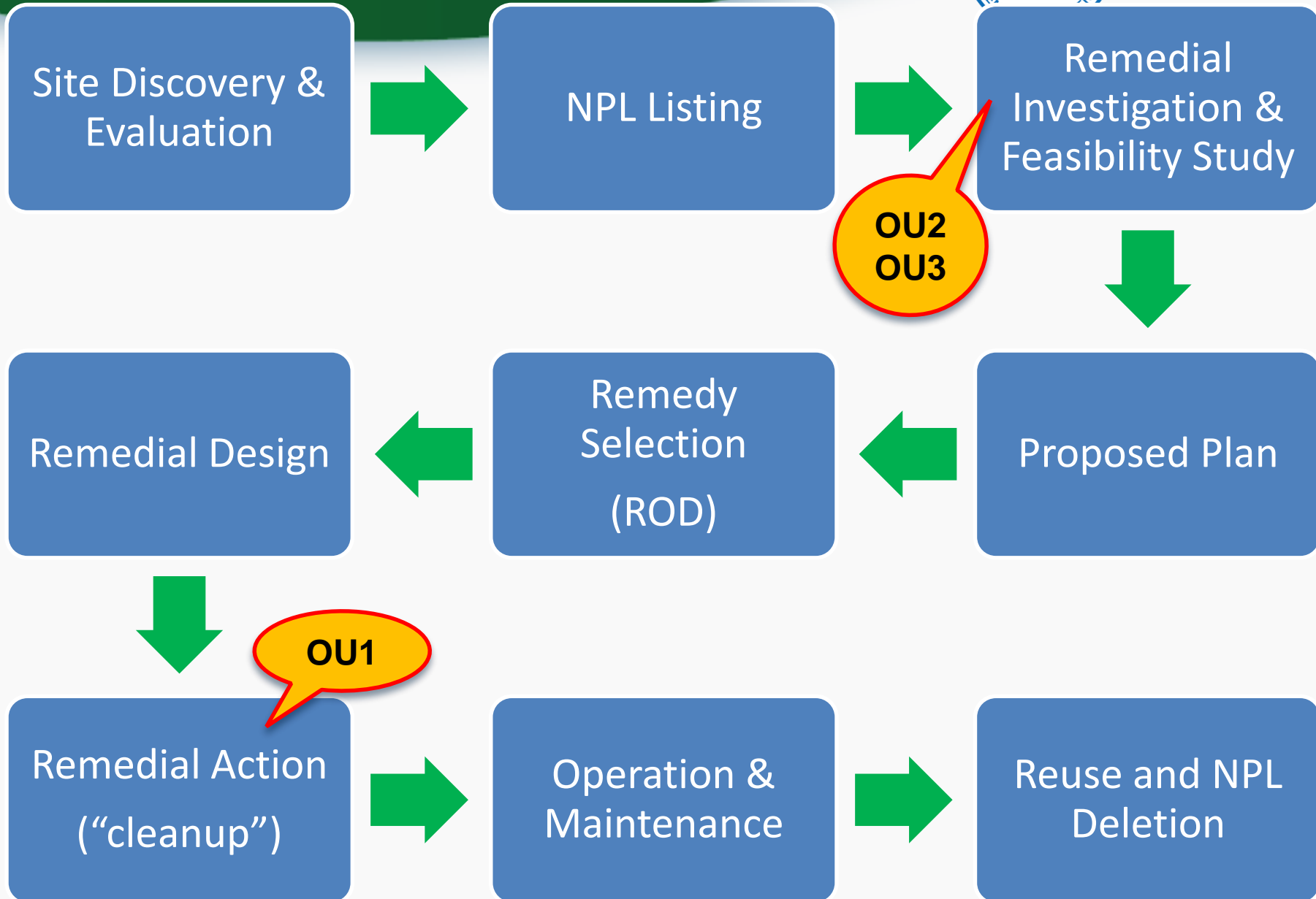




# Community Health & Safety During Cleanup

- During all cleanup activities, EPA's goal is to maintain the health and safety of all community members. To do this, EPA is planning activities and approaches such as those below:
- Air quality monitoring before and during excavations to monitor and address dust.
- Minimize truck traffic through neighborhood.
- Hours of work sensitive to the residential setting.
- Fencing off of open excavations, equipment, etc.
- Security controls
- EPA Command Post

# The Superfund Process

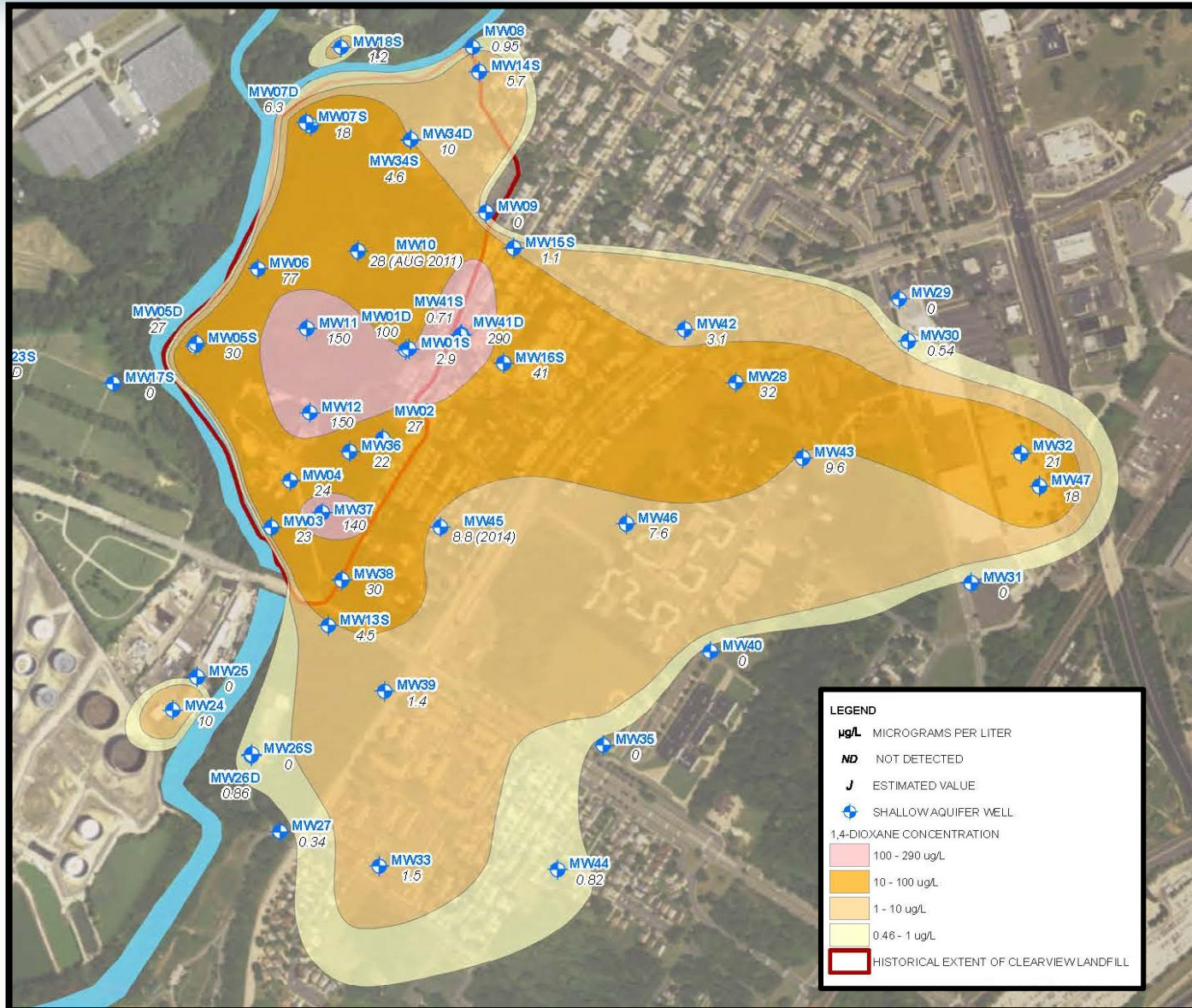




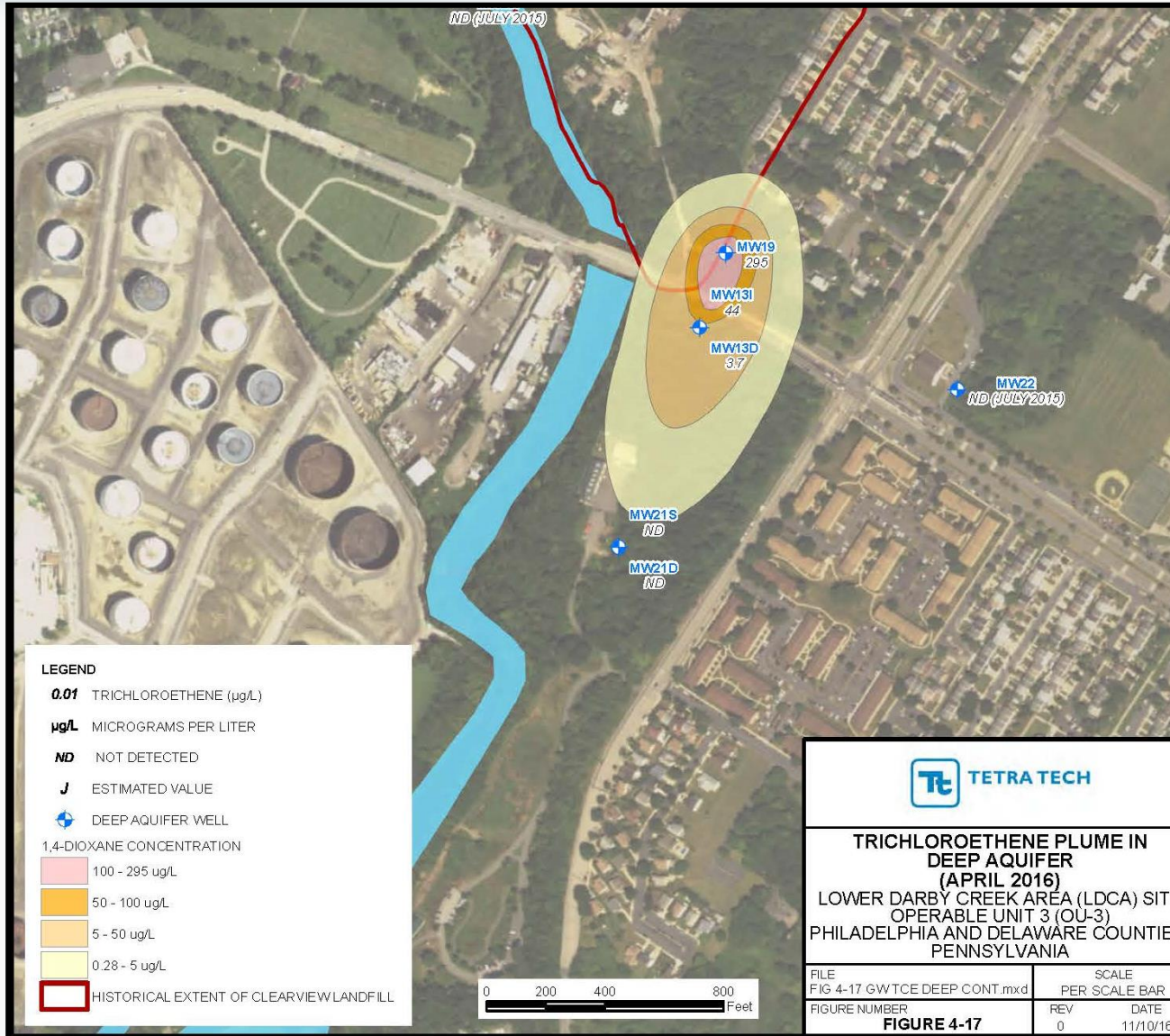
# What is being done about contaminated groundwater?

- Contaminated groundwater from Clearview is being investigated by EPA and DEP. This part of the LDCA Site is referred to as OU3.
- All testing and sampling has been completed. The report that summarizes all of this work is being developed. It is referred to as the “**Remedial Investigation Report.**” This report also looks at potential health risks from contamination.
- As the **Remedial Investigation Report** is being finalized, EPA/DEP will start to evaluate cleanup options as part of the “**Feasibility Study.**”

# Shallow Aquifer – 1,4-dioxane Plume



# Deep (Bedrock) Aquifer – TCE Plume





# What is happening with the Folcroft Landfill?

- Folcroft Landfill is referred to as OU2 and is being investigated by a group of responsible parties with EPA and DEP oversight.
- As with OU3, all testing and sampling has been completed. This included a 6-year effort to define the extent of contaminated groundwater.
- The “**Remedial Investigation Report**” is being reviewed by EPA, DEP and U.S. Fish & Wildlife Service. And the “**Feasibility Study**” process is just beginning.

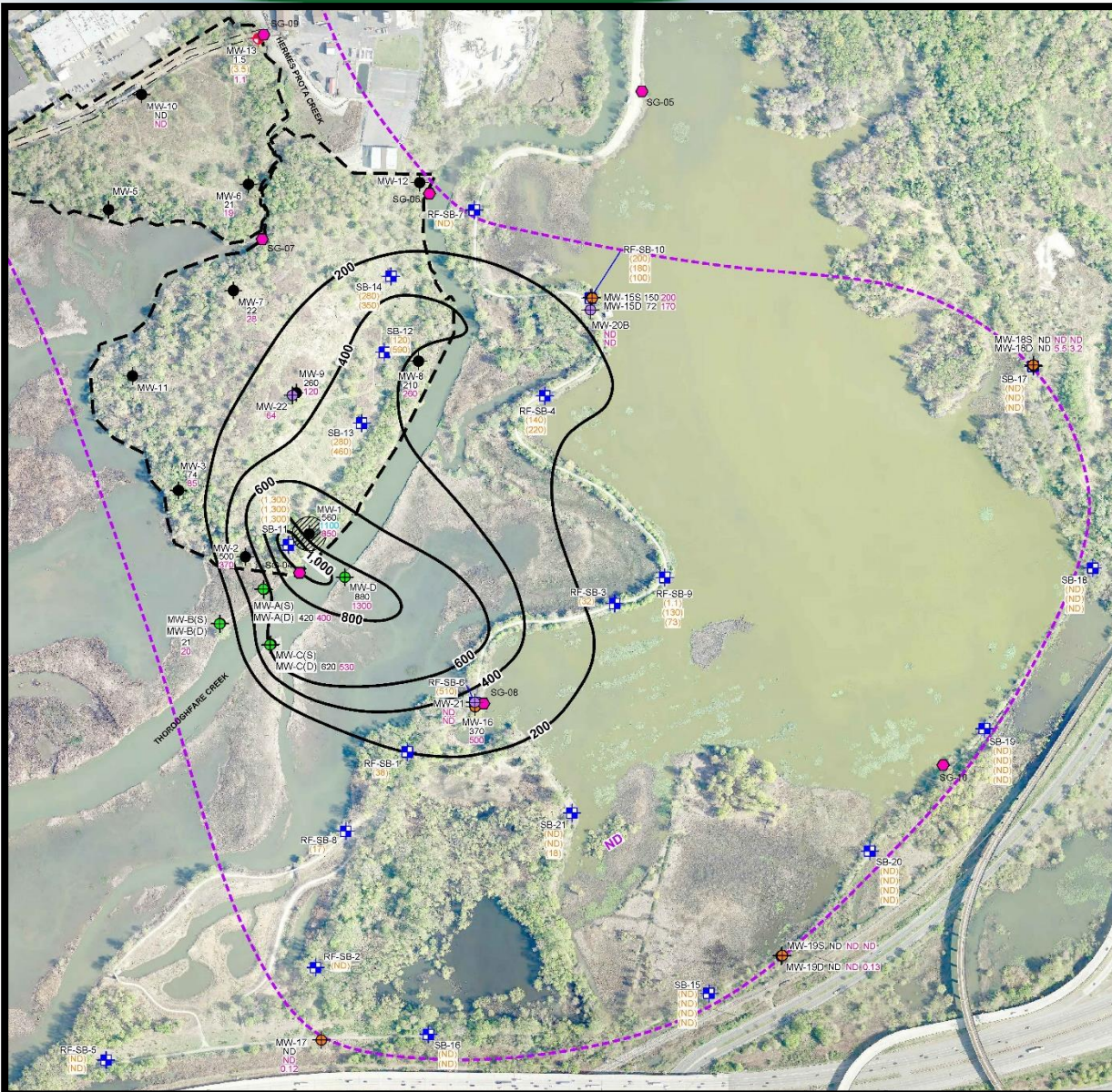




# Folcroft Landfill OU2 Remedial Investigation

- Areas with little to no soil cover are present on parts of the Landfill and Annex. These areas are primarily along the streambank and within the floodplain
- 1,4-dioxane, TCE and its breakdown products are the main contaminants of concern in groundwater. All of the contaminated groundwater outside of the landfill waste boundary is in the overburden (not bedrock).

# Shallow Aquifer – 1,4-dioxane Plume

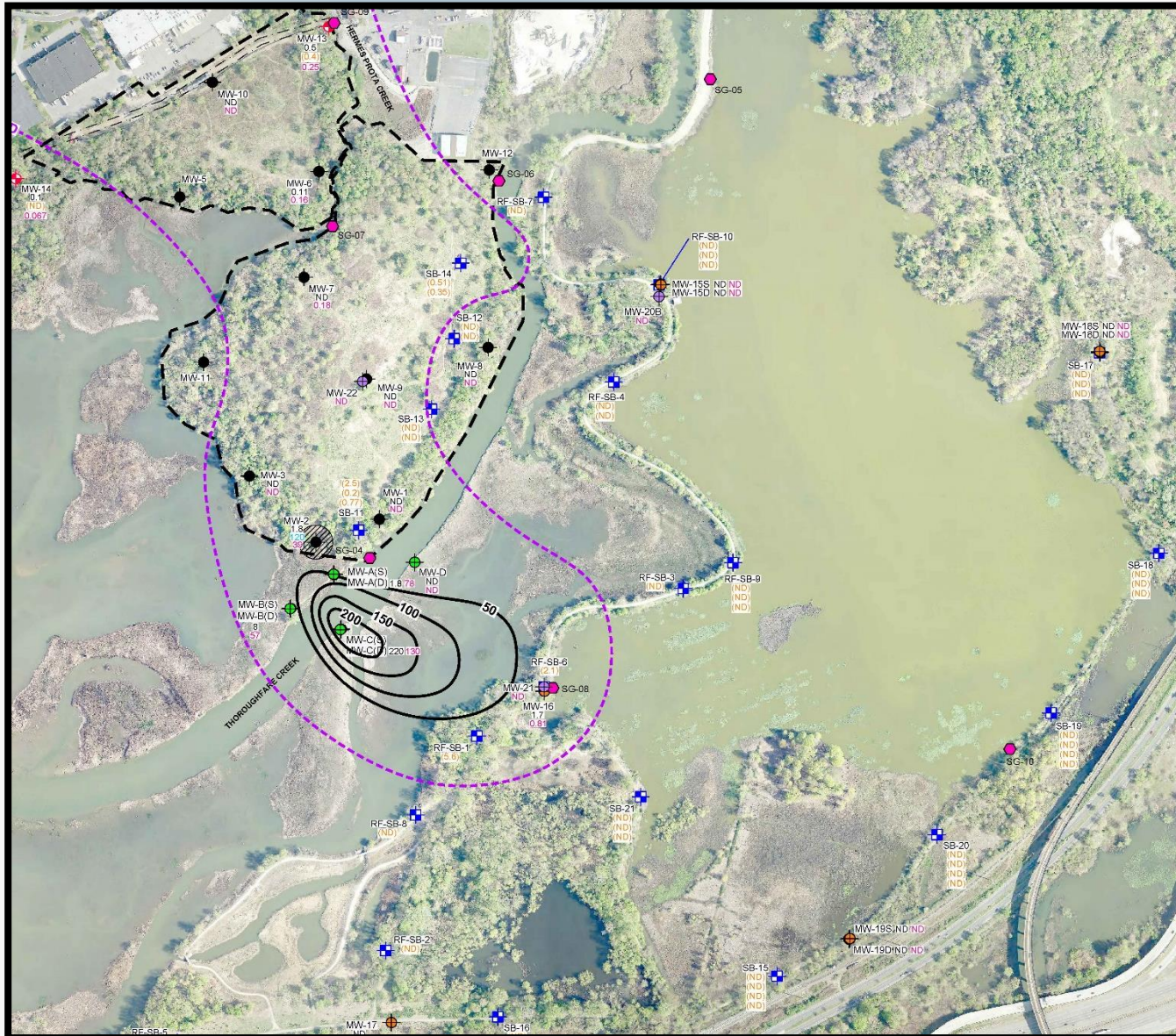


**LEGEND**

- EASEMENT OR RIGHT-OF-WAY
- APPROXIMATE SITE BOUNDARIES
- MONITORING WELL LOCATION
- ADDITIONAL GW INVESTIGATION WELL LOCATION
- PHASE I UPGRADIENT WELL LOCATION
- PHASE I SCREENING LOCATION
- REFUGE WELL LOCATION
- UPPER BEDROCK WELL LOCATION
- STAFF GAUGE
- 200
- ND
- ND
- (ND)
- ND
- ND
- LANDFILL HISTORICAL HIGH CONCENTRATION

2014 1,4-DIOXANE GROUNDWATER CONCENTRATION (ug/L)  
 1,4-DIOXANE SCREENING (ug/L)  
 HISTORIC HIGH 1,4-DIOXANE GROUNDWATER CONCENTRATION (ug/L)  
 2016 1,4-DIOXANE GROUNDWATER CONCENTRATION (ug/L)

# Shallow Aquifer – TCE Plume

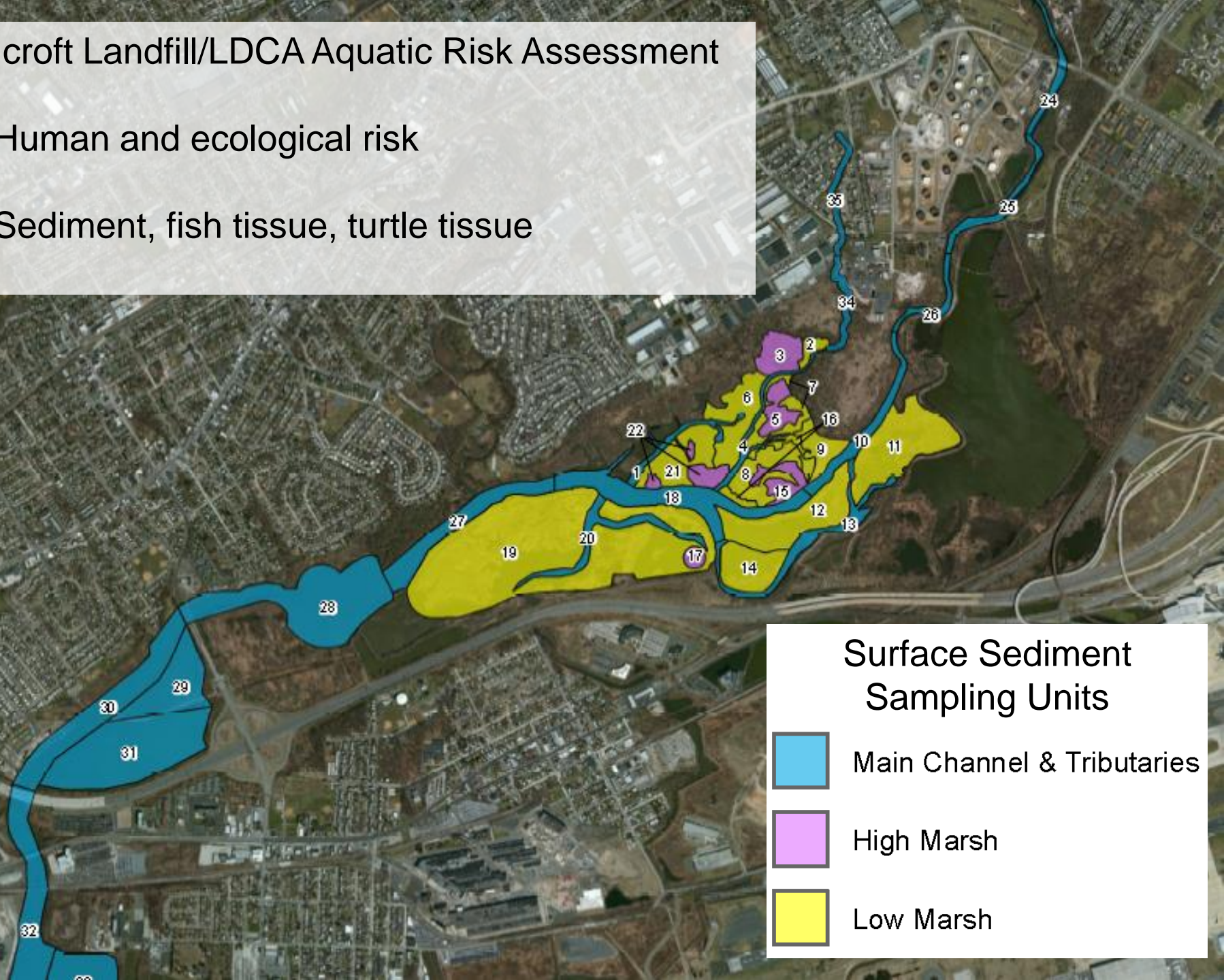


### LEGEND

	EASEMENT OR RIGHT-OF-WAY
	APPROXIMATE SITE BOUNDARIES
	MONITORING WELL LOCATION
	ADDITIONAL GW INVESTIGATION WELL LOCATION
	PHASE I UPGRADIENT WELL LOCATION
	PHASE I SCREENING LOCATION
	REFUGE WELL LOCATION
	UPPER BEDROCK WELL LOCATION
	STAFF GAUGE
	100 TCE CONTOUR
	ND NON DETECT TCE CONTOUR
	ND 2014 TCE GROUNDWATER CONCENTRATION (ug/L)
	(ND) TCE SCREENING (ug/L) (MULTIPLE DEPTHS SHOWN IF AVAILABLE)
	ND HISTORIC HIGH TCE GROUNDWATER CONCENTRATION (ug/L)
	ND 2016 TCE GROUNDWATER CONCENTRATION (ug/L)
	LANDFILL HISTORICAL HIGH CONCENTRATION

# Folcroft Landfill/LDCA Aquatic Risk Assessment

- Human and ecological risk
- Sediment, fish tissue, turtle tissue





# Schedule & Next Steps



- OU1
  - September 2017 to ??? – OU1 Residential Yards
  - October 2017 to ??? – OU1 Business Relocation
  - April 2018 – Final OU1 RD
  - Spring/Summer 2018 – Continue/Expand OU1 RA
  
- OU2
  - Fall 2017 – Initial steps to begin FS process
  - Early 2018 – Finalize RI Report
  - Mid-2018 – Finalize Baseline Aquatic Risk Assessment
  
- OU3
  - Spring 2018 – Finalize RI Report & Initial steps to begin FS process



# The Eastwick Lower Darby Creek Area (ELDCA) Community Advisory Group (CAG)

- Established in 2015, to inform residents of the Eastwick Community about the progress of the clean up of the [Clearview](#) Landfill.
- Provide residents with the opportunity to voice concerns and provide input to the process.
- The CAG includes a broad representation of people who live near the site, EPA site team, and other partner agencies and technical advisors.



## **Technical Assistance Grant (TAG) Recipient Darby Creek Valley Association (DCVA)**

- Received EPA grant funding to hire an independent Technical Advisor
- Technical Advisor reviews many of EPA's reports and complex documents and simplifies for public consumption
- DCVA uses summaries provided by Technical Advisor for use in community outreach and its newsletters found at <http://www.dcva.org/>





# For Questions or More Information

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## EPA CONTACTS

### For Technical Questions Remedial Project Manager

Josh Barber  
(215) 814-3393 [barber.joshua@epa.gov](mailto:barber.joshua@epa.gov)

### For General Questions: Community Involvement Coordinators

Larry Brown  
(215) 814-5527  
[brown.larry@epa.gov](mailto:brown.larry@epa.gov)

Gina Soscia  
(215) 814-5538  
[soscia.gina@epa.gov](mailto:soscia.gina@epa.gov)

## Lower Darby Creek Area Website:

<http://www.epa.gov/superfund/lowerdarby>

## LOCAL COMMUNITY ORGANIZATIONS

Eastwick Lower Darby Creek Area  
Community Advisory Group Website:

<http://www.dcva.org>

Darby Creek Valley Association (DCVA)  
Technical Assistance Grant (TAG) Recipient  
Website: <http://www.dcva.org>