

700S 1600E PCE Plume Community Advisory Group (CAG)

Meeting Minutes

October 23, 2025

Attendee	Organization
Shaun Cwick	EPA Region 8 RPM
Dave Allison	Utah Division of Environmental Response and Remediation (DERR) Community Involvement
Robin Carbaugh	Resident
Gilbert Castañeda	Utah Department of Health and Human Services (DHHS)
Alejandra Maldonado	DHHS
Maureen Petit	DERR
Eric Povilus	Resident
Steve Mason	Resident
Julie Day	Resident
Amit Prabhakaran Nair	Resident
Janet Hemming	Resident
Martin Caravati	Resident
Marina McTee	Resident
Esther Hunter	Resident
Neil Opperman	Resident
Teresa Gray	Resident
Rachel Day	Resident
Jason Hammer	KSL News
Mckenzie and Nick	ABC News
Curtis Booker	KSL
Jim Webster	YNC
Shannon Smith	VA CERCLA Program Manager
Anna Shum	VA CERCLA Project Engineer
Gregory House	VASLCHCS Public Affairs

Slide 1

COMMUNITY ADVISORY GROUP
UPDATE

700S 1600E PCE PLUME
SUPERFUND SITE

23 OCTOBER 2025

VETERANS HEALTH ADMINISTRATION – SLC VA MEDICAL CENTER

Shannon Smith – Program Manager
Anna Shum – Project Engineer

VHASLCSUPERFUND@VA.GOV

PCEPLUME.ORG

Pre-Decisional



Community member Robin Carbaugh welcomed the CAG meeting. The VA's CERCLA Program Manager, Shannon Smith, presented the CAG update.

AGENDA

- **Site Overview & Progress Update**
 - Feasibility Study
 - Treatment Evaluations
 - Estimated Remedial Timeframes and Costs
 - Next Steps
- **PFAS Update**
 - Sample Results
 - Next Steps
- **040H** – Vapor Mitigation Update

Smith (VA) discussed the meeting's agenda, including an overview of the site, progress updates, new PFAS sampling updates, and updates on residential vapor mitigation.

INTRODUCTION

- The SLC VAMC operated a dry-cleaning machine that used tetrachloroethylene (abbreviated as PCE) in the late 1970s and early 1980s.
- During this period, dry-cleaning residuals were likely disposed of into the sanitary sewer system which leaked into the ground.
- PCE-contaminated groundwater is present beneath the VAMC property and in areas downgradient, extending to approximately 1100 East.

PCE

- PCE is a colorless liquid used for dry cleaning fabrics and degreasing metals.
- Long-term exposure to PCE can impair cognitive and motor behavioral performance; can adversely affect kidney, liver, and immune systems; likely carcinogenic to humans (bladder cancer, non-Hodgkin lymphoma, and multiple myeloma).

The history of the site's PCE contamination and health effects associated with prolonged PCE exposure were discussed.

REMEDIAL INVESTIGATION OVERVIEW

CERCLA/SUPERFUND Process



The site **Remedial Investigation** was conducted from 2015-2022. It involved:

- collecting over 900 environmental samples to evaluate the extent of PCE, and
- evaluating the potential risks to human health.

The *Remedial Investigation Report (RI)* was finalized in Sep 2022 and is available at www.PCEPlume.org in the Administrative Record under the Resources tab.

An overview of the site's remedial investigation and project progression was discussed. The project is currently in the process of releasing a feasibility study, following extensive study of the plume.

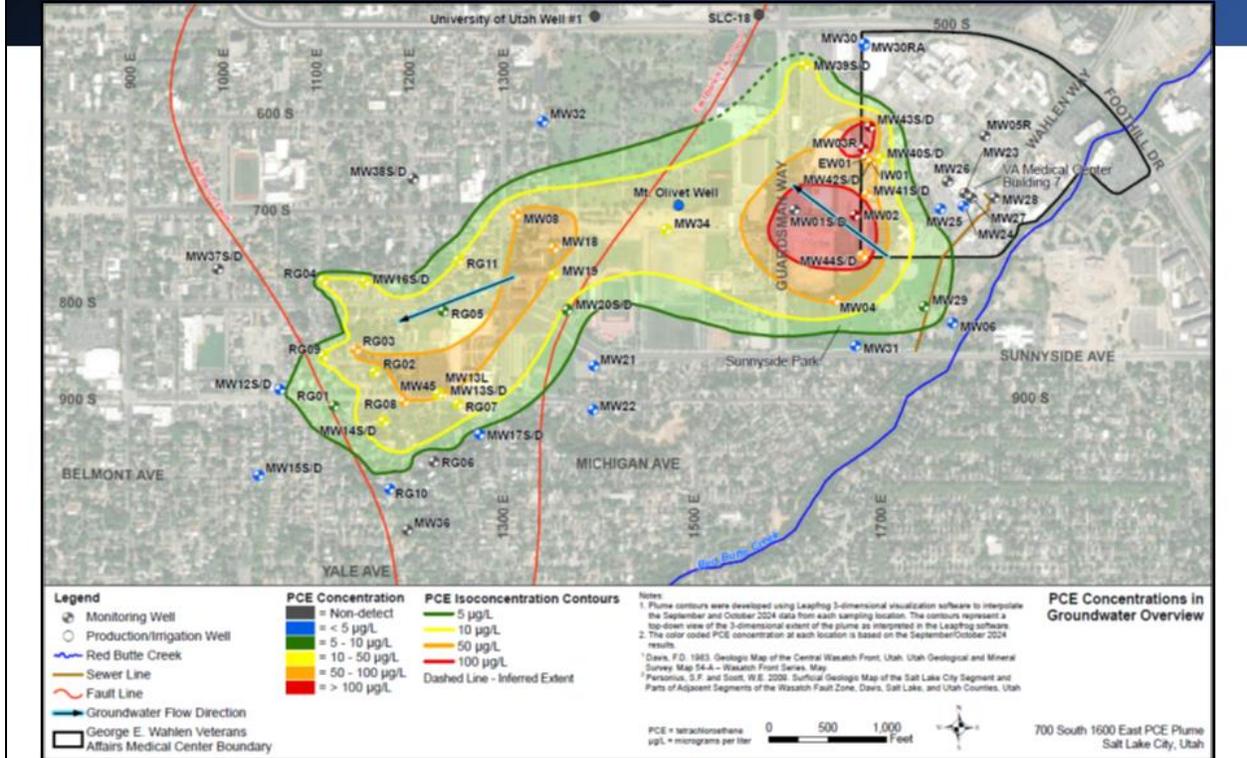
FEASIBILITY STUDY (FS)

Feasibility Study: The process of developing, screening, and evaluating remedial action (cleanup) alternatives that will *effectively* reduce risks to human health and the environment in a reasonable timeframe

- Study focused on groundwater treatment technologies based on the risks identified in the RI
 - Indoor Air Vapor Intrusion (*inhalation*) – vapor intrusion from soil gas or groundwater into structures
 - Groundwater ingestion – potential future use of untreated groundwater for domestic purposes

A feasibility study for the project was defined and detailed. The Feasibility Study evaluated groundwater cleanup technologies to address the risks associated with contamination of PCE and its breakdown products in groundwater and soil gas. Risks identified in the Remedial Investigation (RI) include potential exposure to contaminated groundwater through ingestion, migration of PCE into indoor air via vapor intrusion, and the possibility of PCE migration toward an offline municipal drinking water well.

PCE PLUME MAP (2022-2024 DATA)



The extent of the PCE plume site was discussed. The Source Area is defined on the VA Medical Center campus near Buildings 6 and 7, where PCE was believed to be released. The Mid-Plume is defined west, between Guardsman Way and 1300 East. The End-of-Plume is defined near 1200 East and 900 South.

TREATMENT OPTIONS

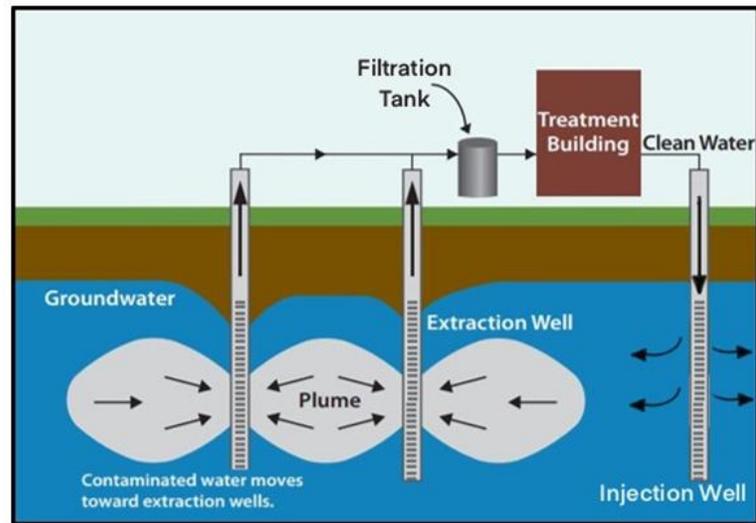
- Groundwater Extraction and Ex Situ Treatment
- In Situ Treatment
- In Situ Treatment with Groundwater Recirculation
- Monitored Natural Attenuation



Treatment technologies were summarized before a technical explanation of each treatment option was presented.

GROUNDWATER EXTRACTION WITH EX SITU TREATMENT

- Groundwater is pumped from wells to an aboveground treatment building
- Prevents contaminants from spreading by pumping water toward the wells
- Clean water is injected back into the ground



Source: https://clu-in.org/download/Citizens/a_citizens_guide_to_pump_and_treat.pdf

The feasibility study will discuss carbon filtering as a method of ex situ treatment, in which the ground water will be extracted, treated externally, and re injected.

Q: Where is the treatment location?

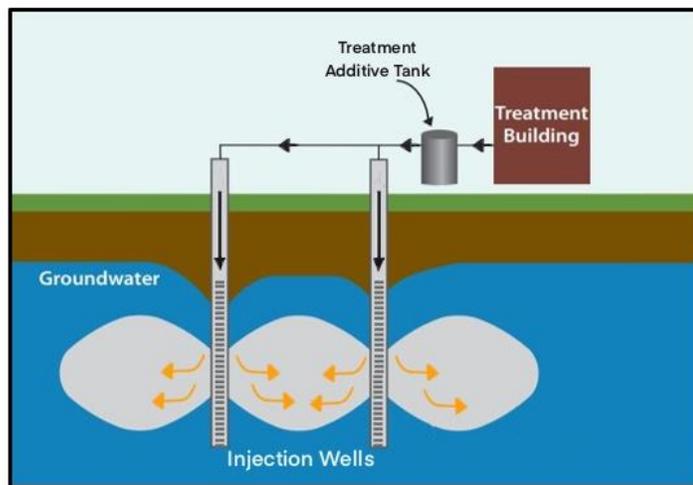
A: Clean water injection will be an upgradient location, and extraction will be at a downgradient location.

Q: Are there concerns with leaking of new wells?

A: We would use PVC pipes with openings for treatment at different depths, there is no concern of leaking.

IN SITU TREATMENT

- In situ treatment is cleaning up contamination in place, without needing to move it.
- Treatment can be designed as a barrier or as a grid
- **Bioremediation:** Add amendments to stimulate microbial activity



The feasibility study discusses introducing an amendment, such as food grade vegetable oil, in situ to feed the microbes. Microbes already existing at the site will proliferate and break down the PCE.

Q (Community): Why is vegetable oil used instead of other amendments previously discussed, such as molasses?

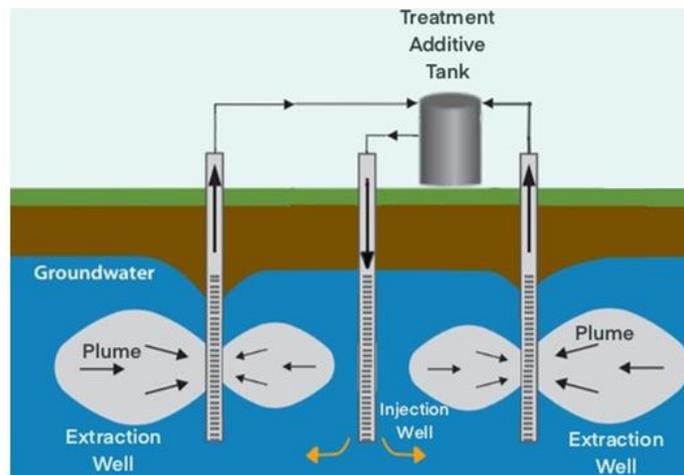
A (Smith, VA): Designer vegetable oil will reduce fouling of the system's pipes compared to alternatives.

Q (Community): Is vegetable oil considered hydrocarbon contamination?

A (Smith, VA): No, vegetable oil is a biodegradable organic compound and does not persist or pose the same risks as petroleum hydrocarbons.

IN SITU TREATMENT WITH GROUNDWATER RECIRCULATION

- In situ treatment with the recirculation of amended groundwater to enhance degradation of contaminants
- Designed to maximize contact with additive and contaminant



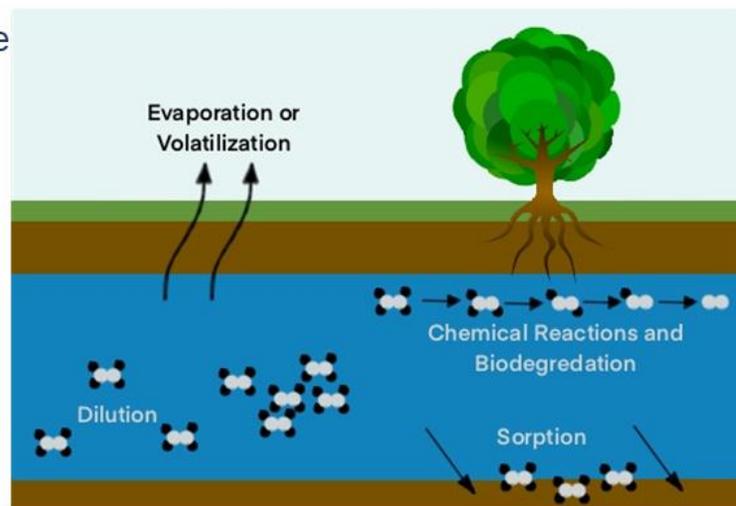
Groundwater recirculation allows for better dispersal of the oil amendment to reach a larger microbe population, but there are higher associated costs and a wider infrastructure impact from extra conveyance piping.

Q (Community): What is the actual infrastructure footprint of this option?

A (Smith, VA): There is currently a conceptual footprint that will likely be adjusted based on future agreements with stakeholders.

MONITORED NATURAL ATTENUATION

- Natural attenuation relies on natural processes to decrease or “attenuate” concentrations of contaminants in groundwater
- Processes include degradation, chemical reactions, volatilization, dilution and sorption.
- Groundwater samples are collected to confirm contaminant concentrations are decreasing



Natural attenuation is a passive process that requires no additional infrastructure. The MNA will utilize the preexisting population of healthy trees and their root systems to facilitate degradation, chemical reactions, volatilization, dilution and sorption at the End-of-Plume.

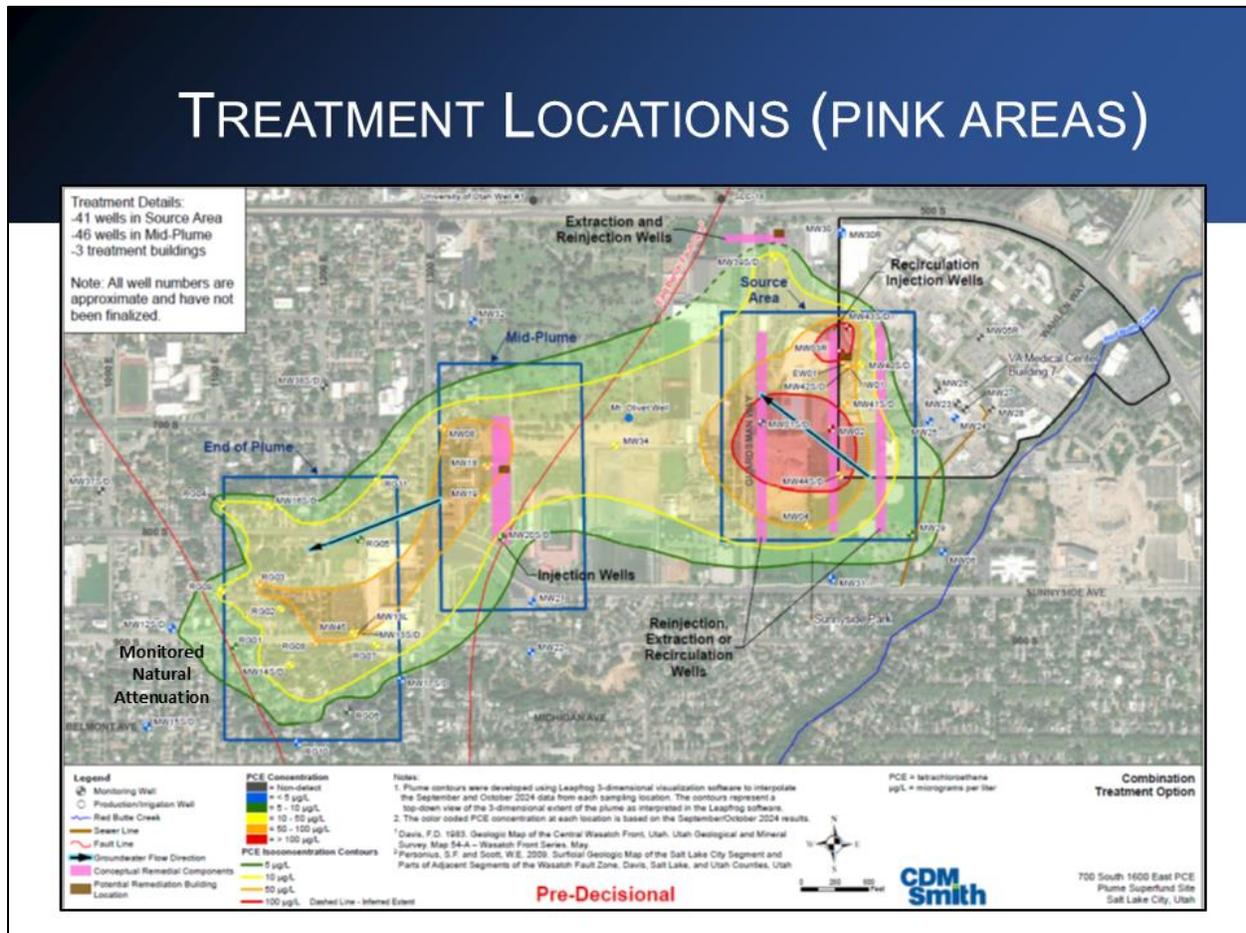
Q (Community): Is there inhalation exposure outdoors?

A (Smith, VA): In a scenario in which groundwater surfaces, PCE volatilizes (evaporates) and disperses, which is part of the natural attenuation process. Health concerns are primarily associated with basements with limited ventilation, in which PCE has no route of dispersal.

Q (Community): Is there past evidence that MNA is effective as the plume moves southwest?

A (Smith, VA): There is substantial prior research demonstrating that tree roots systems are effective in attenuation. Groundwater sampling at existing monitoring wells will be collected to confirm that MNA is facilitating remediation at the End-of-Plume.

TREATMENT LOCATIONS (PINK AREAS)



Treatment locations were discussed. Reinjection, extraction or recirculation wells (depending on which alternative is selected) are proposed at the Source Area, injection wells are proposed at Mid-Plume, and monitored natural attenuation is proposed at End-of-Plume. Additionally, extraction and injection wells are proposed near an offline well to protect future pumping for drinking water.

Q (Community): How will the infrastructure impact Sunnyside Park, including the new baseball field? Will the installation be intrusive? Will children playing come into contact from the introduced equipment or any contaminants in the treatment process?

A (Smith, VA): If wells are installed at Sunnyside Park, the active installation process will be intrusive. The final infrastructure will be discreet.

Conveyance lines will be buried, and the wells are constructed vertically into the ground. The impact will be similar to that of monitoring wells already installed at the park, which are discreet and do not affect daily activity of parkgoers.

Community members noted that Sunnyside Park is scheduled for a large redesign in the upcoming year and asked if it would be possible to coordinate treatment installations at the same time as redesign construction. Smith (VA) noted that the VA is in communication with Salt Lake Parks and Recreation, and exact timing and locations will be determined as easements are negotiated with other organizations.

Estimated Remediation Timeframes AND COSTS

Alternative 2: Groundwater Extraction and Ex Situ Treatment of Source Area and Mid-Plume, and MNA at End-of-Plume.

Timeframe: 30 years **Cost: \$37M**

Alternative 4: Groundwater Extraction and Ex Situ Treatment of Source Area; In Situ Treatment of Mid-Plume; and MNA at End-of Plume

Timeframe: 30 years **Cost: \$36M**

Alternative 5: Recirculation of Source Area; Groundwater Extraction and Ex Situ Treatment of Mid-Plume; and MNA at the End-of Plume

Timeframe: 14 years **Cost: \$61M**

Timeframe and costs of remediation were discussed. From six remediation plans, three have been narrowed down as top choices. In all three alternatives, Mid-Plume treatment will last approximately 10 years, and MNA will be implemented at the End-of-Plume. Alternative 5 significantly reduces treatment time at the source area but is associated with a higher cost.

Q (Community): Is there a case study that shows these treatments work?

A (Smith, VA): Yes, "Pump and Treat" methods have been utilized since the 1980s.

Q (Community): Who will be funding the remediation?

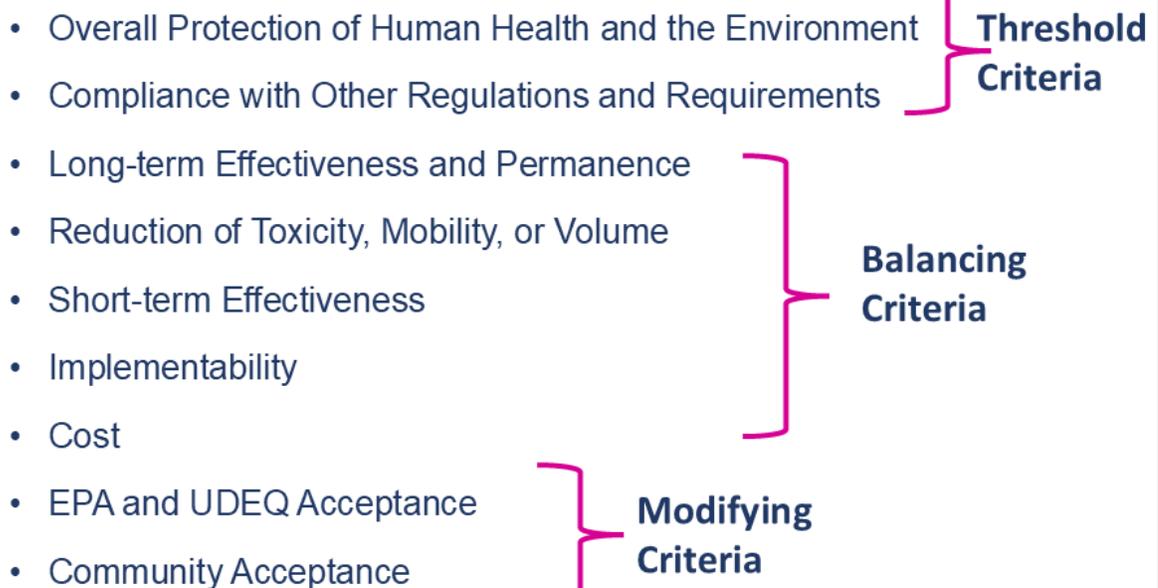
A (Smith, VA): The VA will be funding remediation.

Q (Community): Does the EPA have a preference?

A (Cwick, EPA): Alternatives 2, 4 and 5 are the best options from the six alternatives explored. The best option will ultimately be a balance between cost and the time needed to remove risk, as well as other technical factors such as local microbe toleration of amendment.

Remedy Selection

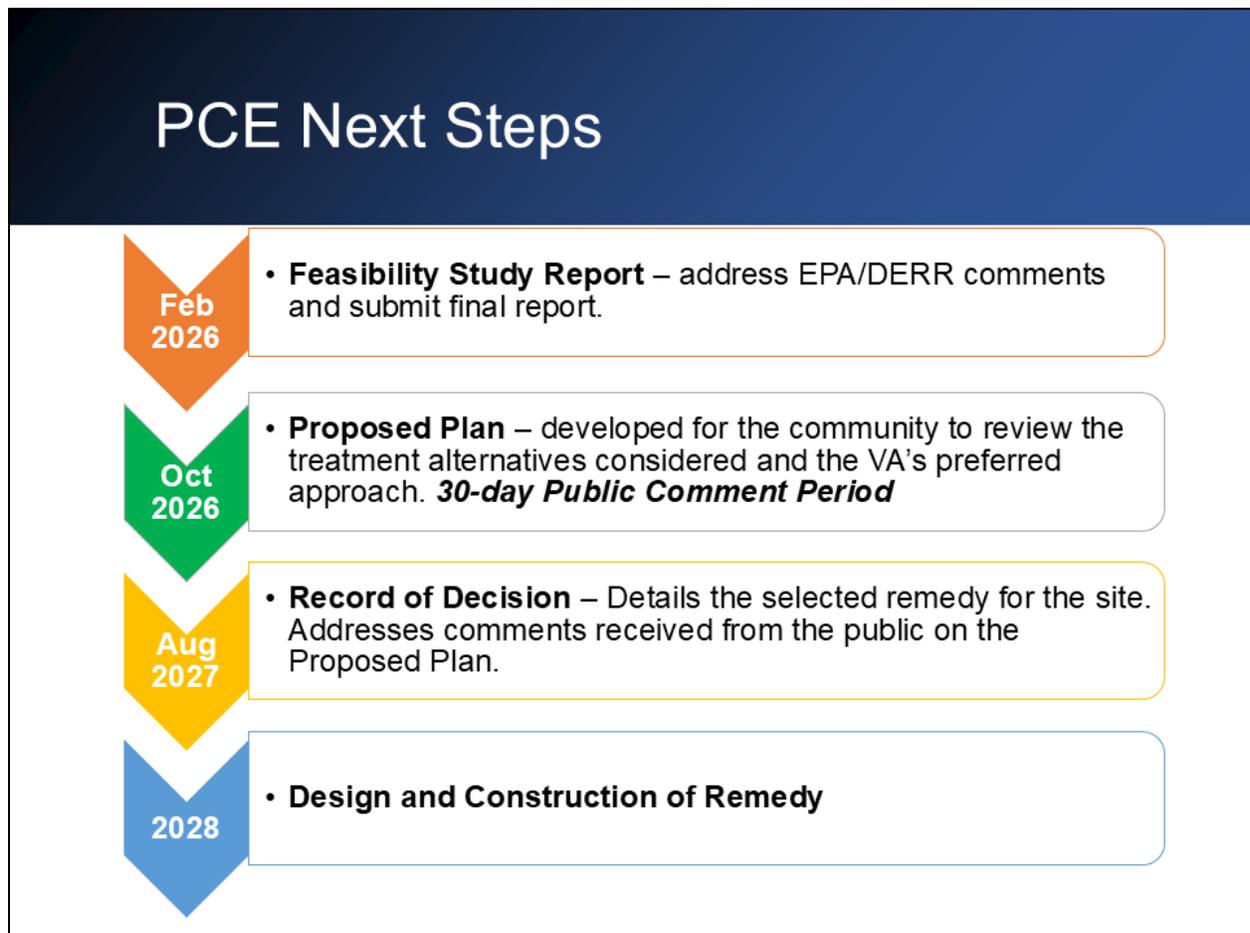
Evaluation Criteria for Selection

- Overall Protection of Human Health and the Environment
 - Compliance with Other Regulations and Requirements
 - Long-term Effectiveness and Permanence
 - Reduction of Toxicity, Mobility, or Volume
 - Short-term Effectiveness
 - Implementability
 - Cost
 - EPA and UDEQ Acceptance
 - Community Acceptance
- Threshold Criteria**
- Balancing Criteria**
- Modifying Criteria**
- 

Remedy selection factors were discussed. Threshold criteria, balancing criteria, and modifying criteria factors were considered in identifying Alternatives 2, 4, and 5 as the strongest options among the six considered, and the factors will continue to play a role in the final selection of a treatment plan.

Community member Robin Carbaugh emphasized that community acceptance is part of the modifying criteria affecting remedy selection and encouraged community members to voice opinions, suggestions, and concerns at gatherings such as the CAG meeting.

Community attendees expressed interest in SLC School District representation at CAG meetings.



The timeline of PCE remediation was discussed. The Feasibility Study Report is scheduled for completion in February 2026, incorporating and addressing comments from the EPA and DERR before final submission. By October 2026, a Proposed Plan will be developed to present the treatment alternatives and the VA’s preferred approach to the community, initiating a 30-day public comment period. In August 2027, the Record of Decision will be signed, documenting the selected remedy and responding to public feedback received on the Proposed Plan. Implementation of the selected remedy, including design and construction, is anticipated to begin in 2028.

Q (Community): Will climate change affect the plume?

A (Smith, VA): The affected groundwater is fed by the recharge area at

the East Bench. Drought likely wouldn't have a significant effect on groundwater or plume dispersal.

Community members had additional questions regarding testing and remediation around East High.

Q (Community): How often are wells measured below East High?

A (Smith, VA): Monitoring wells in that area were measured as recently as October 2024.

Q (Community): There are fault lines near East High. Could earthquakes affect the plume?

A (Smith, VA): Past earthquakes have not affected measured PCE concentrations and dispersal. Currently, there is no contingency plan in place to protect remediation wells from earthquake damage.

Q (Community): Did the recent flood at East High expose students to PCE from groundwater?

A (Smith, VA): The flood was caused by stormwater overwhelming utility lines and is not related to groundwater. The stormwater would not have contained PCE from the plume.

Q (Community): Will climate change affect the plume?

A (Smith, VA): The affected groundwater is fed by the recharge area at the East Bench. Drought likely wouldn't have a significant effect on groundwater or plume dispersal.

Q (Community, VA): Are vapor levels at East High concerning?

A (Smith): Samples at East High were well below the mitigation action level. Two samples taken in the autobody shop reported elevated PCE levels, which was attributed to the use of brake cleaner at the autobody shop and not from the contaminated groundwater.

Q (Community): Is retesting needed at East High?

A (Maldonado, DHHS): Snapshot vapor intrusion samples were collected. ASTDR prefers a longer-term sampling. ASTDR sampling and correspondence will be delayed due to the government shutdown.

Q (Community): What is the approximate depth of groundwater beneath East High?

A (Smith, VA): Groundwater is approximately 100 feet below the school, therefore vapor intrusion is not likely to occur.

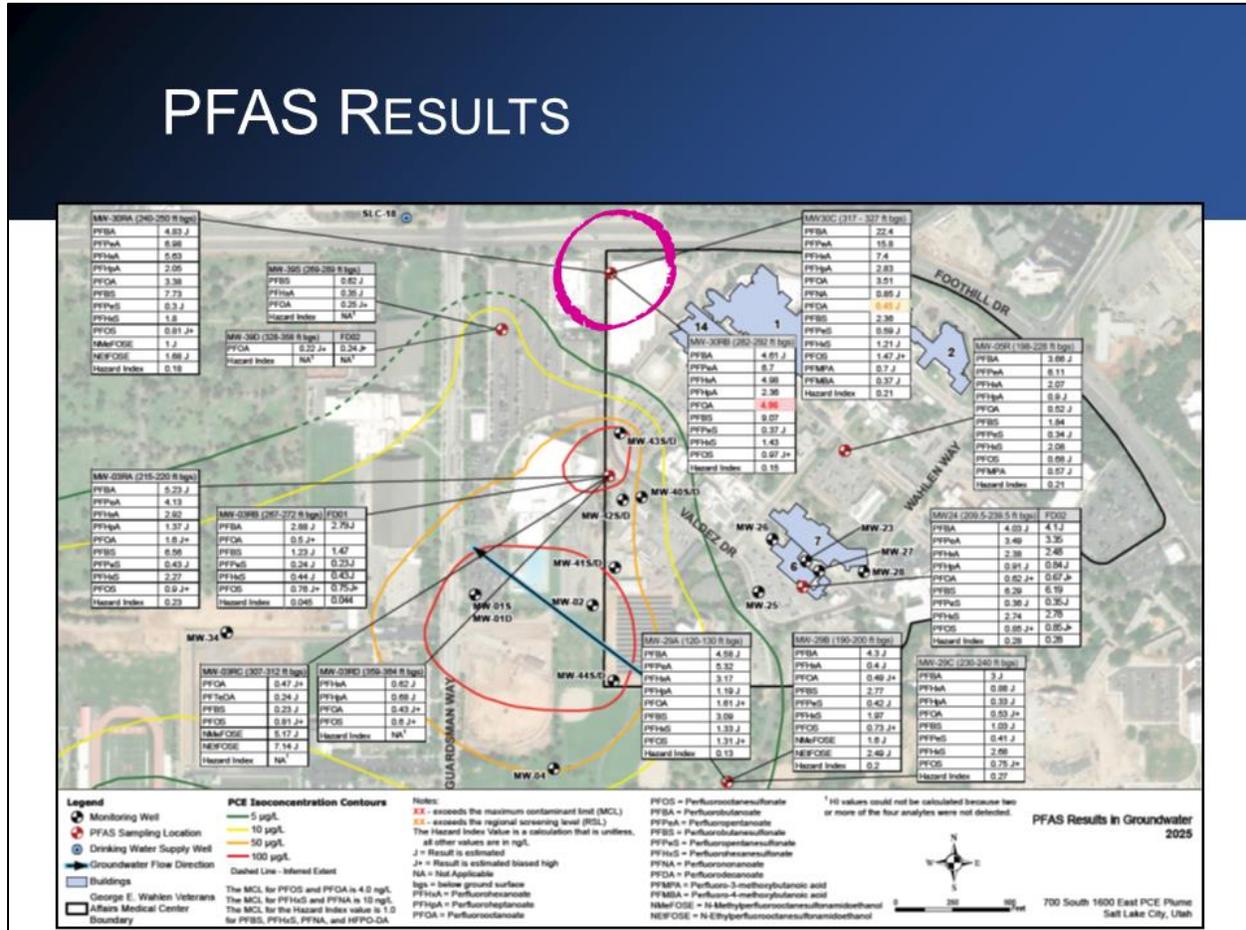
PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) UPDATE



- **PFAS** – Are manufactured chemicals widely used in industry and consumer products, including healthcare equipment and devices, pharmaceuticals, cleaning products and stain- and water-resistant treated materials.
- Long-term exposure to PFAS can decrease fertility, cause developmental delays in children, increase risk of cancers (prostate, kidney, testicular), impact immune system, and cholesterol levels
- SLC VA Conducted a **Preliminary Assessment/Site Inspection (PA/SI)**
 - PA/SI – researched PFAS use at medical facility and identified 5 locations to collect groundwater samples
 - Twelve groundwater samples were collected in March 2025

New testing of PFAS in groundwater below the VA campus was discussed. Because the PCE plume is part of a CERCLA project, the EPA can request the VA to additionally test PFAS using existing monitoring wells. PFAS contamination is likely unrelated to the drycleaning activities attributed to the PCE plume.

PFAS RESULTS



PFAS levels at VA were discussed. One detection of PFOA measured above the MCL at the northwest corner of campus. Additionally, PFDA measured above the regional screening level for drinking water. Shannon Smith (VA) noted that there is no MCL for PFDA, and the sampled groundwater at the site is not currently used for drinking water.

PFAS NEXT STEPS

- Based on sample results, no further PFAS remedial actions are recommended at this time.
- A *PFAS Site Inspection* report documenting the sampling and the decision for no further action is being developed and will be posted to the Administrative Record in December 2025.
 - The 700 S 1600 E PCE Plume Administrative Record is located at: PCEPlume.org/Resources

Next steps addressing PFAS were discussed. While sample results indicated no remedial actions are needed, carbon filter remediation techniques mentioned for the ex situ treatment of PCE would also be effective in simultaneously treating PFAS.

040H – VAPOR MITIGATION HOUSE UPDATE

- Indoor air samples indicated a remedial action was necessary at one home
- Four portable air filters were placed in the home (*temporary remedy*)
- Working with the Army Corp of Engineers to construct a permanent remedy
- Contract award planned for Nov 2025
- Construction Completed estimated by Jan 2026
- Government shutdown may impact schedule

Residential vapor mitigation was discussed. Indoor air samples from one residence measured above mitigation action levels. While portable air filters are utilized as a temporary remedy, the Army Corp of Engineers is involved in constructing a permanent remedy, estimated to be completed 2 months following the start of construction in November 2025.

NEXT MEETING AND QUESTIONS

Agenda items for next meeting?

SLC VA Contact Info:

Shannon Smith
CERCLA Program Manager
shannon.smith92@va.gov
801-582-1565 ext. 2021

Anna Shum
CERCLA Project Engineer
anna.shum@va.gov
801-582-1565 ext. 6603

Greg House
Public Affairs Specialist
gregory.house@va.gov
801-582-1565 ext. 2100



Robin Carbaugh (Community) and Shannon Smith (VA) suggested tentatively holding the next CAG meeting in October 2026, when the Proposed Plan is expected to be published. There was community interest in meeting earlier, depending on the progression of additional ATSDR vapor intrusion sampling.