



SPRING VALLEY FORMERLY USED DEFENSE SITE PROJECT
RAB Meeting

July 14, 2015
7:00 – 8:30 p.m.

UNDERCROFT MEETING ROOM
ST. DAVID'S EPISCOPAL CHURCH
5150 MACOMB ST. NW, WASHINGTON, DC

Agenda

- 7:00 p.m. I. Administrative Items**
Co-Chair Updates
 ▪ Introductions, Announcements
Task Group Updates
- 7:10 p.m. II. USACE Program Updates**
Groundwater Study
Glenbrook Road
Fordham Road Soil Removal
Final Site-Wide Remedial Investigation (RI) Document
 ▪ Response to Public Comments Summary
 ▪ Next Steps
- 8:00 p.m. III. Community Items**
- 8:10 p.m. IV. Open Discussion & Future RAB Agenda Development**
Upcoming Meeting Topics:
 ▪ Suggestions?
 ▪ Introduction to the Groundwater RI Document
 ▪ Site-Wide Feasibility Study
 ▪ 4825 Glenbrook Road Health Consultation Update (ATSDR)
- *Next meeting: September 15, 2015
- 8:20 p.m. V. Public Comments**
- 8:30 p.m. VI. Adjourn**

**Note: The RAB meets every odd month.*

Spring Valley

Formerly Used Defense Site

Restoration Advisory Board Meeting

July 14, 2015

“The USACE Mission in Spring Valley is to identify, investigate and remove or remediate threats to human health, safety or to the environment resulting from past Department of Defense activities in the area.”



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US Army Corps of Engineers
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Agenda Review



❖ Co-Chair Updates

- Introductions, Announcements

❖ USACE Updates

- Groundwater Study
- Glenbrook Road
- Fordham Road
- Final Site-Wide Remedial Investigation
 - Response to Public Comments Summary
 - Next Steps

❖ Community Items

❖ Open Discussion & Future RAB Agenda Development

❖ Public Comments



Co-Chair Updates



Introductions



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Co-Chair Updates



Announcements

➤ Website Updates:

- Final Remedial Investigation Report *
- May & June Monthly Site-Wide Project Updates
- Weekly 4825 Glenbrook Rd Project Updates with photos
- April Partnering meeting minutes
- May RAB meeting minutes

* The Final Remedial Investigation Report can also be found in the Information Repository at the Tenley Friendship Library



Task Group Updates



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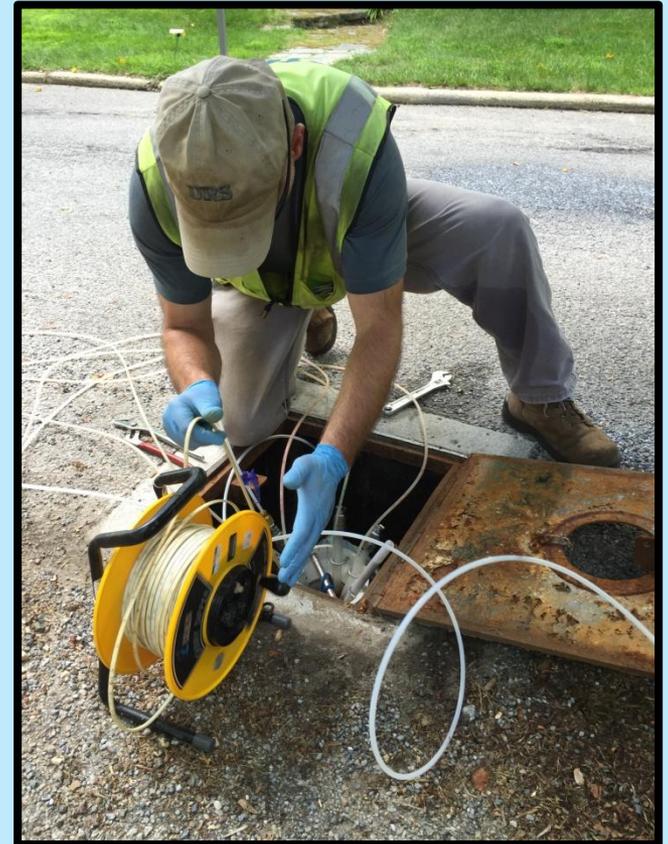


Groundwater Update

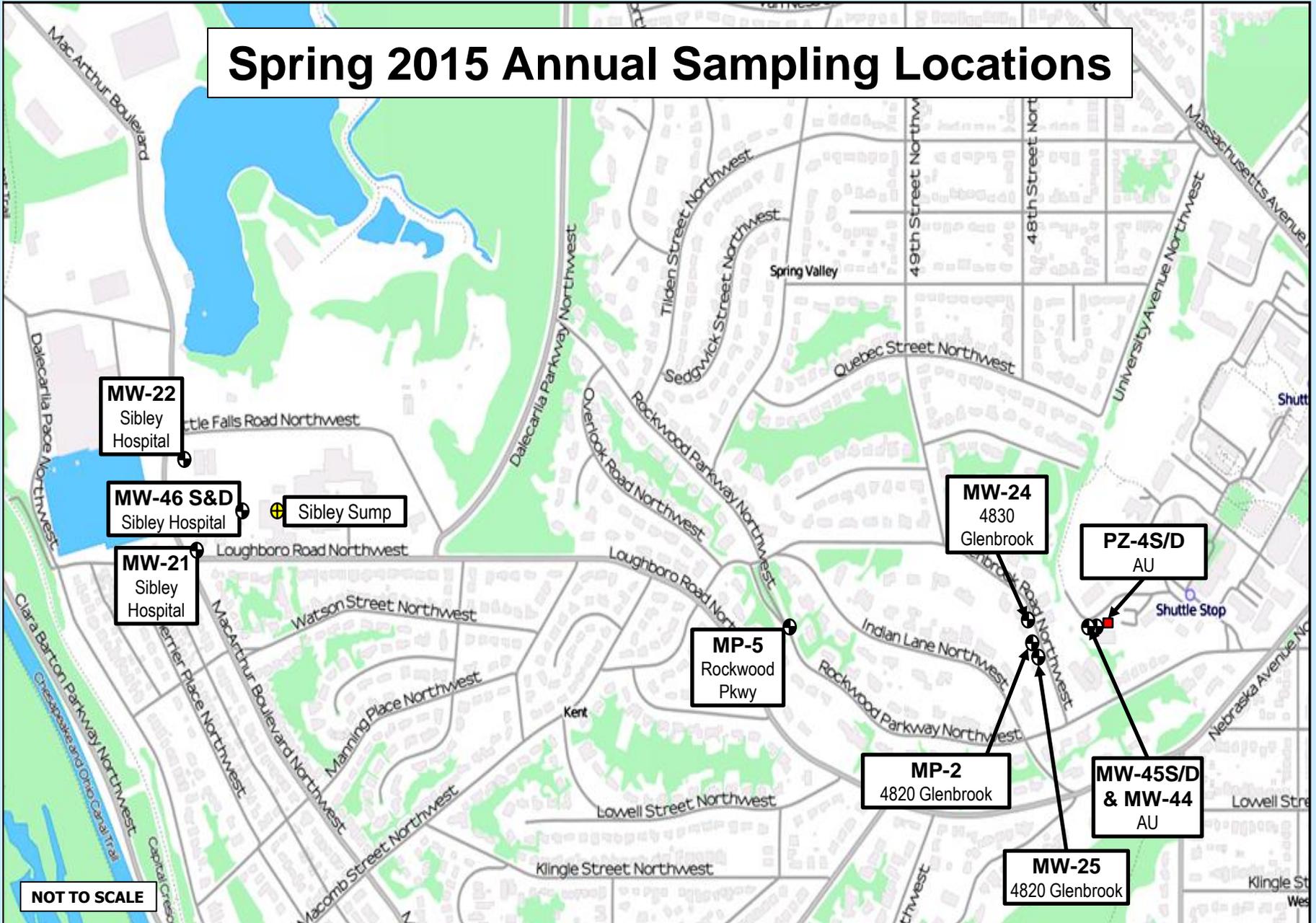
Groundwater

Groundwater Investigation Efforts

- The spring 2015 annual groundwater sampling was conducted at select wells near American University and Sibley Hospital at the end of April
- The new multiport well on Rockwood Parkway, MP-5, was also sampled for the second time on June 16.
- The first sampling results in January 2015 for MP-5 were non-detect for perchlorate, and less than 1 parts per billion for arsenic.
- The preliminary June 2015 MP-5 sampling results for all 5 sampling ports were non-detect for perchlorate and arsenic.



Spring 2015 Annual Sampling Locations



NOT TO SCALE

Groundwater

Groundwater Investigation Results: Arsenic

Current monitoring well locations	Location	Number of times sampled	Previous Maximum detections of Arsenic (ppb)	APRIL 2015 Arsenic (ppb)
MW-24	Glenbrook Road	12	16.8	3.7
MW-25	Glenbrook Road	12	9.5J	4.2
MP-2 A	Glenbrook Road	7	8.4	5.6
MP-2 B	Glenbrook Road	7	16	10.0
MP-2 C	Glenbrook Road	7	18	9.5
MP-2 D	Glenbrook Road	7	15	6.4
MP-2 E	Glenbrook Road	7	17	11.3
MP-2 F	Glenbrook Road	7	17	11.6
MP-2 G	Glenbrook Road	7	16	10.0
MP-2 H	Glenbrook Road	7	16	9.7
MW-46S	Sibley Hospital	1	1.4	1.4
MW-46D	Sibley Hospital	1	0.9J	0.9J

The yellow highlighted boxes indicate detection above the EPA Drinking Water Maximum Contaminant Level of 10 parts per billion (ppb). 'J' indicates an estimated value.

Groundwater

Groundwater Investigation Results: Perchlorate

Current monitoring well locations	Location	Number of times sampled	Previous Maximum detections of Perchlorate (ppb)	APRIL 2015 Perchlorate (ppb)
PZ-4S	Kreeger Hall	15	146	4.49
PZ-4D	Kreeger Hall	15	45	16.1
Sibley Sump	Sibley Hospital	14	25.2	9.1
MW-21	Sibley Hospital	12	48	1.72
MW-22	Sibley Hospital	12	25	20.2
MW-24	Glenbrook Road	12	70	2.13
MW-25	Glenbrook Road	12	124	2.87
MW-44	Kreeger Hall, AU	7	49.8	39.2
MW-45S	Kreeger Hall, AU	6	31.1	2.42
MW-45D	Kreeger Hall, AU	6	54.3	ND
MP-2	Glenbrook Road (*8 sampling ports)	7	27	2 – 8 *
MW-46S (shallow)	Sibley Hospital	2	11.2	4.34
MW-46D (deep)	Sibley Hospital	2	ND	ND

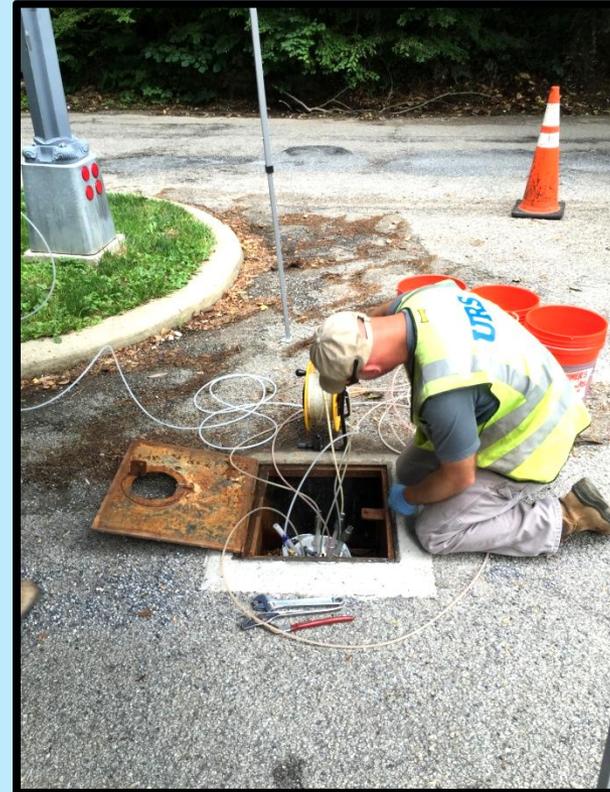
The yellow highlighted boxes indicate detection above the EPA Drinking Water Advisory Level of 15 ppb.

Groundwater

Groundwater Remedial Investigation Report

The Draft Groundwater Remedial Investigation Report is being internally reviewed by the Army.

Once this internal review is completed, the Draft Final Groundwater RI Report will be provided to the Partners for regulatory review.



**Sampling the Rockwood Pkwy
'multi-port' monitoring well,
MP-5**



4825 Glenbrook Road



Update

06/25/2015 11:02

4825 Glenbrook Road

High Probability

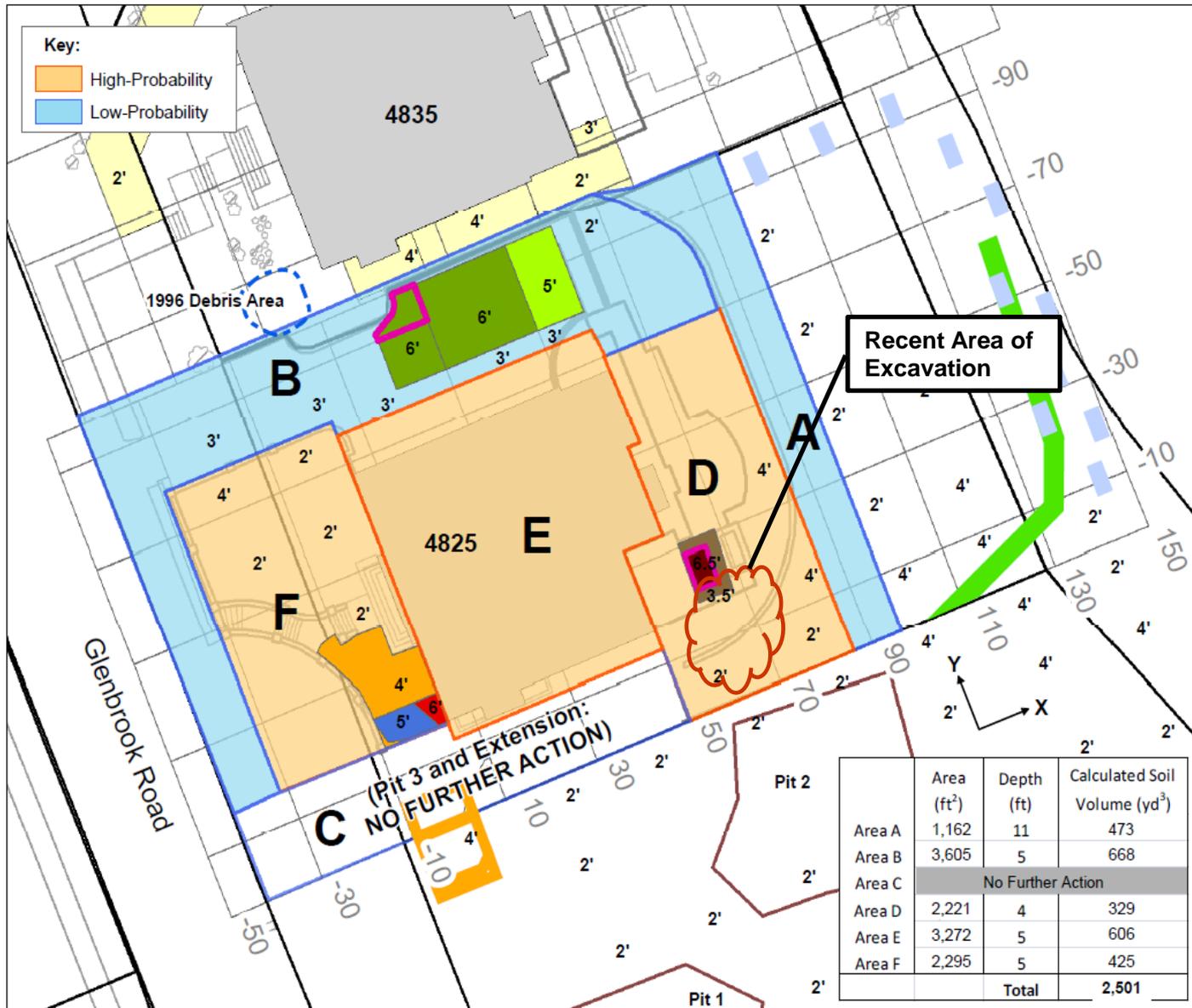


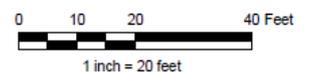
Figure 1-3
Proposed Remedial Action
4825 Glenbrook Road

Spring Valley
Washington, D.C.

Legend

- Buildings
- Property Boundaries
- 20' Grid
- Pits 1 and 2
- Test Pit 23 (Burial Pit 3)
- Arsenic Exceedance to be Further Excavated
- Trench for Rerouted Sewer Line
- Additional Low Probability Investigation
- Test Pits
- Arsenic Soil**
- Arsenic Grid Previously Removed [5'] (2009)
- Arsenic Grid Previously Removed [6'] (2009)
- Soil Excavation**
- Excavation Depth [3.5'] (2009)
- Excavation Depth [4'] (2010)
- Excavation Depth [5'] (2010)
- Excavation Depth [6'] (2010)
- Excavation Depth [6.5'] (2009)
- 1996 APEX Tree Removal (Debris Area) Perimeter
- Previously Excavated Arsenic: Adjacent Properties

Note:
Excavation depths shown from previous arsenic removal.



Area	Area (ft ²)	Depth (ft)	Calculated Soil Volume (yd ³)
Area A	1,162	11	473
Area B	3,605	5	668
Area C	No Further Action		
Area D	2,221	4	329
Area E	3,272	5	606
Area F	2,295	5	425
	Total		2,501

4825 Glenbrook Road

High Probability



The crews completed excavating soil from underneath the back patio concrete pad, and began removing the soil along the footer of the adjacent concrete basement wall, as well as demolishing the wall.



4825 Glenbrook Road

High Probability



Prior to demolition, the crew took several samples of the concrete basement wall, using a grid pattern, adjacent to the patio for analysis, due to the wall's proximity to contaminants found in nearby soil. All samples were clear of contamination.

4825 Glenbrook Road

High Probability

The concrete rubble from the demolished wall, like all the concrete we remove from the site, was then broken into 6x6x6-inch pieces before it was placed into drums for transport and disposal. The crews also began demolishing the concrete walls surrounding the crawlspace near the back patio.



4825 Glenbrook Road

High Probability



Additionally, some American University Experiment Station-related broken glassware was recovered since the last RAB meeting.

All soil and rubble are tested for contamination prior to disposal. We received sample results from soil removed a few weeks ago, indicating very low levels of Mustard and 1, 4-Dithiane (a degradation product of Mustard) in some soil removed from the back patio area where contaminated debris was recovered during the prior investigation. The results were below quantitation limits, and were not detected by air monitors during excavation.



4825 Glenbrook Road

High Probability



One of the holes drilled into the munition for sample removal.



The 75mm shrapnel round found January 13, 2014, containing magnesium arsenide fill, was shipped for disposal to Port Arthur, Texas on June 5, 2015.



4825 Glenbrook Road

Summary of Findings Recovered Under Tent 2

For the high probability excavation operation under the second tent, as of last week :

- **Roll-offs and Drums:** 68 roll-offs of soil, 421 soil drums, 9 roll-offs of rubble, and 226 rubble drums have been removed.
- **Soil Removed:** ~597 yds³.
- **52 lbs. of glass:** Cleared headspace analysis.
- **No intact glass containers, three intact 75mm munitions debris (MD) items, one open cavity 75mm MD, and two 4.7” projectiles material deemed as safe (empty).**

-
- **No intact containers found since March 3, 2015.**
 - **There have been no readings for chemical agent on the MINICAMS (near real time continuous air monitoring system) at the pre-filter (inlet to the Chemical Agent Filtration System, or CAFS) under the second tent.**



4825 Glenbrook Road Schedule Update

✓ **December 2012 through May 2013**

Site Preparation/ Initial Low Probability Work

- Test pits in backyard and re-locating utilities
- Install soldier piles to support embankments

✓ **May 2013 through September 2013**

ECS Set Up, High Probability training, and Pre-Operational Exercises

→ **September 2013 through Winter 2016/2017**

High Probability Excavation

Winter 2017 through Spring 2017

Final Low Probability Excavation

Spring 2017 through Summer 2017

Site Restoration





**Arsenic Soil Removal and
Site Restoration
on
3700 Block of Fordham Road**

Arsenic Contaminated Soil Grid Removal



Site Restoration



New fence

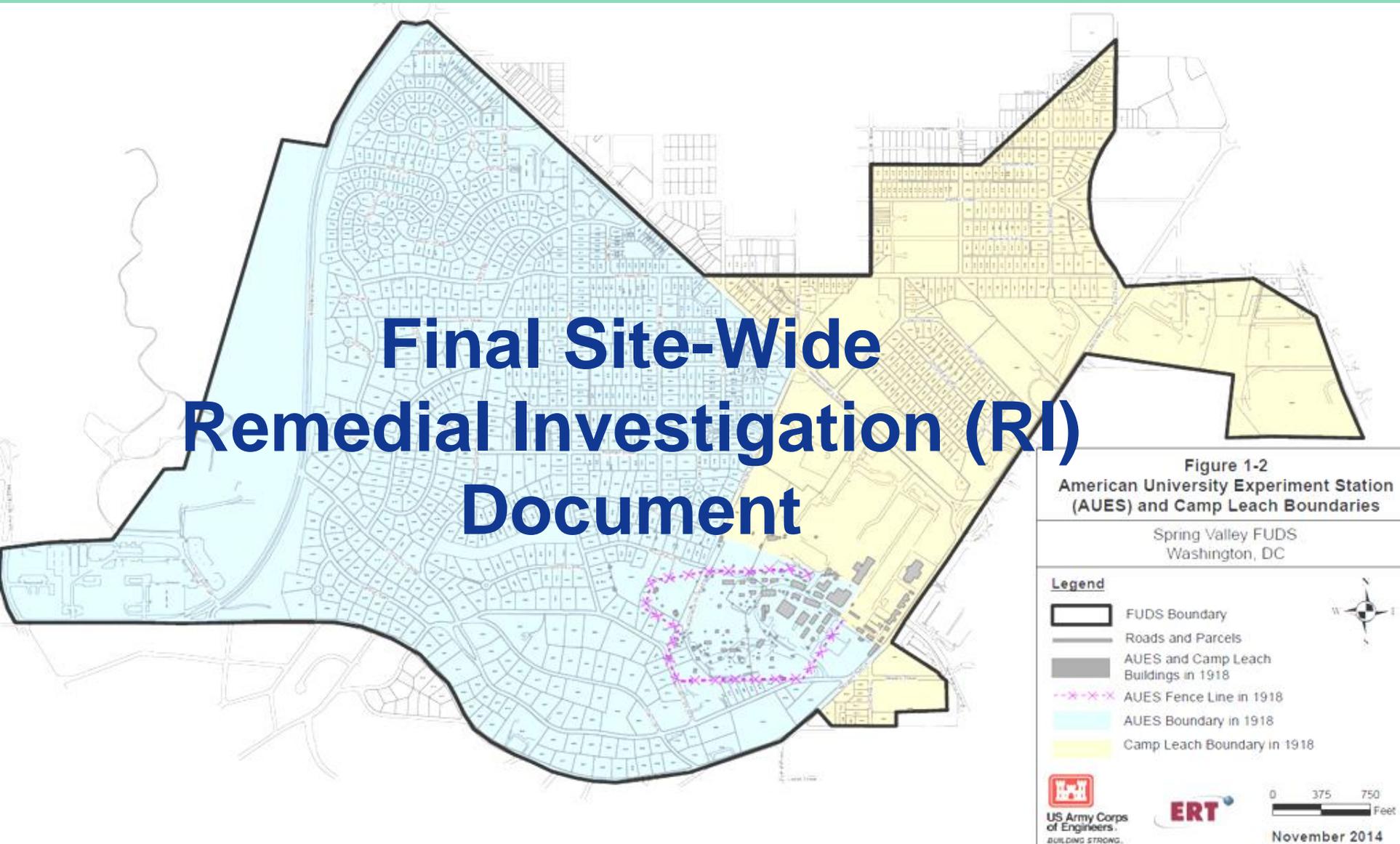
**Additional
soil and
mulch**



**Grass
seed**

USACE Updates

Final Site-Wide Remedial Investigation (RI) Document



Spring Valley FUDS

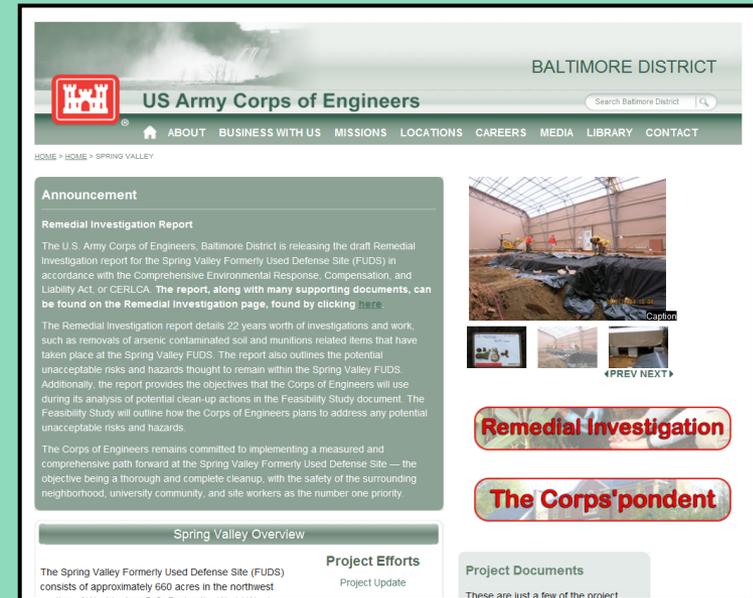
Response to Public Comments Summary

- USACE received comment submissions from **11** individuals, including the RAB Technical Consultant, Dr. Peter deFur. A total of **32** comments were included in these submissions.
 - A total of **9** comments were in reference to the projected schedule and timelines.
 - A total of **9** comments were submitted requesting clarifications or additions to the Site-Wide RI Report.
 - A total of **11** comments were submitted regarding recommendations for more research and investigations than what the Draft-Final RI recommends for Spring Valley.
 - A total of **3** comments were submitted related to requesting dialogue with USACE or contacts with other entities/agencies related to the Spring Valley project.



Spring Valley FUDS Response to Public Comments Summary

- The Public Comment Responsiveness Summary is located in the Final Remedial Investigation (RI) Report in Appendix H.
- The RI Report was finalized at the end of June and placed online under Project Efforts/Remedial Investigation (<http://www.nab.usace.army.mil/Home/SpringValley/RemedialInvestigation.n.aspx>) and in the Information Repository at the Tenley-Friendship Branch Library, located at 4450 Wisconsin Ave. N.W., Washington, DC.



The screenshot displays the US Army Corps of Engineers website for the Baltimore District. The main heading is "US Army Corps of Engineers" with a search bar and navigation links: HOME, ABOUT, BUSINESS WITH US, MISSIONS, LOCATIONS, CAREERS, MEDIA, LIBRARY, CONTACT. The page is titled "Spring Valley" and features an "Announcement" section for the "Remedial Investigation Report". The text states: "The U.S. Army Corps of Engineers, Baltimore District is releasing the draft Remedial Investigation report for the Spring Valley Formerly Used Defense Site (FUDS) in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA. The report, along with many supporting documents, can be found on the Remedial Investigation page, found by clicking [here](#)." It further details the report's content, including 22 years of investigations, arsenic removals, and future cleanup objectives. A "Spring Valley Overview" button is visible below the text. On the right side, there are images of the site, a "Remedial Investigation" button, and a "The Corps' pondent" button. At the bottom, there are sections for "Project Efforts" and "Project Documents".



Spring Valley FUDS

Final Site-Wide RI



- One of the Site-Wide Remedial Action Objectives (RAOs) presented in the Final RI Report is:

“On a site-wide basis, reduce the probability of residents, contractor/maintenance workers, and visitors/passers-by from handling MEC encountered during residential or construction/maintenance activities conducted within the SVFUDS.”

- This will apply to all properties within the SVFUDS. The intent is to acknowledge that there will always be a possibility of encountering MEC within the SVFUDS.
- The Feasibility Study will describe that this RAO will be achieved through *institutional controls*, for example, education (such as mailings addressing the 3Rs), and 5 year reviews.



**Figure 8-1
Areas for Evaluation
in the FS**

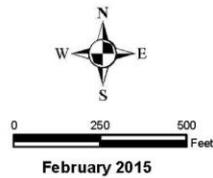
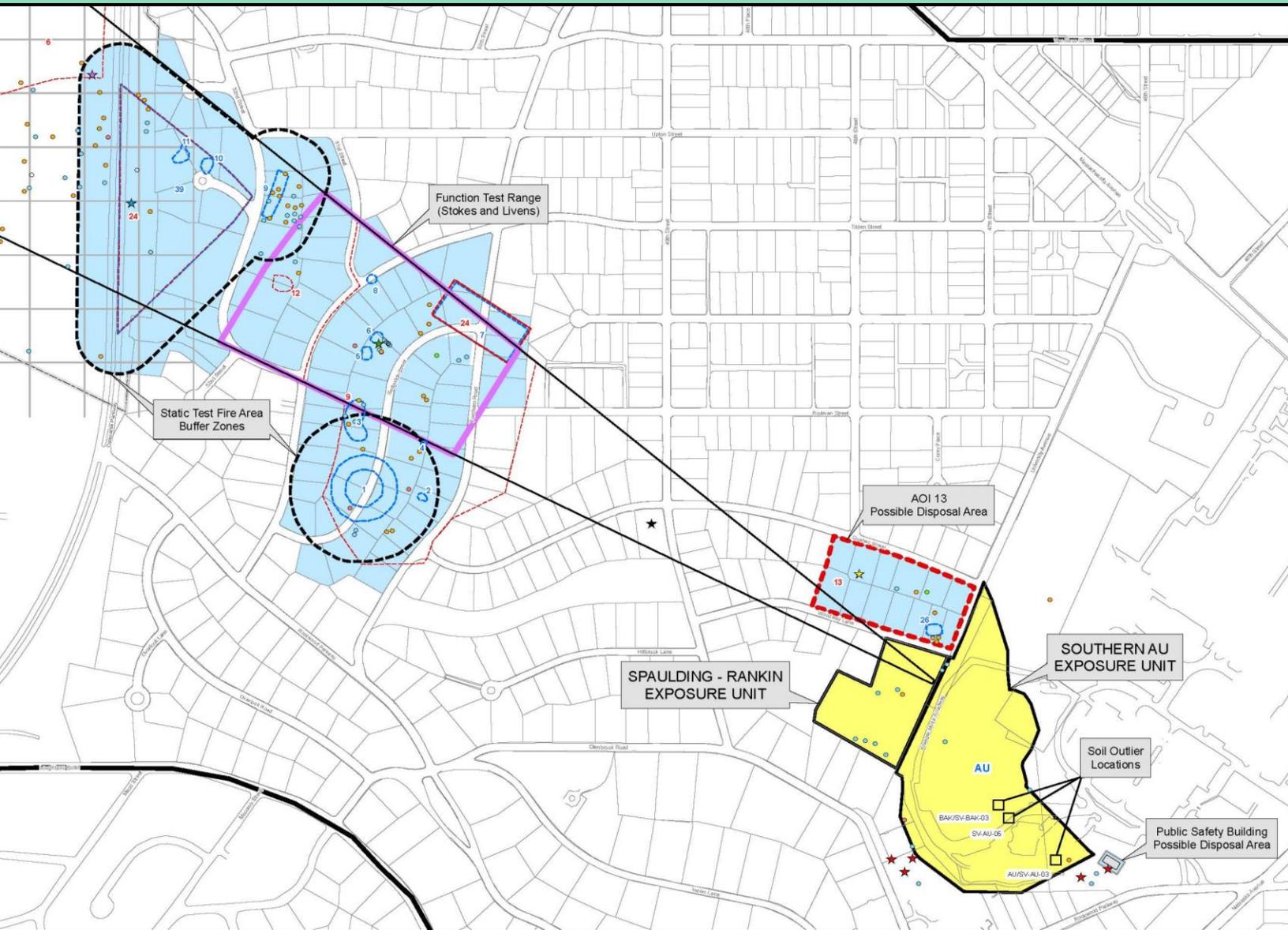
Spring Valley FUDS
Washington, DC

Legend

- Areas of Potential Explosive Hazard for Evaluation in the FS
- Areas of Potential Carcinogenic / Non-Carcinogenic Risk for Evaluation in the FS
- Buffer Zone (150 FT) of Statically Fired Testing Areas
- Function Test Range (Stokes and Livens)
- Area of Interest (AOI)
- Point of Interest (POI)
- Range Fan
- Parcels
- FUDS Boundary

Items

- ★ Livens Projectile (MEC)
- ★ Stokes Mortar (MEC)
- ★ 75 mm Projectile (MEC)
- ★ Thermite Grenade (MEC)
- ★ Pipe with Explosives (MEC)
- ★ Disposal Area (MEC/CWM)
- 75 mm MD
- Livens MD
- Stokes Mortar MD
- MD (miscellaneous)
- Non-AUES MD



Spring Valley FUDS

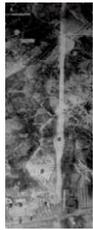
Final Site-Wide RI

- **According to USACE guidance, an Institutional Analysis (IA) should be conducted at any site where an institutional control program is being considered. The IA is an additional document that will be prepared and finalized before the Decision Document.**
 - **Institutional analysis identifies opportunities to implement an institutional control program at a specific site; identifies government agencies having jurisdiction over MEC contaminated lands; and assesses the capability and willingness of government agencies to assert their control over MEC contaminated lands.**
 - **Local and state government agencies can assist in the development and implementation of the institutional control program.**



The CERCLA Process

(The Comprehensive Environmental Response, Compensation, and Liability Act)



Preliminary Assessment



Site Inspection



Remedial Investigation

General Purpose: Collect data to characterize site conditions; Determine the nature of the waste; Assess risk to human health and the environment; & Evaluate treatment options.



Feasibility Study

General Purpose: To develop, screen, and evaluate alternatives for clean-up.

Information gathered as part of the RI influences the development of the FS which, in turn, may require further data collection and field investigations.

Decision Document



General Purpose: Select the alternative as well as provide an overview of the project. This would include site history, previous and current investigations, and characterization of contamination.



Proposed Plan

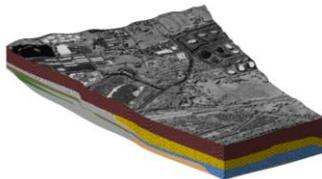
General Purpose: Presents the evaluation of clean-up alternatives and provides a recommendation for the preferred alternative.

This document is made available for public review and comment.



Removal Action

General Purpose: If prompt action is deemed appropriate prior to the completion of the RI/FS process, USACE will begin removal of the contaminants of concern.



Remedial Design/ Remedial Action

General Purpose: Implementation of the action determined in the Decision Document.



Long Term Monitoring

General Purpose: To conduct any long term monitoring necessary and conduct five year reviews of the Formerly Used Defense Site.

Spring Valley FUDS

Next Steps: Feasibility Study

The purpose of the Feasibility Study is to develop, screen, and evaluate alternatives to achieve possible remedial action objectives.

Viable alternatives will be presented for public review in the Proposed Plan.

EPA's Screening Criterion for clean-up alternatives:

- Threshold**
 - Overall Protection of Human Health and Environment;
 - Compliance with Applicable or Relevant and Appropriate Requirements (ARARs);
- Balancing**
 - Long-term Effectiveness;
 - Reduction of Toxicity, Mobility and Volume Through Treatment;
 - Short-term Effectiveness;
 - Implementability (Technical Feasibility, Administrative Feasibility, & Availability of Materials and Services);
 - Cost;
- Modifying Criteria**
 - Regulator Acceptance; and
 - Community Acceptance.



Spring Valley FUDS Tentative Schedule

June 2015	USACE finalizes the RI report.
Fall 2015	*Feasibility Study to be finalized to evaluate alternatives for addressing any unacceptable risks or hazards identified in the Final RI Report.
Winter 2015/16	Prepare the Proposed Plan and start public comment period.
Summer 2016	Prepare and sign the Decision Document in Summer 2016.
~2017-2020	Begin remedial design/remedial action plan/conduct clean-up action.

***The FS has been drafted and reviewed internally by the USACE team. The updated Draft FS will be reviewed by the USACE Center of Expertise (CX). Once the CX concludes their review, the Draft Final FS will be reviewed by our Partners (EPA and DDOE) and Dr. Peter deFur.**

Spring Valley FUDS Restoration Advisory Board



Community Items



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Spring Valley FUDS Restoration Advisory Board

➤ Reminders:

- The next RAB meeting will be
Tuesday, September 15th

➤ Upcoming Agenda Items

- Suggestions?
-

- Introduction to the Groundwater RI Document
- 4825 Glenbrook Road Health Consultation Update (ATSDR) – TBD
- Site-Wide Feasibility Study



**U.S. Army Corps of Engineers
Spring Valley Joint Restoration Advisory Board Meeting
St. David's Episcopal Church
Minutes of the July 14, 2015 RAB Meeting**

RESTORATION ADVISORY BOARD MEMBERS PRESENT AT THIS MEETING	
Dan Noble	Military Co-Chair/USACE, Spring Valley MMRP Manager
Linda Argo	At Large Representative – American University
Mary Bresnahan	Community Member
Ralph Cantral	Community Member
Dr. Peter deFur	Environmental Stewardship Concepts/RAB TAPP Consultant
Mary Douglas	Community Member
Paul Dueffert	Community Member
Alma Gates	At Large Representative – Horace Mann Elementary School
Steve Hirsh	Agency Representative – US Environmental Protection Agency
William Krebs	Community Member
Lawrence Miller	Community Member
Lee Monsein	Community Member
Tom Smith	Community Member
James Sweeney	Agency Representative – District Department of the Environment
George Vassiliou	Community Member
John Wheeler	Community Member
RESTORATION ADVISORY BOARD MEMBERS NOT PRESENT AT THIS MEETING	
Greg Beumel	Community Co-Chair
Kathleen Connell	Community Member
Malcolm Pritzker	Community Member
ATTENDING PROJECT PERSONNEL	
Brenda Barber	USACE, Spring Valley Project Manager
Todd Beckwith	USACE, Spring Valley Project Manager
Brittany Bangert	USACE, Corporate Communications Office
Rebekah McCoy	ERT
Rebecca Yahiel	Spring Valley Community Outreach Program

Alex Zahl	USACE, Spring Valley Technical Manager
HANDOUTS FROM THE MEETING	
I. Final Agenda for the July 14, 2015 RAB Meeting	
II. Army Corps of Engineers Presentation	
III. June 2015 Monthly Project Summary	
IV. April 2015 <i>Corps 'pondent</i>	

AGENDA

Starting Time: The July 14, 2015 RAB meeting began at 7:09 PM.

I. Administrative Items

A. Co-Chair Updates

Larry Miller, Community Member, (who filled in for Greg Beumel, Community Co-Chair) welcomed everyone and opened the meeting. He turned the meeting over to Dan Noble, Spring Valley Project Manager and Military Co-Chair.

D. Noble welcomed everyone to the RAB meeting and noted that the agenda included updates on the groundwater investigation, 4825 Glenbrook Road, a small soil removal action on Fordham Road, and the status and details of the Final Remedial Investigation (RI) document.

B. Introductions

D. Noble noted that there were no new introductions.

C. General Announcements

D. Noble stated that the next RAB meeting is scheduled for September 8th, the day after Labor Day and asked if moving the meeting to September 15th would be more accessible for the RAB members due to possible vacations. RAB members voted to move the meeting to September 15th.

D. Task Group Updates

No task group updates were presented.

II. USACE Updates

Todd Beckwith, Spring Valley Project Manager, provided a brief status update on the groundwater investigation.

Brenda Barber, Spring Valley Project Manager, provided an update on the activities at 4825 Glenbrook Road.

D. Noble provided an update on the Fordham Road soil removal, an overview of the RI Public Comments Summary, and the next steps for the RI.

A. Groundwater Study

The spring 2015 groundwater sampling event was completed at the end of April for groundwater wells near American University (AU) and Sibley Hospital. The new multiport well, MP-5, located on Rockwood Parkway was sampled for the second time in June. The MP-5 results from the first sampling event were non-detect for perchlorate and less than one parts per billion (ppb) for arsenic. The preliminary results for the second sampling event were non-detect for arsenic and perchlorate.

MP-5 is located in between AU and Sibley Hospital – two locations where perchlorate has been detected. The purpose of MP-5 is to determine whether there is a connection between the perchlorate found at AU and Sibley Hospital. Based on the results, there is no current connection seen between the perchlorate detected at AU and Sibley Hospital.

The current groundwater sampling efforts are focused on locations where arsenic or perchlorate have been detected in the past. The locations include wells near Kreeger Hall, Glenbrook Road, and at Sibley Hospital.

The April 2015 sampling results were reviewed. The monitoring wells on Glenbrook Road were sampled due to previous arsenic detections. One of the Glenbrook Road wells, MP-2, is a deep well with eight sampling ports at different depths; MP-2A is the shallowest port at 40 feet below ground surface (bgs) and MP-2H is the deepest port at 160 feet bgs. The April sampling from MP-2 detected arsenic at or above the drinking water standard of 10 ppb. This is consistent with the last few years' results, but less than what was detected in the past.

There are three other locations where perchlorate has been detected above the drinking water advisory level of 15 ppb, including PZ-4D and MW-44 (in front of Kreeger Hall), and MW-22 (near Sibley Hospital).

Internal USACE review is underway on the Draft Groundwater RI report. The Draft Final Groundwater RI report will be submitted to the Partners when the internal review is completed. USACE expects to discuss this report with the RAB this fall.

Discussion

Question from John Wheeler, Community Member – What does the 'J' stand for next to lab values?

T. Beckwith explained that 'J' next to a lab value means that the value is estimated between the reporting and detection limits of the lab. The lab can only report reliably at the reporting limit. For example, a value might be detected but the value is under the reporting limit therefore it is uncertain as to what that value actually is.

J. Wheeler asked why both a 0.9 value and a 9.5 value had a J next to it. Was there a different reporting limit?

T. Beckwith replied that the 9.5 sampling result was from 2006 and there may have been an issue with the sampling procedure at that time, such as an excess amount of sediment in the sample or dilutions may have been necessary which could raise detection and reporting limits. In this situation 9.5 is an unusually high reporting limit.

Question from Mary Bresnahan, Community Member – Is the June 2015 sampling event similar to the April 2015 sampling event?

T. Beckwith replied that the June 2015 event was only for MP-5. The April 2015 event was for the annual groundwater sampling.

Question from M. Bresnahan, Community Member – Could the rain that has occurred over the last months make a difference in the results?

T. Beckwith stated that it could make a difference in certain situations. The Groundwater RI report discusses that analysis, including seasonality fluctuations based on when different wells were sampled. Some wells were sampled 12 times at different times of the year. The analysis showed there is not a significant effect; there could be some effect but not significant based on the season of sampling.

Question from M. Bresnahan, Community Member – There is a stunning difference in the numbers from April 2015 compared to the previous maximum detections of perchlorate. In particular if you look at the wells at Kreeger Hall. There has to be an explanation for that.

T. Beckwith explained that the higher detections were from 2006 and 2007.

L. Miller asked if the values had been trending down over time.

T. Beckwith confirmed and explained that PZ-4D had been sampled 15 times and contaminant concentrations have been gradually decreasing over time. Not long after it was first sampled in 2006/2007, significantly lower levels of perchlorate were detected. USACE is not certain as to why the values decreased. Many actions were taken on AU campus within the general timeframe of the late 90s and early 2000s, consisting of soil and container removal from Lot 18, the 4801 Glenbrook Road property, and the 4825 Glenbrook Road property. The removals could have had an appreciable effect on the groundwater. Decreasing concentrations could be due to source removal. Some high detections were one time anomalies.

M. Bresnahan asked which well has the highest elevation of all the well locations.

T. Beckwith replied that was Kreeger Hall.

M. Bresnahan stated that gives her the impression that the Kreeger Hall area was the source.

T. Beckwith explained that USACE did an extensive source investigation of the area surrounding Kreeger Hall. Wells were placed up gradient of Kreeger Hall and no significant amounts of perchlorate were detected in those wells. A soil source was not found in the Kreeger Hall area, however many removals occurred close to that area.

M. Bresnahan asked if USACE found any man made sources that were more recent than 1921.

T. Beckwith replied no. An isotopic analysis was completed showing the perchlorate found at Kreeger Hall came from the Chilean nitrate ores, indicating that it is likely an older more historic perchlorate.

M. Bresnahan stated she thought perchlorate was manmade.

T. Beckwith explained that the perchlorate found at Kreeger Hall was not manmade; the synthetic perchlorate would have had a different isotopic signature. The fact that it came from Chilean nitrate could mean that fertilizer was applied in the past. Additionally, AUES could have used nitrates for various reasons such as explosive production, or nitric acid. The nitrate source for these production processes at AUES could have been the Chilean nitrate ore.

Question from Ginny Durrin, Audience Member – Are you saying that there is a possibility that there was activity at AU in some of the buildings and grounds that was perchlorate related? Doing fertilizer research or explosive research after WWI and they had to bring in nitrates or bat guano as one of the ingredients of what they were doing and this is the remnant of that activity of which you were not a part of?

T. Beckwith replied he is not saying that. The isotopic analysis told USACE that the perchlorate came from the Chilean Nitrate source. USACE is of the opinion that it came from AUES as they were using the ores for various reasons in production of different chemicals. There is no reason for USACE to believe that it was from some other source.

G. Durrin asked if USACE was going to investigate it further.

T. Beckwith stated that USACE conducted an extensive source investigation to determine whether there was a soil source and found nothing. The perchlorate concentrations in groundwater have been decreasing which indicates that there is not a continuing source in the ground now. Continuing to look for a source does not make sense.

Question from Paul Dueffert, Community Member – Does Chilean citrate come from Chile?

T. Beckwith replied that it comes from the Atacama Desert in Chile.

B. 4825 Glenbrook Road

High Probability

High probability operations are continuing under the second tent location. Last week, the excavation of the former backyard porch area was completed. The excavation of the crawl space area is beginning.

The porch area has been removed to the subsurface, including all concrete. The porch was constructed as a concrete box. Dirt and some broken glassware were removed from the within box and the nearby area. However, no intact containers or major items were found in this area.

Prior to the demolition of the wall adjacent to the porch, the crew took several samples of the concrete basement wall, using a grid pattern. This is part of our operations protocol, due to the wall's proximity to contaminants (Lewisite and Mustard) found in nearby soil. All samples were clear of contamination.

The concrete from the demolished wall is then broken down into pieces of rubble no larger than 6"x6"x6", and placed in drums for removal. This is a time consuming process that must be completed underneath the tent.

Soil sample results from soil removed a few weeks ago were received, indicating low levels of Mustard and agent breakdown products. The results are below quantitation limits, and were not

detected by air monitors during excavation. This was consistent with findings in this area during the prior Remedial Investigation.

The previously found magnesium arsenide shrapnel round (found on January 13, 2014) was tested by Edgewood Chemical Biological Center (ECBC) and shipped directly from ECBC for disposal to Port Arthur, Texas on June 5, 2015.

Findings under the second tent to date: 68 roll-offs of soil, 421 drums of soil, nine roll-offs of rubble, and 226 drums of rubble have been removed. Approximately 597 cubic yards of soil has been removed. 52 lbs. of glassware have been encountered, all have cleared headspace. No intact glass containers, three intact 75mm munitions debris (MD) items, one open cavity 75 mm MD item, and two 4.7" projectiles have been found under the second tent. No readings have been seen with respect to the MINICAMS, nothing has been detected in the air.

Schedule

B. Barber stated that she appreciated that the community has allowed USACE to resume summer hours in order to take advantage of the cooler mornings. There are some impacts from the heat, but the project remains on schedule with an anticipated completion of the current high-probability investigations during the winter of 2016/2017. The remaining low probability work will be completed in the spring of 2017, and site restoration will be completed in the summer of 2017.

Discussion

Question from Nan Wells, Audience Member – Where is the debris being held?

B. Barber replied the debris is being stored at the federal property. When enough soil and debris has accumulated, it is shipped to Port Arthur, Texas.

Question from Peter deFur, RAB TAPP Consultant – Has saprolite been reached under the back patio?

B. Barber explained that the teams have removed as far down as they can at this point. The teams will complete a final scrape, after which confirmation sampling will be completed with both a Parsons and USACE geologist.

P. deFur asked how much soil was between the patio and the saprolite.

B. Barber explained the patio was constructed as a concrete box, which was not anticipated. The box was approximately 8 to 10 feet in depth with some additional soil under the footers of the box. Total would be anywhere from 8 to 12 feet in any particular location.

Question from Mary Douglas, Community Member – Following Site Restoration, will there be any limitations placed on the use of the property once it is restored.

B. Barber stated that the remedy for this property was unrestricted release. When it is returned to AU, the property can be used in any capacity. There will not be five-year reviews for this property because of the unrestricted release.

M. Douglas asked if unrestricted release was the highest standard of cleanup.

B. Barber confirmed.

C. Fordham Road Soil Removal

A small soil removal action was completed along Fordham Road. USACE undertook a site-wide program to remove arsenic contaminated soil when the EE/CA was completed in the early 2000s. This property had a single contaminated grid. When it was originally sampled, the property was split in 10'x10' grids instead of the usual 20'x20'.

The contamination went to approximately one foot in depth; therefore, the soil was removed to a depth of one foot. The grid was located along the edge of the property line in the back yard. The soil was hand dug, placed in buckets, and walked out to drums located in the front yard. The drums were then transported to Federal Property. There were two large trees whose roots were exposed during the soil removal. USACE will keep an eye on the trees with the property owner for the next few years to ensure that they were not harmed.

A privacy fence had been located in the removal area. A section of fence was removed prior to excavation and replaced with a new fence due to the age and condition of the original fencing. The grid was replaced with clean soil and was subsequently rained on a few times which proved good for settling the soil. USACE came back to lay additional soil and mulch. Additionally, grass seed was put down along the path to the front yard that the workers created during their activities. USACE will monitor the grass growth.

The work was completed at the end of May.

D. Site-Wide Remedial Investigation (RI) Document

An email was distributed today notifying the public that the RI was finalized and is publically available. A Public Comment Responsiveness Summary is part of the Final RI document where USACE summarized the public comments that were received during the public comment period. This summary is located in Appendix H.

Responsiveness Summary: USACE received comment submissions from **11** individuals, including the RAB Technical Consultant, Dr. Peter deFur. A total of **32** comments were included in these submissions. There were 9 comments related to schedule and timelines going forward. There were 9 comments requesting clarification or additions that people would like to see in the report. There were 11 comments questioning whether USACE had investigated certain issues enough and done enough on certain issues that were described in the Draft Final RI report. Three comments were received requesting points of contact at both USACE and other agencies that they could talk to about the Spring Valley project. Those points of contact were provided.

The Responsiveness Summary also includes a transcription of the May 12 public community meeting that was conducted during the public comment period. The Final RI is available online at <http://www.nab.usace.army.mil/Home/SpringValley/RemedialInvestigation.aspx>, a hard copy and DVD are also located in the Information Repository at the Tenley-Friendship Branch Library.

The Final RI determined that the areas of focus for continued effort are the area that includes 96 properties in the neighborhood, the southern portion of AU campus and a large private property

next to the campus. The blue area, which includes the 96 properties, on Figure 8-1 in the RI is a Munitions and Explosives of Concern (MEC) issue and the yellow area is residual chemical contamination in the soil that needs to be addressed. As determined by the USACE FUDS process, if there are no statements made about the remainder of the site in the Final RI, then USACE cannot spend money on the remainder of the site in the future. USACE added a site-wide Remedial Action Objective (RAO) to address this issue. The RAO acknowledges that despite the extensive efforts USACE takes at the SVFUDS, there is always a chance a munition could be found in the future due to the nature of the site, amount of time that has gone by and activity that has occurred in the area since the Army was there during World War I.

The RAO in the Final RI report states, “On a site-wide basis, reduce the probability of residents, contractor/maintenance workers, and visitors/passers-by from handling MEC encountered during residential or construction/maintenance activities conducted within the SVFUDS.” USACE’s intent is not to address the RAO by taking physical action within the community. No matter what actions USACE takes, this statement will always describe the state of affairs at the end of the actions. USACE has to acknowledge that this is a FUDS and that the Army conducted activities involving munitions. USACE’s intent with the FS is to look at institutional control to address the RAO for the future. USACE will most likely conduct five year reviews, which are required since USACE is acknowledging that they will potentially be leaving materials from the AUES behind. Other institutional controls could include such things as reminding people through mailings that SV is a FUDS and if you see something that is unfamiliar, you should call the appropriate authorities.

Since USACE would like to address the RAO with institutional controls, USACE guidance requires the team to prepare an Institutional Analysis (IA) document to see what types of agencies are at the site, which agencies have authority over the site, and what agencies could help implement the institutional controls. USACE will write the IA on a parallel track with the rest of the CERCLA required documents and will formalize the IA document by the time USACE finalizes the DD. It will not slow the process getting to the DD.

CERCLA Process: USACE has finalized the RI report. USACE has begun writing the Feasibility Study (FS). Then, USACE will prepare a Proposed Plan (PP) and a DD. The Remedial Actions will follow the DD.

The FS uses a set of criteria for potential cleanup alternatives. The last two criteria are regulator acceptance and community acceptance, which are determined in the review and finalization of the FS for regulator acceptance, and during the public comment period and finalization of the PP for community acceptance.

Overall Schedule: The RI report was finalized in June 2015. The FS is projected to be finalized by fall 2015. The Draft FS has been written and reviewed by the SV project team. The document is in a final USACE review with the USACE Environmental Center of Expertise (CX) in Omaha. The document was sent to the CX last week. They have three weeks to review and provide comments to be addressed. USACE anticipates sending the FS to EPA, DDOE, and Dr. deFur by early August for regulatory Partner review. The PP will then be prepared and begin the regulator Partner review during winter 2015/2016, during which time a public comment period will also occur. USACE will prepare and sign the DD in summer of 2016, followed immediately by the Remedial Design/Remedial Action plans. Remedial activities are expected to occur from 2017 to 2020.

During the September and November RAB meetings, USACE plans to discuss the FS and the Groundwater RI in greater detail. Additionally, the Agency for Toxic Substances and Disease Registry (ATSDR) could be close to having a public draft of the 4825 Glenbrook Road public health consultation.

Discussion

Request from L. Miller, Community Member – Could P. deFur give a brief summary of his comments on the RI?

P. deFur stated he only had a few comments since he had been involved in the discussion of developing the RI report and many of his comments had already been incorporated. Earlier comments included how USACE was going to address residual contamination of chemicals at a few sites, which was addressed. One comment was to ensure that there was clear language explaining that when USACE has completed the evaluation and removal of arsenic soil contamination. USACE incorporated language in the RI document stating what will and what will not be considered a follow-on activity, five or ten years down the road. Another comment brought up at the public meeting was about the MEC Hazard Assessment (HA) conducted by USACE and its qualitative results. The MEC HA is a publicly accessible analysis tool on the website. My team ran this tool independently and came up with the same results as USACE. The result was that more inquiry was needed to satisfy the requirement that the FUDS would be below the threshold for criteria hazard.

Question from Tom Smith, Community Member – Is USACE stating that USACE would not spend any money for munitions found in the areas other than the ones designated in the blue or yellow? In other words, in the future if something is found somewhere other than the locations specified in the RI, the Army would still spend money to deal with it?

D. Noble replied that USACE would still spend money if something was found, but the issue is whether USACE would do something proactively with nothing being found in the other areas. USACE feels that they should continue to proactively monitor the entire site and to communicate with those who make up the community within the site. In order to do this, USACE has to identify a site-wide RAO.

T. Smith asked what an institutional control program is.

D. Noble explained an institutional control program is part of what the IA will look at and what the FS will explore. It includes such things as educational mailing and staying in contact with the other institutions identified in the IA about the situation. USACE would want to know if the District of Columbia (DC) police respond to a call about a possible item. It would give USACE the opportunity to proactively approach DC police and gather the details of the response.

Question from M. Bresnahan, Community Member – Back in May, it was discussed that there would be follow-up of the project by USACE over the many years. Are you extending that to all of the FUDS, or is it different for the zone identified in the RI vs. the rest of Spring Valley?

D. Noble explained that for the specifically identified properties there would be physical actions that USACE will take in the next five years to address potential hazards and risks that were identified. In the Draft-Final RI, USACE had not identified the need for any action on a site-wide basis. Now, with this new RAO, USACE would proactively monitor the entire site in the future.

Steve Hirsh stated that the work that will occur in the areas identified in the RI with potential hazards and risk will be above and beyond what is going to occur across the whole site. The reason why USACE needs to mention the rest of the site is because if USACE states everything outside of the areas with potential hazards and risk does not have a residual issue, then USACE will not be able to get any money for any activities for the rest of the site.

Question from N. Wells, Audience Member – What are the responsibilities of the institutions such as AU to monitor items that are found in the area? Will students be informed?

D. Noble explained that part of the IA would be to approach government agencies that have authority over the area and speak with them. Large institutional landowners with a significant amount of acreage at SV and who, as institutions, will be around for a long time will be spoken to as well. USACE will discuss the issues with them and determine if they have an interest in actively participating and assuming some responsibilities for their own property about what they would like to do to institute some of the institutional controls.

N. Wells asked if anything would be directed at the general population.

D. Noble stated no, USACE would speak with the regulatory agencies about how to approach private properties and general public.

N. Wells stated that she meets people from time to time who have no idea what went on at SV, including contractors who maybe working on homes or gardens. Recently someone found something in a garden; it was not an item that belonged to USACE. However, it does say something about an ongoing education program, which would be needed if USACE, in essence, thinks that there may be other items that come up from time to time. Letting people know what the process is in order to report that sort of thing is important. Is there a process?

D. Noble explained that there is a process. The new RAO was included so that USACE can set that process up and commit funds and coordinate it in the future with other institutions that will be identified in the IA.

Question from Allen Hengst, Audience Member – In the response to public comments summary, USACE states that the 1986 photograph analysis will be added to the RI report and that it will be on a standalone DVD at the library, volumes I and II. Do you know approximately when that will be accomplished?

D. Noble stated no, USACE still needs to obtain a good copy of volume II to reproduce it. USACE is currently looking for a good physical copy since currently it only exists in hard copy.

A. Hengst asked once USACE finds the document, how long would it take to get the document to the library?

D. Noble stated that once a good copy is obtained it would take a few weeks to put a copy in the library.

Question from Ginny Durrin, Audience Member – Why didn't you call Terry Slonacker? I thought he was involved in that document.

D. Noble replied that will be part of his search.

G. Durrin thanked USACE for including that 1986 document in the RI report since it is part of SV history. Nowhere does USACE state in the RI what would happen if national standards change for a certain chemical or combination of chemicals and people become aware of that.

How is that addressed in terms of an institution having oversight over their property or keeping their eyes open for how that might affect SV?

D. Noble explained that the SV FUDS will have five-year reviews. During these reviews, data will be rescreened with current national chemical standards if needed. If issues develop, then USACE will address them.

Question from N. Wells, Audience Member – When you say that SV will be looked at every five-years, what does “looked at” mean?

S. Hirsh explained that CERCLA set up a process to complete a five-year review at any site where contamination is left behind above a risk-based level. The project at 4825 Glenbrook Road is an exception because all soil is being removed to bedrock; there will be nothing left, so there will be nothing left to review at that particular property. The rest of the SV area was cleaned up to a risk based level. The five-year review looks at all of the toxicity values and sees if those numbers have changed. If a toxicity value decreased, then data will need to be rescreened and USACE will have to ask if the remedy that was put in place is still protective. If the answer is no, then USACE would need to determine if additional work is required. That process happens every five years as long as contamination remains at the site.

Question from George Vassiliou, Community Member – What about the few properties that USACE did not gain access to? What happens during the five-year review on these properties?

S. Hirsh replied that is something USACE is dealing with and one of the properties on Fordham Road is one of those properties. At some point there is nothing more that USACE can do and USACE would have to start a new project to get something done.

G. Vassiliou asked if USACE could get access to the property if it was transferred.

S. Hirsh stated that USACE could ask, but more than likely the new owner would call EPA or DDOE if there was a problem. One possibility would be to have the new owner sample the property themselves, and EPA/DDOE would help the homeowner figure out who could do the work, and what should they be looking for. For USACE to kick off a new project, it would not be on a timely basis. USACE at some point has to say that the project is done, such as after they made numerous attempts to contact the owners.

D. Noble explained that USACE has a legal argument that if USACE has done their best to inform the owner of the situation and offer to address the situation and the owner refuses, at some point USACE takes their refusal as the final answer.

L. Miller asked if the property changes hands and the new owner asks what to do, and is advised through the city and EPA to hire someone, and subsequently finds contamination. Will USACE be back?

S. Hirsh and D. Noble stated that someone (not necessarily USACE) would be back.

S. Hirsh stated that if someone sampled their property and found high unhealthy levels of contamination, it would get resolved. EPA could perform a removal action with Superfund money, or it could be voluntary compliance program with DDOE. It would be complicated and it would be a mess, but it would get resolved.

Question from T. Smith, Community Member – Could someone buy a property and not know if it had an issue?

P. deFur stated that no property that has not been sampled is going to change ownership without being sampled or without the buyer knowing it had not been sampled.

M. Bresnahan replied that there are disclosures that are required when transferring a property.

T. Smith stated that USACE has an owner who has not allowed access to their property. That person then sells their property. Does the person who is buying the property know that USACE was trying to access the property but was not given permission?

S. Hirsh replied that if the buyer could determine that if they were to comb through the documents. The buyer could also find out from their realtors.

M. Bresnahan stated that realtors for SV are required to do a disclosure of the SV project on every property. The disclosure was created before USACE included the expanded AU properties, so the SV project disclosure is separate from all other disclosures.

T. Smith replied that the disclosure would not tell a buyer if the previous owner had refused to allow USACE on the property. How would a real estate company know which properties didn't allow access?

M. Bresnahan stated that a realtor would know because the property would not have the arsenic letter, and as a real estate agent, they would be sued if they did not provide the letter to a buyer. A real estate agent would not represent an owner that did not provide the letter. What do you do if there is no letter for a property?

Rebecca Yahiel explained that the property probably has a letter stating that USACE sampled the property and USACE wants to remove soil. If a homeowner does not have a letter stating that USACE removed the soil, then the buyer could ask for that letter. That would then start the conversation about what happened on the property.

M. Bresnahan asked about a property that was not sampled at all and there are no letters. Does USACE have a record for those properties?

D. Noble explained that in response to a request for a sampling results letter or a soil removal letter, USACE would check their records. If USACE was never able to access the property for sample sampling, then that request would be responded to in writing.

David Kennedy, Audience Member and NW Current Editor, asked if USACE would want to list the properties and make that public.

D. Noble stated that they are listed in the RI report.

D. Kennedy replied that he had been asked to not put an address in the newspaper.

D. Noble stated now that the RI is a public document; anyone can use any of its information.

N. Wells asked if the RI listed the addresses so that someone can go to the list and easily determine the properties that have not been sampled. This way, all real estate agents would have those addresses.

D. Noble replied that the properties are listed by address in the RI.

M. Bresnahan stated that if there is a question for any reason, real estate agents will tell a buyer to call Rebecca Yahiel or Carrie Johnston and they will receive an answer in writing. There are multiple disclosures that need to be signed for a home within the SVFUDS.

Question from N. Wells, Audience Member – Why doesn't USACE sue these people who won't cooperate and gain access to their property to let USACE determine what is on the property? They are making out like bandits compared to the other property owners

J. Wheeler stated that would be just the opposite, they are shooting themselves in the head.

M. Douglas stated that the logical extension of what they are doing is that if everyone in the community had done this, there would be no clean up at all. There is ample language in CERCLA to sue.

J. Wheeler asked if USACE had the authority to sue property owners.

M. Douglas stated that they can if there is reason to suspect contamination.

S. Hirsh explained that their attorneys stated that based on their assessment of the situation, they will not go down that road. It would be different if you could look on a property and see drums that were leaking or munitions. If there was one property in the middle of other properties that had high levels of arsenic, perhaps that would be a different story.

T. Smith stated that the only reason this is an issue is because USACE is saying that they would not go and remediate that property. If USACE simply stated that they would remediate the property whether we were able to get access under that owner or not, then there is no issue. If the person who is buying the property doesn't know about the potential issue, that buyer is screwed.

M. Bresnahan said no, that buyer would have a big fat lawsuit on their side.

T. Smith asked how these properties get cleaned up?

S. Hirsh stated that in all of these cases, we do not even know that they need to be cleaned up.

D. Noble stated that there are 8 private properties that have not been sampled (NOTE: Correct number is 10 private properties). There is a PEPCO property full of high voltage lines. PEPCO stated they would handle their own soil. The National Park Service also owns a property where they stated they would handle their soil.

Question from P. deFur – Does USACE anticipate holding a public meeting for the Groundwater RI document? Will the Site-Wide DD proceed ahead of the Groundwater DD?

D. Noble stated that there will be two DDs, one for soils and one for groundwater. For the Groundwater RI, USACE will follow the CERCLA guidance and a public meeting will occur for the PP. USACE was not considering a public comment period for the Groundwater RI.

Question from T. Smith, Community Member – Is USACE planning on conducting a public meeting on the FS?

D. Noble replied no, because the Site-Wide PP will sum up the analysis completed during the FS. The PP will show the alternatives and explain in good detail why the recommended alternative was selected by USACE. The RAB will be briefed on the FS before it is finalized.

T. Smith stated that there had been a number of comments on the timeline and for USACE to move up some activities. Based on the schedule presented, is that not an option that USACE is considering?

D. Noble replied that USACE is moving through these steps as efficiently as possible. As a document is approaching finalization, USACE is actively and aggressively beginning to write the

next document. That is why USACE was able to have the FS already deep into USACE review by the time the RI was finalized.

T. Smith stated that we are still looking at more than a year before any remediation of the identified properties.

D. Noble confirmed this.

III. Community Items

No Community Items were presented.

IV. Open Discussion and Agenda Development

A. Upcoming Meeting Topics

- 4825 Glenbrook Road Health Consultation Update (Agency for Toxic Substances and Disease Registry (ATSDR) – tbd
- Introduction to the Groundwater RI
- Site-Wide Feasibility Study

B. Next Meetings:

RAB Meeting: Tuesday September 15, 2015

C. Open Discussion

No items were discussed.

V. Public Comments

D. Noble thanked everyone for attending.

VI. Adjourn

The meeting was adjourned at 8:20 PM.