SPRING VALLEY FORMERLY USED DEFENSE SITE PROJECT
RAB Meeting

March 11, 2014
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.** **Community Items**

Soil Sampling in Spring Valley in Preparation for Water Main Upgrades

7:20 p.m. **III.** **USACE Program Updates**

Groundwater Study
Funding
Glenbrook Road
Table of Contents for the Site-Wide Remedial Investigation Report
Report of Pre-2005 Human Health Risk Assessment Review (ERT)

8:10 p.m. **IV.** **Open Discussion & Future RAB Agenda Development**

Upcoming Meeting Topics:
- (Suggestions?)
- Community Relations Plan Update
- 4825 Glenbrook Road Health Consultation Update (ATSDR)

*Next meeting: May 13, 2014

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

March 11, 2014

"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."

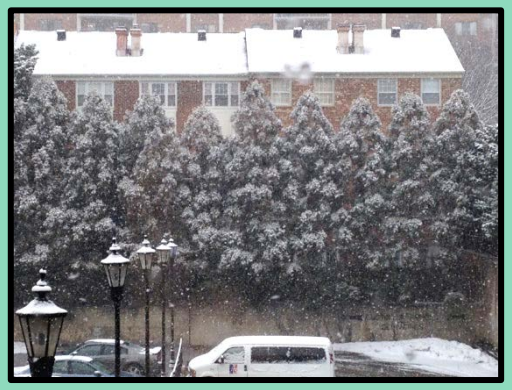
US Army Corps of Engineers

BUILDING STRONG®

Agenda Review

- Co-Chair Updates
  - Introductions, Announcements
- Community Items
- USACE Updates
  - Groundwater
  - Funding
  - Glenbrook Road
  - Table of Contents for the Site-Wide Remedial Investigation Report
  - Report of Pre-2005 Risk Assessment Review (ERT)
- Open Discussion & Agenda Development
- Public Comments

Co-Chair Updates



Introductions

Co-Chair Updates

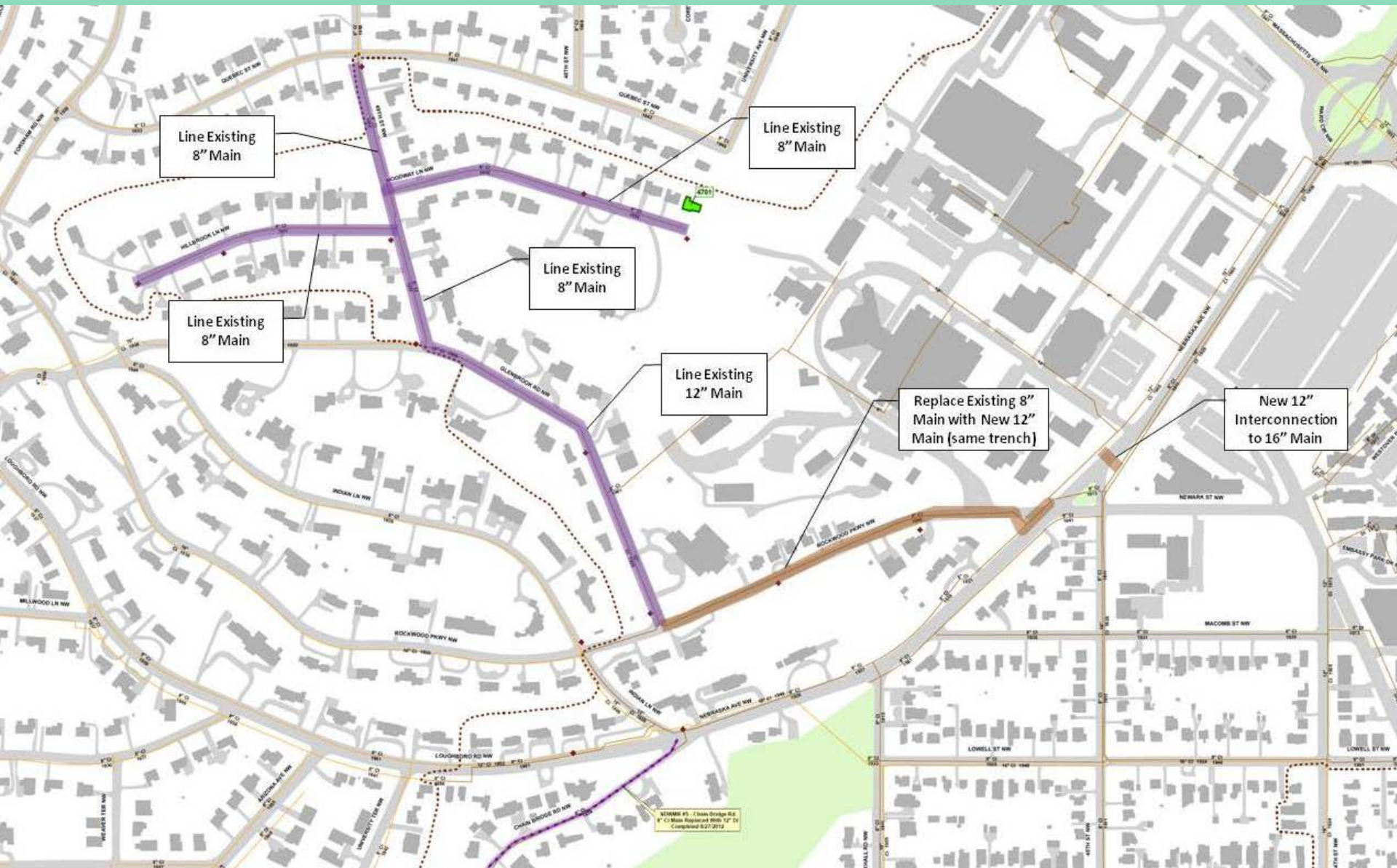
- **Announcements**
  - **Website Updates:**
    - **January & February Monthly Site-Wide Project Update**
    - **Weekly 4825 Glenbrook Rd Project Updates with photos**
    - **December Partnering meeting minutes**
    - **January RAB meeting materials**
    - **CERCLA Factsheet**

Task Group Updates

Community Items:

DC Water Conducts Soil Sampling in Spring Valley in Preparation for Water Main Upgrades

DC Water Prepares for Water Main Upgrades



Soil Sampling in Spring Valley in Preparation for Water Main Upgrades

DC Water conducted soil sampling in the fall of 2013 to test for arsenic levels in Spring Valley as part of a design effort to upgrade the water main system in 2015.

- **Soil samples were collected at 23 locations by drilling through the pavement and collecting two samples at each drill locations (46 total samples) at approximately 2.5 and 5 feet below the pavement surface in accordance with *American Society for Testing and Materials D-1586* specifications. Cored pavement was backfilled with cement and the surface was patched with asphalt.**

Soil Sampling in Spring Valley in Preparation for Water Main Upgrades

- **Microbac Laboratories in Baltimore analyzed the samples for arsenic. None of the samples taken exceeded the Army Corps of Engineers' screening criteria of 20 mg/kg dry soil. Details of the results are as follows:**

Street	Number of Locations Sampled	Arsenic Concentrations
49th Street, between Quebec Street and Glenbrook Road	3	Arsenic was not detected
Glenbrook Road, between 49th Street and Rockwood Parkway	4	Arsenic was not detected
Rockwood Parkway, between Glenbrook Road and Nebraska Avenue	11	Arsenic levels ranged from not detected to 10.0 mg/kg
Nebraska Avenue, north of Rockwood Parkway	2	Arsenic levels ranged from not detected to 11.0 mg/kg
Woodway Lane, between 49th Street and end of street	3	Arsenic was not detected

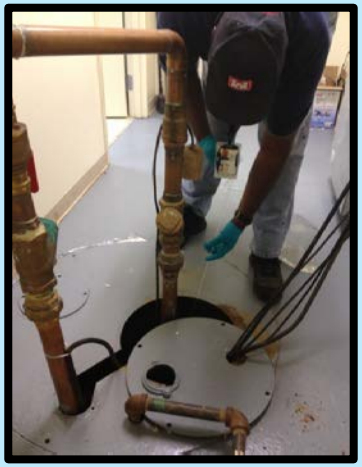
DC Water will be conducting soil sampling on Hillbrook Lane in the upcoming months. For questions, please contact Susan MacNeil at susan.macneil@dcwater.com.

Groundwater

Groundwater

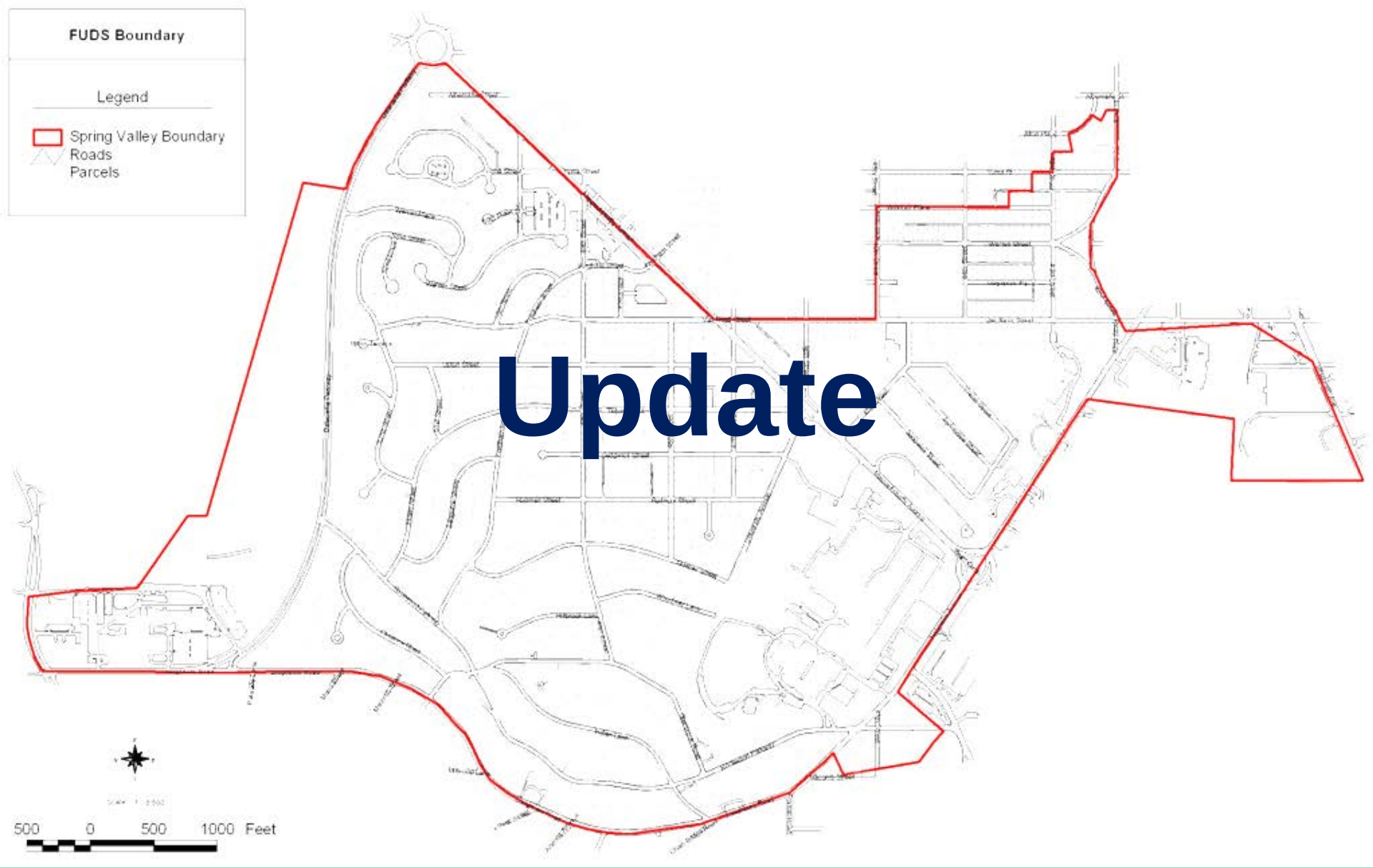
FY 2014 Groundwater Monitoring Effort

- In March, USACE plans to begin its quarterly sampling at two locations: monitoring wells (PZ-4 S&D) on the AU campus, and at the Sibley Hospital sump.



- This Spring, USACE will be conducting inspections on all existing wells and noting any repairs needed.
- USACE also continues to plan for the new deep wells installation and work on getting permit approval.

Funding


FUDS Boundary
Legend
Spring Valley Boundary
Roads
Parcels
Update
500 0 500 1000 Feet

Spring Valley Schedule and Funding Summary

- **FY14 ($14.78M), includes $10.82M Plus-up**
  - **Military Munitions Response Program ($13.88M)**
    - Site-Wide RI/FS Report
    - Conduct Remedial Action at 4825 Glenbrook Road
    - Residential Anomaly Investigation
    - TAPP/RAB Technical Advisor
    - Site Security
  - **Hazardous Toxic Waste ($0.88M)**
    - Site-Wide RI/FS Report
    - Groundwater Investigation
    - Arsenic Soil Removal
    - Landscape Reimbursement
  - **Potentially Responsible Party ($0.02M)**
    - Conduct PRP Investigation

Spring Valley Schedule and Funding Summary

- **FY15 ($3.64M)**
  - **Military Munitions Response Program ($3.16)**
    - Site-Wide RI/FS Report and Proposed Plan
    - Complete Remedial Action at 4825 Glenbrook Road
    - Remedial Action Closeout Report for 4825 Glenbrook Road
    - Munitions Destruction (if necessary)
    - Landscape Reimbursement
    - TAPP/RAB Technical Advisor
    - Site Security
  - **Hazardous Toxic Waste ($0.42M)**
    - Site-Wide RI/FS Report and Proposed Plan
    - Groundwater Investigation
  - **Potentially Responsible Party ($0.06M)**
    - Complete PRP Investigation

4825 Glenbrook Road

4825 Glenbrook Road

High Probability Operations

The crews continued hand excavating the area under the former front porch of the home down to saprolite. Additionally, they demolished about a 10-foot section of the porch footer wall.

4825 Glenbrook Road

Video of High Probability Excavation


02/06/2014 11:18


02/25/2014 16:19

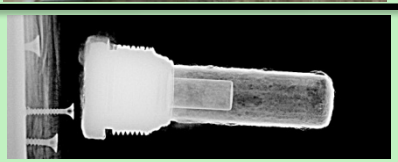

PC35MR
KOMATSU

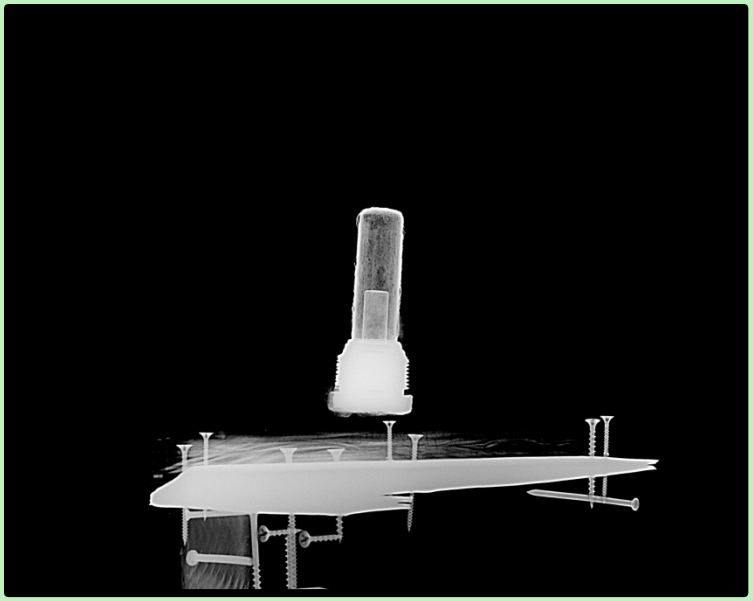

03/05/2014 16:3

Excavation down to competent saprolite.

4825 Glenbrook Road

High Probability Operations - Findings to Date

Item (Date found)	Picture	Location	Characterization	Head Spaced	Air monitoring / chemical detections	Final
75mm munitions debris item (Nov. 18, 2013)		Under former front porch	Empty debris item	YES, Cleared	NO	At Fed Property for disposal as waste
75mm munitions debris item (Dec. 16, 2013)		Under former front porch	Empty debris item	YES, Cleared	NO	At Fed Property for disposal as waste
75mm munitions debris item (Jan. 10, 2014)		Under former front porch	Empty debris item	YES, Cleared	NO	At Fed Property for disposal as waste
MK IV Adapter/ Booster (Jan. 13, 2014)		Under former front porch	MPPEH	YES	NO	At Fed Property for future destruction
75mm shrapnel round (Jan. 13, 2014)		Under former front porch	75 mm Shrapnel round, no energetic; riot control agent; local disposition	YES, Cleared	NO	At Fed Property for disposal as waste
Intact Closed Container (Jan 17, 2014)		Under former front porch	Lewisite – neat material of an unknown purity	NO	NO	Disposal by Edgewood Chemical Transfer Facility



In the morning of January 13, crews recovered a MK/IV Adapter/Booster with potential explosive hazard. However, the item will not detonate without a fuze.

Later in the afternoon on January 13, crews discovered an empty 75mm shrapnel round, which was determined not to be explosively configured.

On January 17, crews recovered an intact closed glass container, containing a small amount of neat (pure) lewisite. As per procedure, soils samples were pulled from the soils near this discovery. Three soil samples taken from the area near the location where the intact container was discovered did test positive for lewisite. To date, these are the only soil samples that have tested positive for chemical agent or industrial compounds.

4825 Glenbrook Road

High Probability Operations

160 pounds of broken glassware and a small amount of AUES scrap metal debris have been removed to date.

All the glassware tested negative for chemical agent and there have been no air monitoring detections of chemicals during our work.

4825 Glenbrook Road

High Probability Operations

The crews loaded excavated soil, where they were encountering debris, into drums and collected composite samples.

Site crews continue to load soil and debris per the procedures. All items and soils are tested prior to disposal. To date, 42 roll-offs of soil, 126 drums of soil, and 10 roll-offs of rubble have been removed.

4825 Glenbrook Road

High Probability Operations

In late February, the crews performed required maintenance on key systems and safety equipment.

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 March 2015** (an 18 week extension)

High Probability Excavation

April 2015 through May 2015

Final Low Probability Excavation

June 2015 through July 2015

Site Restoration

USACE Updates

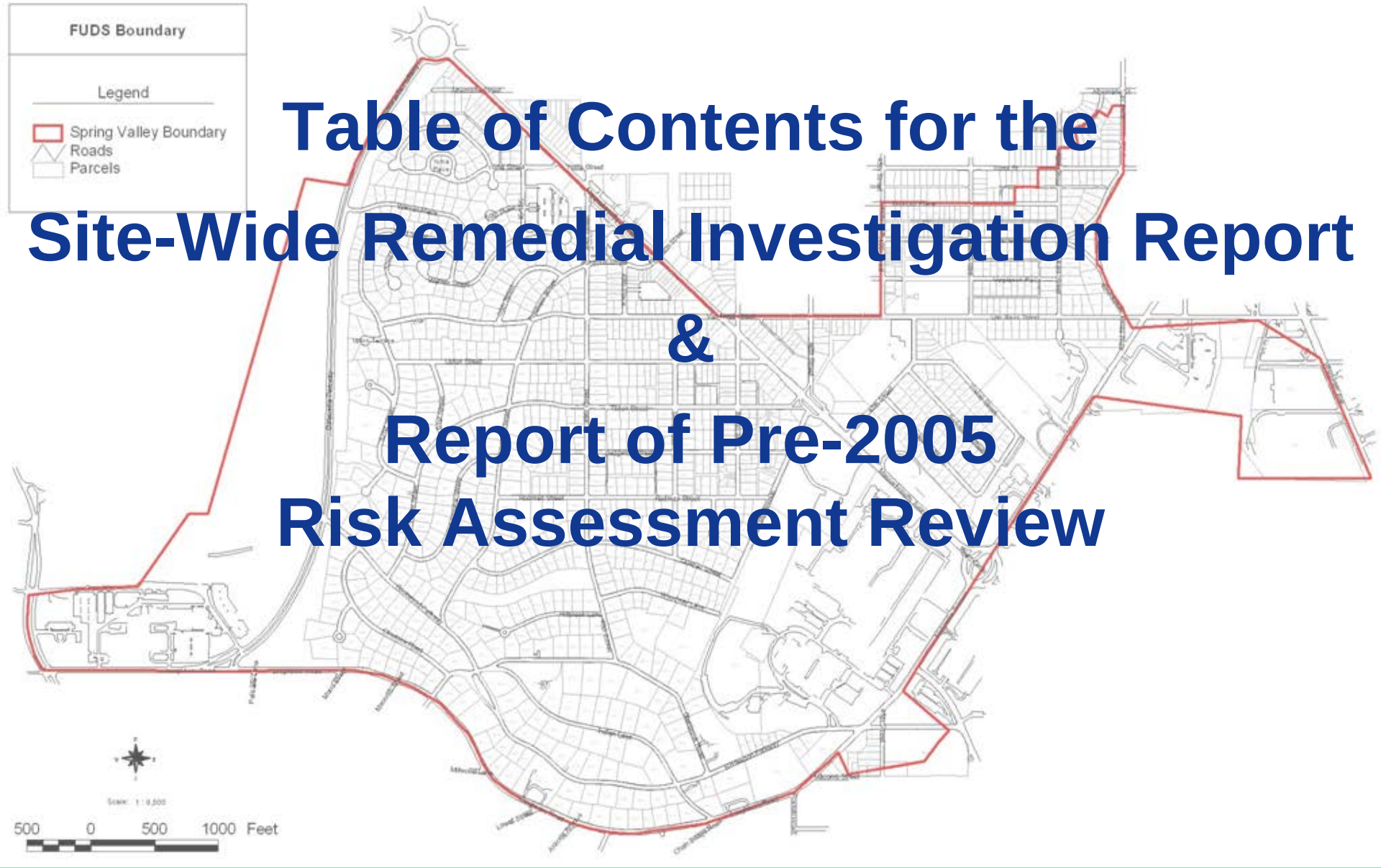


Table of Contents for the Site-Wide Remedial Investigation Report & Report of Pre-2005 Risk Assessment Review

Spring Valley FUDS
Site-Wide RI Table of Contents

The Remedial Investigation (RI) document is organized to assist stakeholders reviewing it for thoroughness.

Two primary guidance documents were considered in preparing the Table of Contents:

The Army MMRP (Military Munitions Response Program) RI/FS Guidance **and the**

EPA Guidance for Conducting RI/FS.

[Please See Handout]

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **Much investigation and sampling and several discrete Human Health Risk Assessments (HHRAs) of individual areas has been performed at the SVFUDS over the course of many years of ongoing project activity.**

- **In preparation for the upcoming Site-Wide RI report, in 2010, stakeholders met to develop a strategy to evaluate the need for additional data, and integrate the existing information into a path forward for addressing the remaining data requirements.**

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **The USACE path forward was presented in the *Evaluation of Remaining Sampling Requirements (presented to the RAB in June 2012)*. It focused primarily on:**

  - **Review of the previous (pre-2005) HHRAs completed to assess whether they remain protective.**

  - **Details of proposed supplemental sampling of areas determined to require additional data.**

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **The first objective was to evaluate older (pre-2005) HHRAs to determine whether their conclusions would still be protective when considering updated USEPA guidance with respect to exposure assumptions, toxicological values, and comparison standards.**

- **Five HHRAs were the subject of this review:**

1. **USACE's OSR FUDS HHRA (1995 RI)**
2. **USACE's HHRA for Spaulding and Captain Rankin Areas (RI Report, 1996)**
3. **USEPA Region III's HHRA (1999)**
4. **USEPA Region III's American University HHRA (2000)**
5. **USACE's HHRA for the 4801 Glenbrook Road property (2000)**

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **The second objective was supplemental sampling based on the Area of Interest Task Force (AOITF) report recommendations. The AOITF looked at potential areas of interest not previously addressed, or possible data gaps, and made recommendations to the Partners whether any additional investigation was necessary.**
- **That supplemental sampling was completed in 2011-2012. This information has been previously briefed.**

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- The HHRA review assessed the procedures and conclusions of the pre-2005 HHRAs to determine whether the chemicals of potential concern (COPCs) identified, the exposure pathways considered, and the toxicity evaluations would still be appropriate when considering updated USEPA guidance and site-specific background concentrations. It also identified remaining areas that require additional risk screening and risk assessment.

- In addition, a re-screening of all soil data, whether previously identified as a COPC or not, was done using updated risk-based screening levels and background data, to ensure that any potential risks associated with soils still in place at the SVFUDS were evaluated.

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **The updated screening process conducted in this HHRA review consisted of an *initial* screen for all detected chemicals in soil to determine provisional COPCs, and an *additional* screen incorporating other factors to identify COPCs that still remain in soil at the SVFUDS.**

- **This screening was conducted based on the original areas of investigation previously defined in the individual HHRAs, primarily on the POI level.**

- **The *initial* screen compared the maximum detection against current risk-based screening levels and background concentrations. But the use of the maximum detected value is a very conservative approach that is not a realistic representation of the distribution of actual contamination at a site, and therefore, the additional screen that incorporated other factors to make the evaluation more realistic and representative of current site conditions, was also performed.**

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **The *additional* screening factors used to further evaluate the provisional COPCs remaining following the initial screen comprised four steps:**

  - **Risk Ratio -** USEPA's statistical software ProUCL was used to calculate the exposure point concentration (EPC) of each provisional COPC remaining after the initial screen. The risk ratio is the EPC divided by the most current RSL: If less than or equal to one, COPC dropped out; if not, it remained and the next step was applied.

  - **Background Comparison -** A two-sample hypothesis test comparing site concentrations to background concentrations was completed using ProUCL: If less than or equal to background, COPC dropped out; if not, it remained and the next step was applied.

(continues on next slide…)

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **Re-Analyze Data after Removing Samples that Represent Excavated Soil –** Where significant soil excavation had occurred, we determined whether the soil that contained the sample results was still present (whether the COPCs still remained). If any of the COPCs were based on soil that had already been dug, those sample results were removed from the data set, and the steps were re-run to determine whether COPCs were still present.

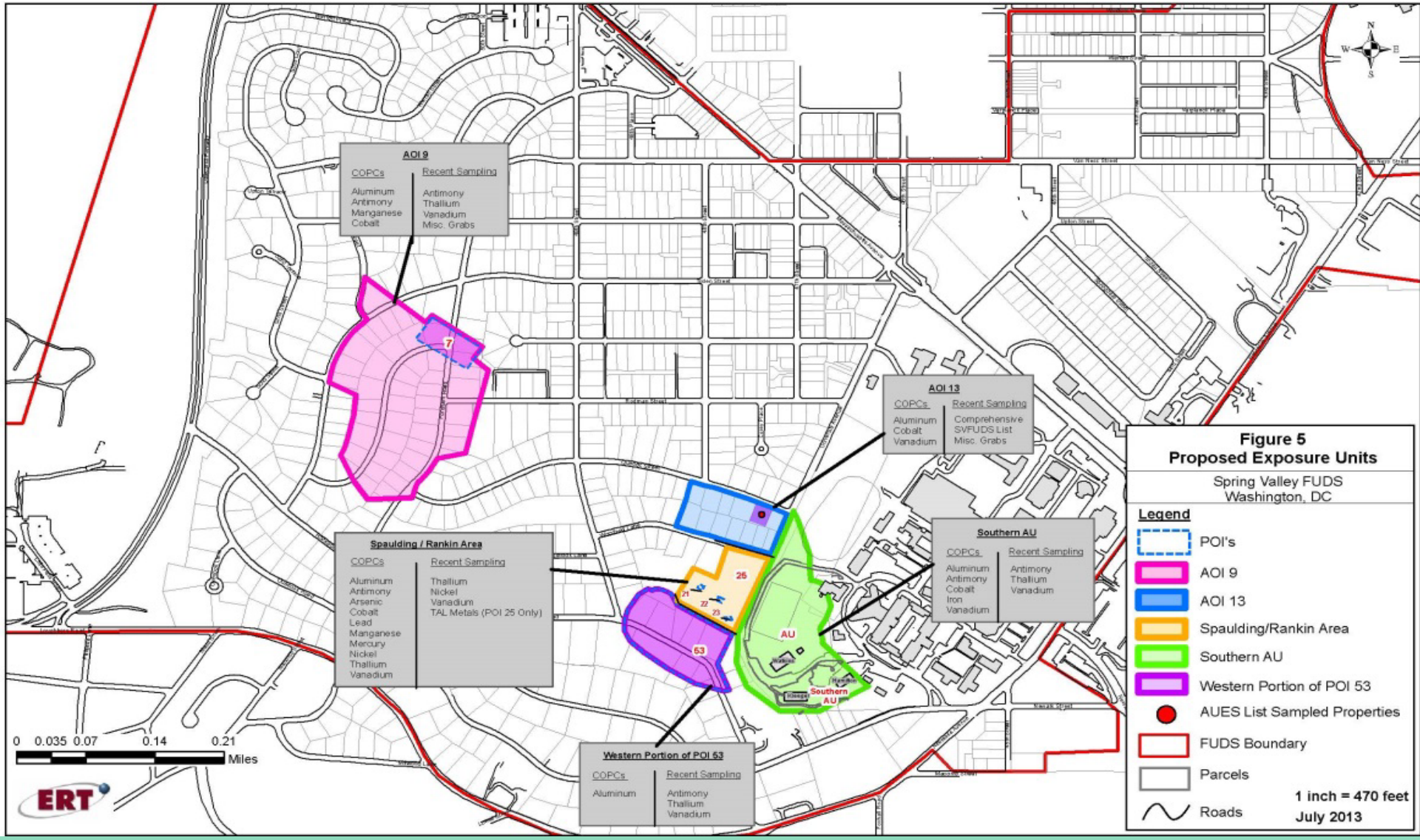
- **Re-Analyze Data with Clean Backfill Data Added -** Clean soil was used to backfill the excavations, so we determined whether COPCs still remained in the combined clean backfill and the remaining in-place soil. The data results from the clean backfill were added to the in-place unexcavated soil data and the first two steps were re-run to determine whether COPCs were still present.

- **The result of all that screening was that for some of the five previously conducted HHRAs and the AUES List sampling, COPCs still remained.**

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- The HHRA review recommendations to address the remaining COPCs focused on identifying exposure units (EUs), integrating the older pre-2005 HHRA samples with the more recent supplemental samples, and re-screening the EU based on a single data set (old plus newer).
- The POIs or areas of investigation with remaining COPCs were grouped into these EUs based on similar past practices, similar receptor and exposure pathways, and geography, so that an area could be assessed based on all data, without regard as to when the data were collected. See Figure 5.
- The re-screening approach for the combined older and newer sample results into a single data set for each of the EUs was performed in an addendum to the Pre-2005 HHRA Review report.

Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

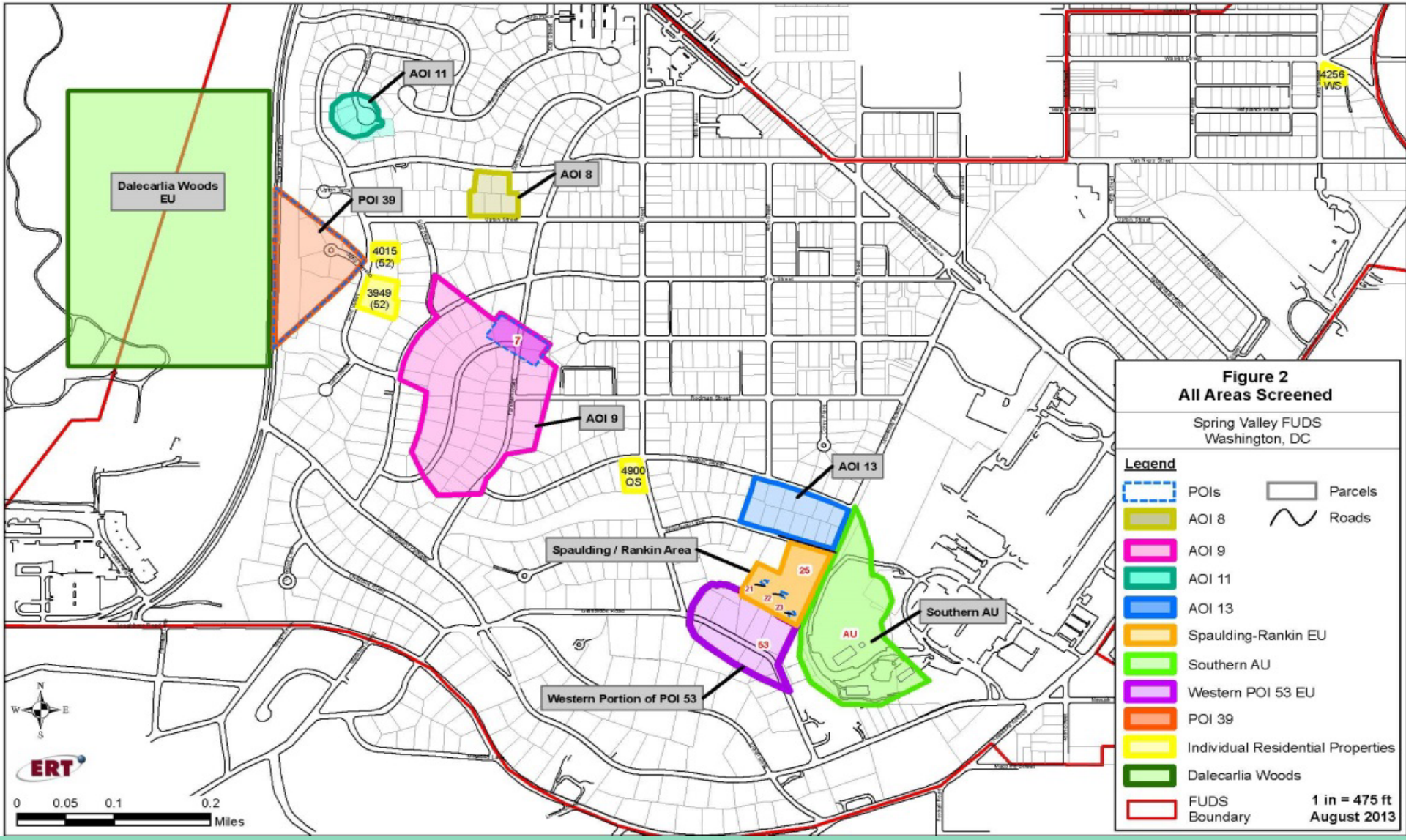


Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **The *Final Addendum to the Pre-2005 HHRA Review* report (Dec. 2013) used the same screening procedure to conduct the follow-on screening on the EUs with the combined data sets to identify remaining areas that require additional human health risk assessment (this screening was completed for all chemicals in the data set, not just the COPCs determined to be remaining in the Pre-2005 Review).**

- **Three sets of sample data were combined for this follow-on screen.**
  - **The first data set comprised all of the samples used in the pre-2005 HHRAs.**
  - **The second data set comprised samples from miscellaneous sampling efforts collected for various reasons, that had not been captured in any prior risk assessments.**
  - **The third data set comprised the supplemental samples collected in 2011/2012.**
  - **See Figure 2.**

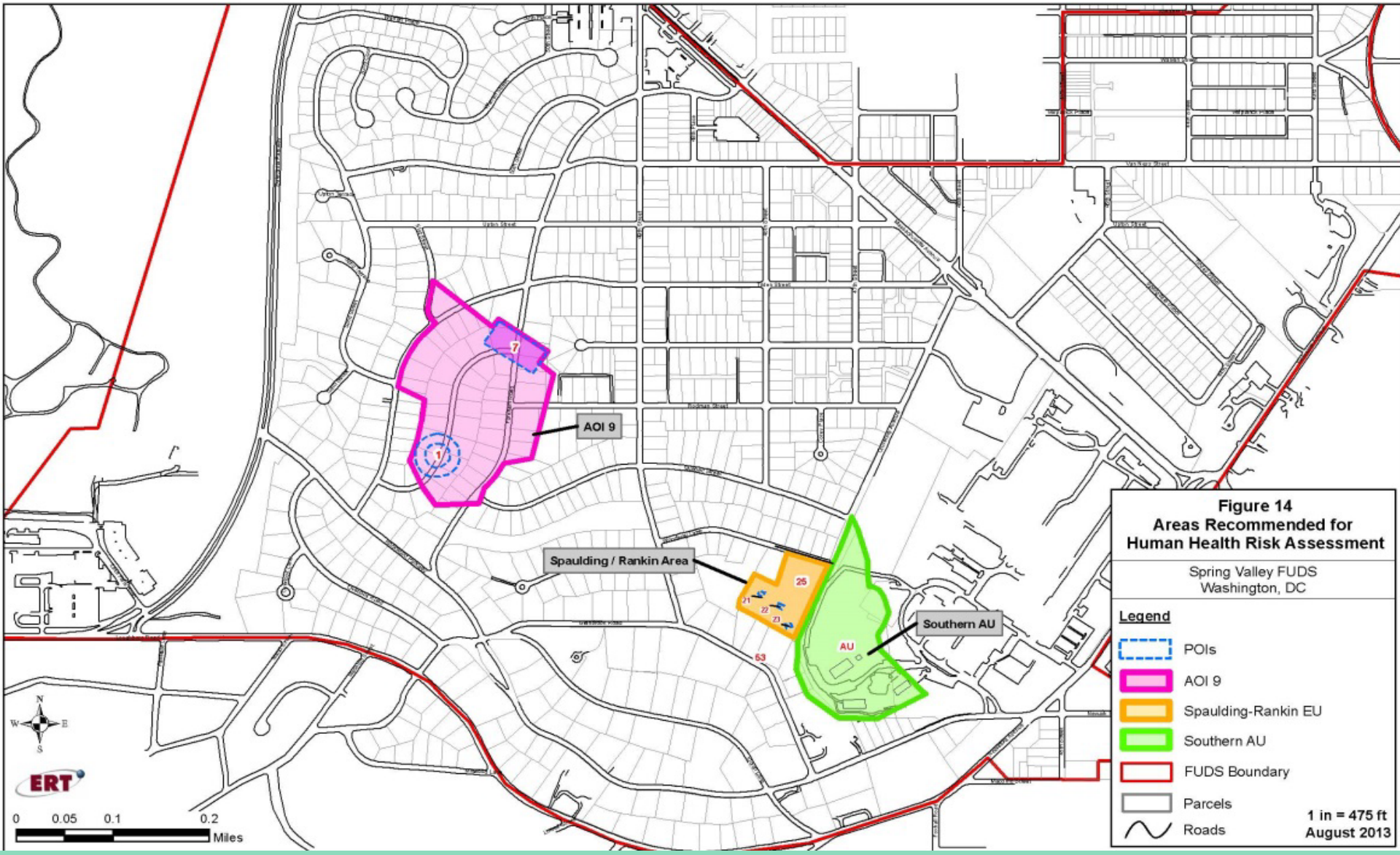
Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review



Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **Findings - COPCs still remained for some of the EUs following the initial and additional re-screening steps.**
- **To further evaluate whether the COPCs for a given EU would be associated with potential human health risks if carried through a quantitative HHRA, non-cancer hazard quotient (HQ) values were calculated and incremental cancer risks were estimated for the remaining COPCs, assuming standard residential receptor scenarios.**
- **Using the USEPA acceptable risk ranges of less than or equal to 1 HQ for non-carcinogens, and greater than 1 in 10,000 cancer risk range, the COPCs and EUs were further evaluated and it was concluded that three EUs warranted a full quantitative HHRA (see Figure 14):**
  - **The AOI 9 EU**
  - **The Spaulding-Rankin EU**
  - **The Southern American University EU**

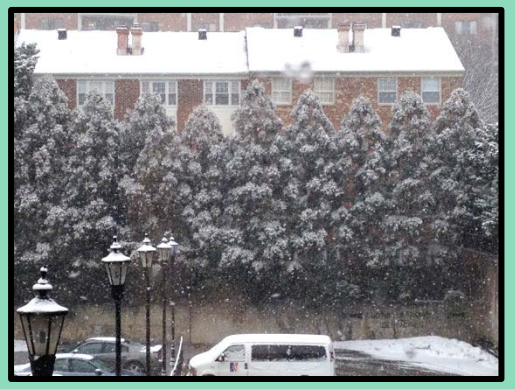
Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review



Spring Valley FUDS
Report of Pre-2005 Risk Assessment Review

- **The Risk Assessment Work Plan, describing the process for conducting HHRAs for these three EUs, was finalized February 10, 2014.**
- **The actual HHRAs for these EUs will be presented in the Site-Wide Remedial Investigation (RI).**

Spring Valley FUDS
Restoration Advisory Board



REMINDER:

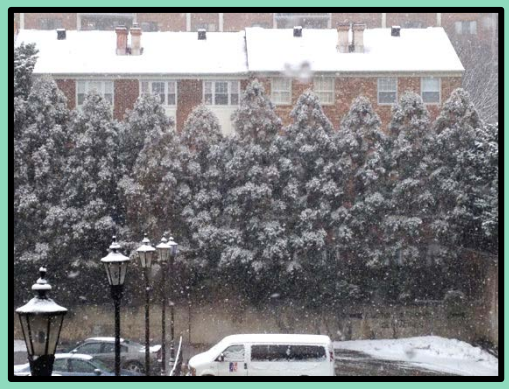
The next RAB meeting is on **May 13**.

Upcoming Agenda Items

- Suggestions?

- Community Relations Plan Update
- 4825 Glenbrook Road Health Consultation Update (ATSDR)- TBD

Spring Valley FUDS
Restoration Advisory Board



- Public Comments

- Wrap-Up

U.S. Army Corps of Engineers
Spring Valley Joint Restoration Advisory Board Meeting
St. David's Episcopal Church
Minutes of the March 11, 2014 RAB Meeting

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

Cliff Opdyke	USACE, Risk Assessor
Tom Bachovchin	ERT, Spring Valley Project Manager
Rebecca Yahiel	Spring Valley Community Outreach Program
Jessica Bruland	ERT
HANDOUTS FROM THE MEETING	
I. Final Agenda for the March 11, 2014 RAB Meeting II. Army Corps of Engineers Presentation III. ERT Outline of the Site-Wide RI Report Table of Contents	

AGENDA

Starting Time: The March 11, 2014 RAB meeting began at 7:12 PM.

I. Administrative Items

A. Co-Chair Updates

John Wheeler, RAB Member, temporarily represented Greg Beumel, Community Co-Chair, and opened the meeting. He turned the meeting over to Dan Noble.

Dan Noble, Spring Valley Project Manager and Military Co-Chair, welcomed the group.

D. Noble reviewed the evening's agenda. He noted that the planned agenda topics will be switched so that the single Community Item will be presented before the USACE Program Updates.

B. Introduce Guests

Thomas Bachovchin, ERT Project Manager (the USACE Baltimore contractor who is writing the site-wide RI report), attended the meeting to present information on two topics associated with the site-wide RI report. These include the document's draft table of contents, and the separate Report of Pre-2005 Human Health Risk Assessment (HHRA) Review.

Cliff Opdyke, USACE Risk Assessor, attended the meeting to assist with answering questions focused on risk assessment.

C. General Announcements

D. Noble shared with the RAB the recent news of former RAB member Dr. Geza Telecki passing away. Although Dr. Telecki participated in the RAB before D. Noble's involvement with the project, his predecessors Ed Hughes and Gary Shilling of USACE remembered Dr. Telecki very well. He was an interesting individual and an internationally-renowned primate researcher. D. Noble acknowledged Dr. Telecki's service to the RAB and added that he is certainly saddened to receive this news.

D. Noble announced that recent website updates include the December 2013 Partnering minutes and the January 2013 RAB minutes. Additionally, recent website updates include the monthly site-wide project updates (for January and February 2014), along with the weekly remediation progress updates for the 4825 Glenbrook Road site, and associated photographs as appropriate. These weekly updates are posted on the Spring Valley project website every Friday afternoon.

D. Noble mentioned that a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) fact sheet was also posted on the Spring Valley project website. This fact sheet is designed to serve as a helpful resource for understanding the CERCLA process, and specifically for understanding where the Site-Wide Remedial Investigation (RI) report fits into this process.

D. Task Group Updates

No task group updates were presented.

II. Community Items

D. Noble, Spring Valley Project Manager and Military Co-Chair, provided a status update on recent DC Water preparations for upgrading the water main system along selected DC streets. Some existing water main sections will be re-lined, while other sections (specifically along Rockwood Parkway) will be removed and replaced (in the same trench) with a new larger water main. Some of these streets are situated within the Spring Valley Formerly Used Defense Site (FUDS), and these upgrades will be completed in 2015.

This project is of interest to the Spring Valley Project because, to date, USACE has not conducted any arsenic sampling beneath the streets. As part of the upgrade design, DC Water decided to collect arsenic soil samples underneath the Spring Valley streets where they plan to excavate soil.

During fall 2013, DC Water collected samples at 23 locations, which were distributed widely along the streets identified for excavation. At each location, two samples were collected at depths of approximately 2.5 feet and 5 feet below the pavement, resulting in a total of 46 samples. The sampling depths were selected in accordance with specifications described in the American Society for Testing and Materials D-1586 publication. The sampling methodology included drilling through the pavement, collecting the samples, backfilling the cored pavement with cement, and patching the pavement surface with asphalt.

DC Water recently received the summary of laboratory analytical results, and shared this summary with USACE. All 46 samples were analyzed for arsenic by Microbac Laboratories in Baltimore. **None of the samples exceeded the USACE screening criteria of 20 mg/kg (20 ppm) arsenic in dry soil.**

- Arsenic was not detected in a total of 10 samples. Of these samples, three were collected along 49th Street (between Quebec Street and Glenbrook Road); four were collected along Glenbrook Road (between 49th Street and Rockwood Parkway); and three were collected along Woodway Lane (between 49th Street and the end of Woodway Lane).
- Arsenic was detected in the remaining 13 samples, at levels well below the 20 ppm criteria for soil removal. Details are provided below.
    - Eleven samples were collected along Rockwood Parkway (between Glenbrook Road and Nebraska Avenue). Arsenic levels ranged from non-detect to 10 ppm.
    - Two samples were collected along Nebraska Avenue (north of Rockwood Parkway). Arsenic levels ranged from non-detect to 11 ppm.

D. Noble emphasized that these sampling results are good news for the Spring Valley project. DC Water agreed to write a summary of their sampling effort and results, to be published in the next issue of the Corps'pondent.

DC Water plans to collect soil samples underneath the street at Hillbrook Lane during the upcoming months in 2014. These additional results may become available later this year, and will be shared with the RAB if and when DC Water shares the results with USACE.

Any questions may be directed to Susan MacNeil, DC Water Project Manager, at susan.macneil@dcwater.com, who offered to respond to community inquiries.

III. USACE Updates

D. Noble, Spring Valley Project Manager and Military Co-Chair, provided a status update on the groundwater investigation, focused on upcoming planned deep monitoring well installations, and an update on the current status of Spring Valley project funding.

B. Barber, Spring Valley Project Manager, provided a brief status update on the current high-probability schedule and progress to date for 4825 Glenbrook Road.

T. Bachovchin, ERT, provided a status update on the Table of Contents for the Site-Wide Remedial Investigation Report and a status update on the Report of Pre-2005 Human Health Risk Assessment Review.

A. Groundwater Investigation

[Previous groundwater study efforts were described at the November 2010 RAB meeting as well as various earlier RAB meetings. Additional planned groundwater study efforts were described at the May 2011 RAB meeting as well as various subsequent RAB meetings. Recently completed and upcoming groundwater study efforts were summarized at the January 2012 through January 2014 RAB meetings.]

Upcoming Semi-annual Sampling: The third semi-annual sampling event is tentatively scheduled for June 2014, and will generally consist of the same set of selected existing groundwater monitoring wells and surface water monitoring locations described previously.

Upcoming Quarterly Sampling: Selected wells will continue to be monitored quarterly. Sampling will be conducted during upcoming intervals (tentatively scheduled for March 2014 and September 2014) and during upcoming semi-annual sampling efforts (discussed above).

The next quarterly sampling event is planned for March 2014. The goals include obtaining additional data on groundwater chemistry from PZ-4S/D (adjacent to Kreeger Hall) at AU's campus and the Sibley Hospital Sump.

Upcoming Monitoring Well Inspections: USACE plans to conduct inspections for all existing monitoring wells during spring 2014. Some of these wells have been present for several years and are showing signs of age-related wear. An inventory of all wells will be completed, and all necessary repairs will be noted. Following preparation of the statement of work (SOW), all repairs will be completed by a contractor. The goal is to ensure all existing monitoring wells remain serviceable for many years to come.

Upcoming Deep Well Installations: Two additional deep monitoring wells (MP-5 and MW-46S/46D) are planned for installation in two locations, followed by sampling. The contract for conducting this work was finalized in fall 2013. The goals include obtaining further data on deep groundwater chemistry and flow characteristics. (Details were provided at the November 2013 RAB meeting.)

Planning is underway for both deep well installations, and the necessary permit approval is pending.

Both deep well installations are tentatively scheduled for spring 2014. Once these installations are completed, the Groundwater Partners (USACE, EPA, and DDOE) will meet to discuss the sampling results from the new deep wells and to follow up on their review of the 2013 semi-annual and quarterly sampling results. Sampling of the new deep wells is tentatively planned for spring 2014.

Current Groundwater Use: As stated at many previous RAB meetings, Spring Valley groundwater is not used for drinking water purposes.

Comment from Nan Wells, ANC3D Commissioner – The Advisory Neighborhood Commission (ANC) reached a resolution associated with the new deep groundwater monitoring wells, and we have handouts. When would it be appropriate to introduce this information to the RAB?

D. Noble replied that a brief update would be fine and can be shared at this time.

Comment from Nan Wells, ANC3D Commissioner – Some residents are quite concerned that a small park within the Spring Valley neighborhood will be damaged by the planned groundwater monitoring well installation. This park is situated between the split lanes of Rockwood Parkway, where the street approaches and then joins with Glenbrook Road. [Additional details of this issue were shared below.]

N. Wells explained that community concerns were discussed during a recent neighborhood meeting at the park, which included Jim Sweeney (District Department of the Environment), Todd Beckwith (Spring Valley Project Manager), and nearby residents. Discussions focused on the specific work that will be involved, as well as the potential for damaging the park's landscaping. This park has been restored by local residents, and their efforts have included rebuilding the surrounding curbs and redoing the landscaping. These residents are concerned that the well drilling and installation equipment will damage the landscaping.

N. Wells emphasized that USACE has not committed to repairing the damage that may occur to the park. Although she is aware of landscape restorations completed on non-public lands, there seems to be less commitment to restoring the public park which is used by many residents.

N. Wells noted that several park neighbors informed various ANC members of their concerns. The park's vicinity happens to fall within her ANC district. During the most recent ANC meeting on March 5, 2014, the ANC members passed a resolution [provided as a handout to the RAB members]. This resolution states that the ANC will collaborate with DC officials and federal officials to determine if all parties can reach a reasonable consensus on the best deep well installation location, to satisfy the needs of the Spring Valley project and the neighbors who invested a great deal of time and effort in restoring and enhancing the park.

Question from Alma Gates, At Large Representative for Horace Mann Elementary School – Nan, is the proposed monitoring well location in the park itself? Or is the location adjacent to the park, where the drilling rig will disturb the park's landscaping?

N. Wells replied that the drilling rig and the monitoring well will both be situated within the park itself, at the far grassy end. Some community discussions focused on finding a location closer to Glenbrook Road which would have involved fewer disturbances.

Question from A. Gates, At Large Representative for Horace Mann Elementary School – Is there no way the well can be installed in the street?

N. Wells explained that although this question has been asked, the response was interesting. During the last Partnering meeting, they discussed another well location that could be used to provide the same information on groundwater chemistry.

N. Wells added that another aspect of concern to the neighboring residents is that during a recent meeting, someone indicated that the new deep well (MP-5) is not a necessary well. The purpose of this well is to provide additional information, but not critical information.

Question from Kathleen Connell, RAB Member – Can you provide me with a sense of when this issue was discussed with your agency? I imagine this issue was discussed within USACE.

D. Noble confirmed that Todd Beckwith, Spring Valley Project Manager, met with most of the parties involved.

N. Wells added that a field visit was held at the park, during which participants were able to walk around and see the proposed well location.

Question from K. Connell, RAB Member – At the time of the site visit, did the U.S. Army know about the community's concerns regarding monitoring well installation at the site?

D. Noble explained that USACE has known about these community concerns for a while now. Through community outreach efforts, the USACE became acquainted with the primary community member who maintains the park.

N. Wells added that many of the residents represented by Tom Smith, ANC3D Commissioner and RAB Member, also use this park.

Question from K. Connell, RAB Member – Nan, have you had the opportunity to speak to Todd about the alternative well installation locations?

N. Wells replied that she has not discussed this topic in detail with Todd. She first heard about the alternative location at the late February 2014 Partnering meeting.

Question from K. Connell, RAB Member – What would be the hesitation on USACE's part, with respect to using the alternative well location?

D. Noble explained that there is a localized area in which USACE would like to install the deep monitoring well. Although there are several possible well locations in this area, the final well location will be somewhat constrained by logistics. In order to install the well on a private residential property, permission must be granted by the homeowner.

D. Noble further explained that other challenges must be overcome if the well is installed in the street. MP-5 is a multi-port deep well, and it will take at least a full day to collect the desired groundwater data from all sampling depths during each sampling event. Compared to typical screened wells, multi-port well maintenance issues would occur more frequently because the well and the surrounding street would receive significantly more stress from traffic. Multi-port wells are expensive to install, compared with simpler, shallower wells, and this expensive design would ideally not be installed in a street.

Question from K. Connell, RAB Member – Is the alternative site situated in a road or on a property?

D. Noble explained that there are three general types of potential alternative sites. These include the park, the nearby roads, and the nearby private properties, all within the localized area mentioned earlier. Upcoming discussions between Todd Beckwith (Spring Valley Project Manager), Jim Sweeney (District Department of the Environment), and Steve Hirsh (U.S. Environmental Protection Agency Region III) will focus on the monitoring well installation objectives and the specific optimal locations for collecting the desired groundwater data.

D. Noble mentioned that some possible well locations in this localized area were suggested by the community. One location (on the far side of the nearby stream) appears to be suitable but does not satisfy the monitoring well objectives, as the well would need to be on the opposite side of the stream. A couple of locations were eliminated after USACE spoke with the property owners, who were less than enthusiastic about the monitoring well installation process occurring on their properties. Similar challenges were experienced at 52nd Court, where the monitoring well location selection process took years because none of the property owners wanted a well on their property.

N. Wells mentioned that based on the recent Partnering meeting discussion, it is her understanding that a homeowner was willing to accept the well installation on their property.

Question from Paul Dueffert, RAB Member – Will the landscape damage be permanent or temporary? I don't see any written descriptions of physical harm to the landscaping.

N. Wells clarified that she is a biologist, not a botanist, and she responded that the drilling vehicle would break the roots of nearby large trees.

Question from P. Dueffert, RAB Member – [Addressing USACE] Does this damage sound right to you?

D. Noble replied that the planned park location would not impact nearby trees, but this grassy portion of the park is a sensitive area for the residents who use it. Alternative locations in the park were considered, but drilling and installing a well in those locations would damage adjacent trees. A clear overhead area must be created for the drilling rig and tower, and this would result in damaged tree roots or potentially tree removal.

Comment from N. Wells, ANC3D Commissioner – Apparently, the last time modifications were made to the park's landscaping (before the residents built the protective curb), the grass took three to five years to reach full growth. The neighbors do not have a convenient source of water for maintaining the grassy area, and we recently discussed the possibility of installing a water line to assist with the maintenance and restoration effort. The community is trying to reach out to USACE to determine if there is a way to resolve this issue.

Question from J. Wheeler, RAB Member – Who owns the park?

D. Noble replied that the park is public property.

Dr. Peter deFur, RAB TAPP Consultant, added that DC owns the park.

Comment from N. Wells, ANC3D Commissioner – Residents said they would picket and demonstrate if USACE attempts to install the well in the park.

Comment from P. Dueffert, RAB Member – Residents are also willing to picket when they feel that USACE has not adequately tested for perchlorate in Spring Valley groundwater. This situation is frustrating for both sides of the groundwater monitoring topic.

N. Wells replied that this particular well location is frustrating because this well is considered to be less than critical.

P. Dueffert shared his impression that every monitoring well is critical. He added that he loves the park as well, but with due respect to the park's neighbors, we have to ensure that the neighborhood (in this case, the groundwater) is safe.

Question from A. Gates, At Large Representative for Horace Mann Elementary School – Is the location of this well being driven by Diane at DDOE?

DDOE explained that this is not the case. There are already two deep wells that provide sampling data along the groundwater path of interest, but neither well provided conclusive perchlorate data. The Spring Valley project team cannot determine whether the perchlorate in groundwater is flowing between these two existing wells until MP-5 is installed between them. If an alternative well location is too far from the proposed well location, then it will not provide the desired groundwater chemistry data.

K. Connell asked A. Gates to repeat and clarify her question.

A. Gates explained that the DDOE hydrogeologist, Diane Douglas, has been very vocal in the past about specific monitoring well locations. She asked if Diane's opinions were the primary driver for installing the well in the park.

D. Noble added that USACE will certainly keep the RAB informed of progress on this issue.

Question from K. Connell, RAB Member – What is the timing for making the final decision?

D. Noble explained that the groundwater contractor has been paid to complete this effort, and the funding is in no danger of expiring while this issue is being resolved. Although there will be trade-offs regardless of the final monitoring well installation location, USACE would like to reach a consensus on the best possible location.

Request from N. Wells, ANC3D Commissioner – Dan, could you please keep the ANC informed of your progress as well? No one has contacted me regarding this issue since the site visit at the park. I feel that

this is not so much of a two-way conversation, as the ANC and the residents keep talking about their concerns but are not getting much feedback.

Question from K. Connell, RAB Member – Does USACE have funding to restore the park once the well installation is completed?

D. Noble confirmed that restoration funding is available, and he recalled Todd mentioning this when he spoke about this issue at the February 2014 Partnering meeting.

P. Dueffert commented that there are lovely trees in the park, and if they are damaged maybe the trees could be replaced.

Comment from Lee Monsein, RAB Member – I personally do not feel informed about this issue, and I may be speaking for most RAB members when I say that I don't have sufficient information to form an impression one way or another. Under optimal conditions, USACE might have shared more information with the RAB, including the pros and cons of installing MP-5 in this location versus other locations, along with site photographs. Also, I found one part of this discussion to be offensive. I think USACE has a sterling record with respect to the refurbishment and delivery of properties in their original or even an enhanced state. After seeing restoration of hundreds of residential properties in Spring Valley, without a single one whose restoration failed, I personally have no concerns about the potential failure to restore the small park to conditions that are as nice as, or better than, current conditions.

L. Monsein further emphasized that although the presence of a drilling rig (during the well installation process) may inconvenience residents, this conjecture would be part of the pros and cons discussion. Certainly the ANC does not know for certain, and there are rumors of Spring Valley Partners discussing potential issues.

N. Wells noted that she takes offense at that last statement, as those were not rumors.

Comment from L. Monsein, RAB Member – I suggest we move on to a topic for which we have more information. This meeting is not the appropriate forum for resolving the well installation issue.

D. Noble agreed. If a decision is not made during the next two months, then a status update on this issue will be shared with the RAB at the May 2014 RAB meeting.

Suggestion from K. Connell, RAB Member – Regarding the monitoring well information shared with the RAB this evening, could USACE post relevant details on the project website? These details would include what date/time you expect to enter the monitoring well location, what work you expect to complete at the site, and the availability of funding to restore the landscaping. It would also be helpful to explain that this well will be installed based on direction from those who want the associated sampling data, and if the installation location deviates too much from the proposed location, then USACE will not accomplish their sampling objectives for the well.

K. Connell added that it is difficult for the RAB members to remain fully involved in this type of issue without knowing if only some pieces of information, or all available pieces of information, have been shared with the RAB. It would be helpful for the RAB to have the information requested above. Community concerns should be tempered and resolved, and picketing should be avoided at all costs. The availability of relevant information on the project website would be great.

N. Wells added that the RAB will be invited to attend the ANC meetings regarding this topic.

B. Spring Valley Project Funding Update

D. Noble, Spring Valley Project Manager and Military Co-Chair, presented a brief update on the Spring Valley project schedule, including the current fiscal year (FY) 2014 project schedule and allocated

funding. (FY2014 officially began on October 1, 2013.) He also briefly reviewed the anticipated funding for FY 2015.

As described at the January 2013 RAB meeting, project funding updates are typically presented to the RAB toward the end of each calendar year. For each year, the funding allocated to specific activities or estimated for future activities is outlined. There is a general correlation, but not always a direct correlation, between funding obtained for a particular fiscal year and the activities assigned to the same year. Some efforts are funded and cannot be completed until the property owner grants right-of-entry or other issues are resolved. For example, 4825 Glenbrook Road site efforts completed in FY2012 were funded in FY2011.

The current update is of interest because project field efforts are winding down and site-wide document development is underway, and recently awarded plus-up funding has eliminated any potential risk with a funding hiccup for 4825 Glenbrook Road cleanup efforts in FY2014/2015.

[This update was requested during the January 2014 RAB meeting by the RAB, as a suggested agenda item for the March 2014 RAB meeting.]

Plus-up Funding: USACE Headquarters awarded plus-up funding of $10.82 million for FY2014 project efforts. This unexpected extra money was used to fully fund the remedial action contractor working at the 4825 Glenbrook Road site through FY2014/2015. The FY2014 plus-up funding was allocated to this contract to ensure the 4825 Glenbrook Road cleanup efforts are fully funded and will not be impacted by any funding hiccups.

[The following information was provided in the March 2014 RAB meeting materials but was not specifically discussed during the meeting, and is summarized here for reference purposes.]

FY2014 Summary: Approximately $14.78 million were or will be spent on Military Munitions Response Program (MMRP) and Hazardous and Toxic Waste (HTW) project activities during FY2014 (and, in the case of 4825 Glenbrook Road, extending into FY2015. (This total budget includes the baseline funding of $4 million and the plus-up funding of $10.82 million.) These activities include further preparations for completing the Site-Wide RI/FS report, which will resemble the documents produced for the 4825 Glenbrook Road site but will address the entire Spring Valley FUDS. Under the MMRP program, remedial activities at the 4825 Glenbrook Road site will include completion of a portion of the remedial action at 4825 Glenbrook Road site (a major milestone for the Spring Valley project), and stakeholder outreach and site security activities will continue. Additional MMRP activities will include continued TAPP/RAB Technical Advisor support, along with the last planned residential anomaly investigation (Fordham Road property) will tentatively be completed, along with landscape reimbursement. Under the HTW program, which focuses on environmental concerns, activities will include the groundwater investigation, the last planned arsenic soil removal, and landscape reimbursement. Under the Potentially Responsible Party effort, the PRP investigation is currently being conducted.

Beyond FY2014, an annual ‘cost to complete’ will estimate the amount of funding required to complete planned efforts during upcoming fiscal years. These funding estimates can be adjusted based on the status of project activities. Future annual budgets beyond the next two fiscal years are speculative based on currently planned project activities. Active project efforts are ongoing and the projected budgets may change.

FY2015 Projected Summary: The baseline projected budget for FY2015 project activities is $3.64 million (reduced from the previous estimate because the remaining 4825 Glenbrook Road remedial activities were funded during FY2014). Preparation of the Site-Wide RI/FS and Proposed Plan will continue. Under the MMRP program, completion of remedial actions at 4825 Glenbrook Road site will be a major milestone for the Spring Valley project, along with landscape reimbursement. Completion of the remedial action closeout report for the 4825 Glenbrook Road site will be another major project milestone, and stakeholder outreach and site security activities will continue. Munitions destruction (if necessary)

will be conducted. Additional MMRP activities will include continued TAPP/RAB Technical Advisor support. Under the HTW program, activities will include the groundwater investigation; under the Potentially Responsible Party effort, the PRP investigation will be completed.

Question from K. Connell, RAB Member – Are you referring to the last fiscal year ending in October 2013, or the calendar year 2013?

D. Noble replied that the Spring Valley project schedule follows the federal government's fiscal calendar.

Question from K. Connell, RAB Member – How did you spend funding during that time period, and how will you be reimbursed? Did you have to borrow funds internally? You did not have a cash flow problem?

D. Noble clarified and confirmed that no cash flow problems occurred. The aim was to prevent a future cash flow issue.

Question from K. Connell, RAB Member – So all of these additional funds were recently obtained?

D. Noble confirmed that since the RAB last met, an additional $10.8 million was awarded for the remaining FY2014 project activities. The U.S. Army was willing to provide more funding this year to cover the remedial action at 4825 Glenbrook Road during FY2014 and extending into FY2015. This means they will reduce funding for FY2015 project efforts, because the large-ticket item (4825 Glenbrook Road) will have already been fully funded. This is good news and made the project team very happy. USACE does not anticipate any concerns with respect to Spring Valley project funding for upcoming project activities.

C. Military Munitions Response Program

4825 Glenbrook Road

Presentation Summary

[This section is a summary of schedule components completed since the January 2014 RAB meeting.]

High-Probability Work Progress: High-probability excavation continues in the front yard, during which all soil will be removed and competent saprolite (bedrock) will be exposed. Site personnel continued to remove hardscape features in the front yard of the property, including a 10 foot section of the front porch footer wall. The front porch area has been almost entirely demolished.

To date, a total of 42 roll-off containers have been filled; of these, 32 contain excavated soil and 10 contain hardscape rubble materials associated with removal of retaining walls and foundation walls. Additionally, to date, a total of 126 drums of soil have been filled. These roll-offs and drums were then transported off-site to the Federal property.

At this time, the excavation extent has reached the front porch area, where a glassware item containing arsenic trichloride was previously recovered (in 2010), and where site personnel continue to excavate a concentrated debris field. Necessary safety precautions have been taken to ensure site personnel are fully prepared in the event that additional glassware and/or chemical agent is encountered. Soil underneath the former front porch is carefully hand-excavated and is sifted multiple times, to provide redundancy and thoroughness, before it is properly packaged in roll-offs and drums, as appropriate. All soil and AUES-related findings are transported off-site to the Federal property and tested for contamination prior to disposal. Composite samples were collected from the drums and roll-offs prior to sealing them.

Excavation progress in the front porch area has been slower than anticipated due to the recovery and assessment of the AUES-related findings described below. The remaining front yard portion to be completed consists of an area about 20 feet long and approximately 4 feet deep (depending on the saprolite depth), along with removal of the front basement foundation walls and the basement fireplace. During the remaining high-probability excavation areas, soil will continue to be hand-excavated in areas

where AUES-related debris has been observed, and mechanical excavation will be used in areas where debris has not been encountered.

A short video featuring the excavation process began with the personnel entering the tent, outfitted with tank air and transitioning to supplied air. During excavation, the team watches closely to observe any debris, via a laborious and time-consuming process. Soil is excavated by hand, and rakes and small picks are used to sift the soil. The team performs decontamination activities before leaving the tent.

Current progress photographs of the excavation area show rubble and other hardscape debris from the retaining walls and part of the front foundation wall. In most of the front yard, except for a small area remaining to be excavated adjacent to the front foundation wall of the house, the excavation depth has reached what the project team considers to be native saprolite soils. The saprolite photographs are representative of the sampled (via scraping) surface which ensures that saprolite has been reached.

In late February 2014, site crews performed required maintenance on the key systems and safety equipment at the site. This allowed the team to take advantage of weather delays (particularly snowstorms) whenever possible, as normal excavation activities cannot be conducted in these weather conditions. The site crews were as productive as possible whenever the site was accessible after snowstorms.

High-Probability Findings to Date: To date, a total of 207 pounds of broken glassware and a small amount of AUES-related scrap metal debris have been removed. [This total includes 47 pounds of broken glassware recovered today (March 11, 2014), for which assessment is pending. This information became available after the presentation handout had already been prepared.] (Approximately 100 pounds were recovered prior to the winter holidays, and the remaining 107 pounds were recovered to date after site activities resumed in January.) All glassware tested negative for chemical agent. No air monitoring detections of chemicals were recorded during high-probability excavation to date.

To date, a total of 10 items were safely recovered during high-probability excavation along with the pieces of laboratory glassware described above. [This total includes items recovered today (March 11, 2014) after the presentation handout had already been prepared.] All items were situated directly underneath the former front porch and their locations were flagged for assessment and retrieval. Items included three (3) empty 75 mm munitions debris (MD) items, one (1) MK IV Adapter/Booster, one (1) 75mm shrapnel round, four (4) intact closed containers, and one (1) intact sealed copper vessel.

- The three (3) empty 75 mm MD items were recovered separately on November 18, 2013; December 16, 2013; and January 10, 2014. Each item was thoroughly assessed, and the team determined that these items did not contain chemical agent or explosives.
- The MK IV Adapter/Booster was recovered on January 13, 2014 in the morning. This item is intact but cannot detonate without a fuze. Based on X-ray results, this item was conservatively classified as material potentially presenting an explosive hazard (MPPEH), and was packaged and transported to the Federal property. This item tested negative for headspace, and is currently stored at the Federal property for future disposal.
- The 75mm shrapnel round was recovered on the same day, January 13, 2014. This item is intact, unfuzed, and unfired and was initially considered potentially explosive. Based on X-ray results and PINS chemical analysis, followed by the Materials Assessment Review Board (MARB) data assessment, the item does not contain energetics. The solid fill was identified as a riot control agent that was used during World War I (WWI). This item is currently stored at the Federal property for future disposal. The MARB has not finalized its analysis of this item, all information that the USACE has is from unofficial verbal reports. Final determination as to the nature of the item will need to wait for the final, written MARB report. USACE will update the RAB when that report is issued.

  - Based on these results, the project team concluded that the existing multiple layers of engineering controls remained protective and no modifications to site procedures were required at that time. Site personnel resumed high-probability excavations.

- The first intact closed container was recovered on January 17, 2014. This item was packaged, transported to Edgewood, and found to contain a small amount of "neat" (meaning undiluted) Lewisite of unknown purity. Disposal of this item was conducted at Edgewood's Chemical Transfer Facility (CTF).
  - In accordance with standard procedures, samples were collected from the soil that was excavated in the same location. A total of three (3) samples tested positive for Lewisite. To date, these are the only soil samples that have tested positive for chemical agent or industrial compounds during the current remedial action.
- The (3) intact containers and one (1) intact sealed copper vessel were recovered today (March 11, 2014). Each item was thoroughly packaged, sealed, and transported off-site to the Federal Property, and the team will transport these items to Edgewood for assessment. The three intact containers closely resembled the intact container recovered on January 17, 2014.

The protective steps that were taken to ensure the safety of the workers and the community were previously described in detail at the May 2013 and July 2013 RAB meetings. All protocols worked as intended, and at no time were the workers or the community at risk. No air monitoring detections of chemicals of potential concern were observed throughout these incidents.

In summary, most MD items and glassware and ceramic fragments were cleared for headspace and tested negative for chemical agent contamination. These items are temporarily stored at the Federal property and will be disposed of as waste at an appropriate off-site facility, depending on the specific item. Disposal of the intact closer container with Lewisite was conducted at Edgewood's Chemical Transfer Facility (CTF). The final disposition of the remaining items recovered today (intact containers and intact copper vessel) will be determined pending assessment findings. All excavated soils were segregated into drums (because they originated from the front porch debris area), sampled, and cleared for headspace.

Question from P. Dueffert, RAB Member – How large is the copper vessel that you found today?

D. Noble replied that this item was pretty small. Photographs of this item will be provided as part of the weekly update on Friday.

Question from Audience Member – What is the blue coloration shown in the excavation photographs?

B. Barber clarified that the blue coloration is an artifact from the color printer. The feature in question is competent saprolite (competent bedrock) at the bottom of the high-probability excavation.

Question from J. Wheeler, RAB Member – Is this the first time you've encountered Lewisite during the high-probability excavation?

B. Barber confirmed that this is the first instance where an intact item and excavated soil tested positive for Lewisite under the current remedial action at the 4825 Glenbrook Road site. It will not be surprising if similar intact items and soil contamination is detected in association with the intact containers recovered at the site today (March 11, 2014).

J. Wheeler commented that he was surprised, because this is the first time Lewisite has been encountered at the site since returning to work at the property [to conduct the remedial action].

Question from N. Wells, ANC3D Commissioner – When you describe a small amount of Lewisite, how much is that?

B. Barber replied that less than inch of Lewisite was present in the intact closed container.

Question from Allen Hengst, Audience Member – What does the term "neat" mean with respect to the Lewisite in the intact closed container?

B. Barber replied that the term "neat" refers to undiluted material.

Comment from George Vassiliou, RAB Member – So, basically, this item shows that the 4825 Glenbrook Road site lives up to its potential. This item was buried, and was not simply dropped there at the site.

B. Barber confirmed this. This is one type of item that the project team anticipated finding during the high-probability excavation. All of the engineering controls were designed for maximum protectiveness for the public and the site workers, based on this type of item as well as other anticipated items. Now the site will be cleaned up for future use under safe conditions.

Question from P. Dueffert, RAB Member – No air contamination was detected?

B. Barber confirmed that no air monitoring detections of chemicals were recorded to date. A total of four intact items were recovered today without any air monitoring detections. When the team digs up an item, they maintain two-way communication with the command trailer. In today's case, all items were set aside within the tent, the air monitoring equipment was recalibrated, and then the items were packaged for off-site transport.

Question from P. Dueffert, RAB Member – What would make the emergency sirens go off?

B. Barber replied that the emergency sirens would activate if a sealed container was found, broke open, released a hazardous substance, and every engineering control failed at the same time.

P. Dueffert added that essentially the chemical would have to escape the engineering controls compound.

B. Barber responded that this is correct.

Question from K. Connell, RAB Member – Have your staff been stressed due to recent findings?

B. Barber explained that the response personnel are not stressed by these findings. They are highly trained professionals who regularly respond to these types of encounters, and they knew the 4825 Glenbrook Road cleanup would likely reveal these types of items. All of the response personnel are either current or former explosives and ordnance disposal (EOD) specialists.

Question from Alma Gates, At Large Representative for Horace Mann Elementary School – Where were these items found?

B. Barber responded that recent findings were situated approximately six to eight feet below ground surface, approximately mid-way down the basement foundation wall. A substantial amount of fill soil and landscaping or hardscaping were situated above the items.

Question from P. Dueffert, RAB Member – So do you expect a trench was dug for these items during World War I (WWI)?

B. Barber clarified that USACE anticipates these items were shifted around the site when the developer was placing backfill around the foundation of the house.

Question from Dr. Peter deFur, RAB TAPP Consultant – Have you checked all of today's glassware?

B. Barber explained the daily process for sorting recovered broken glassware. All pieces are put in a board, marked with the grid number and the recovery date, and then classified as AUES-related glassware debris unless there are glass pieces that are blatantly cultural debris. The glassware seems to fit with the AUES time period. Many pieces are marked with brands like Eastman Kodak or Bausch and Lomb, while the smallest pieces are essentially unidentifiable and are assumed to be AUES-related debris.

Tentative Schedule (Next Steps)

All remedial action dates from this point forward are tentative and will be determined pending resolution of any remaining issues.

Site Cleanup: The tentative remedial action schedule currently extends from late November 2012 (the completed demolition phase) through July 2014. Recent weather delays and slow debris removal progress has extended the previously presented tentative completion dates. This schedule is subject to change pending resolution of any remaining issues and any findings of concern at the site, and will be updated as necessary to reflect the recent assessment findings and subsequent decisions associated with the intact closed containers. This schedule also incorporates federal holidays and partial work days associated with AU campus activities at the neighboring 4835 Glenbrook Road property, during which intrusive activities at 4825 Glenbrook Road will not be conducted and security personnel will remain stationed on-site during non-work hours.

- High-probability excavation is currently scheduled to continue through early Spring 2015. The protective tent will be moved twice, for a total of three tent locations, to provide full coverage of the entire high-probability excavation area. Each tent location will tentatively require four months to complete, with a total high-probability duration of one year. The current tent location (front yard) will be completed first, then the back yard, and finally the center yard (including the house foundation). The completion date for high-probability excavation depends on many factors including the rate at which each tent move can be completed. Upon completion of the current tent location (front yard), the tentative schedule will be updated to reflect the actual progress rate.
- Remaining low probability removal actions in Areas A and B (including the driveway and a small portion of the backyard) are scheduled for Spring 2015 following completion of the high probability excavations.
- Site restoration is tentatively scheduled for Summer 2015. The project team anticipates turning the remediated and restored property over to the property owner (AU) in July 2015.

D. Contractor Update on the Site-Wide Remedial Investigation (RI) Report

Table of Contents for the Site-Wide RI Report

D. Noble briefly presented the outline of the Table of Contents for the Site-Wide RI Report. The associated handout was prepared by ERT, the contractor who is developing the RI document.

Purpose: The table of contents for the RI report, along with the document itself, is organized for the purpose of assisting stakeholders as they review the document for thoroughness.

Guidance Documents: Two primary guidance documents were considered in preparing the Table of Contents. Both of these documents provide guidance for what the completed RI report should look like.

- The **U.S. Army MMRP (Military Munitions Response Program) RI/FS Guidance** applies to the MMRP portion of the Spring Valley FUDS.
- The **EPA Guidance for Conducting an RI/FS** applies to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process used at the Spring Valley FUDS.

Format: The table of contents for the RI report is a hybridized version of the two guidance documents listed above. Both EPA and DDOE provided concurrence for the planned document structure, based on this outline. Each document section is outlined in further detail to show what information each section will contain, and what the reader should expect to see once the Site-Wide RI report is completed. This table of contents is a working document, and the details of each section will be continually updated as the draft RI report continues to be developed, reviewed, and revised.

Section 7: The risk assessment portion of the Site-Wide RI report will be addressed in Section 7. The organization and preparation of the risk assessment section serves as the topic for the next portion of the

presentation (see below). Preparations were necessary before performing the current human health risk assessment (HHRA) for the site.

Background for the Following Presentation: Several HHRAs were produced by USACE and EPA for the Spring Valley FUDS during the course of the Spring Valley project. For example, USACE prepared a full HHRA that was released to the public as part of a larger report in 1995. USEPA conducted their own HHRAs, and site-specific HHRAs have been completed for smaller portions of the site.

During preparation of the Site-Wide RI report, the contractor (ERT) reviewed the contents of these pre-2005 HHRAs to determine whether their conclusions are still valid and whether the Partners can rely on the decisions made prior to 2005. The toxicity values used to make these decisions may have changed over time and may not still be valid. All data compiled since 2005 (if not already incorporated into an HHRA to date) were also gathered and assessed for risks.

Question from K. Connell, RAB Member – Is there any way we can have a record of this information? It would be helpful to record what you are saying during this presentation so the community has an understanding of the breadth of document preparation. Many members of the community are not aware of the complexity of an RI report, and it would be helpful for the community to have access to this presentation.

D. Noble noted that the audio recording of the meeting, which assists with meeting minutes preparation, could possibly be used in some way (i.e. website posting) to help further community understanding.

D. Noble reminded the group that at a previous RAB meeting, early in 2013, ERT presented a similar update on the overall structure and contents of the Munitions and Explosives of Concern Hazard Assessment (MEC HA) portion of the Site-Wide RI report.

D. Noble emphasized that the intention of this presentation is to educate the community, specifically to ease any fears, eliminate any false expectations, and reduce any disparity about what information will be included in the Site-Wide RI report. USACE hopes to provide the Draft Site-Wide RI report to the RAB and the public for review in late summer or early fall 2014. This presentation will ideally assist the RAB and the community into understanding how the preparers arrived at the structure of the RI report.

Report of Pre-2005 Human Health Risk Assessment (HHRA) Review

Tom Bachovchin of ERT presented a summary of the Pre-2005 Human Health Risk Assessment (HHRA) Review (which serves as preparation for conducting the Site-Wide HHRA). He emphasized that the Table of Contents (as described above) is dynamic and still in development, with minor changes already applied or anticipated. The subsections listed in the outline are not carved in concrete; instead, the outline is dynamic, and minor changes to the overall document structure may occur as the document is written and reviewed.

Background: Significant investigation and sampling efforts, and several discrete HHRAs for individual areas of the site, have been performed at the Spring Valley FUDS over the course of many years of ongoing project activity. In preparation for the upcoming Site-Wide RI report, stakeholders met in 2010 to develop a strategy to evaluate the need for additional data, and to integrate the existing information into a path forward for addressing the remaining data requirements. This discussion among stakeholders was important because all previous risk assessments and other sampling efforts must be incorporated into the Site-Wide RI report.

The path forward determined by USACE was presented in the Evaluation of Remaining Sampling Requirements work plan document (which was presented to the RAB in June 2012). It focused primarily on two main objectives, followed by completion of these objectives:

- Supplemental sampling was proposed for areas that were determined to require additional data. This supplemental sampling effort was primarily based on the Area of Interest Task Force (AOITF) report recommendations. The AOITF looked at potential areas of interest not previously

addressed, or possible data gaps, and made recommendations to the Partners whether any additional investigation was necessary. The supplemental sampling effort was completed in 2011 through late 2012. This information was previously briefed at Partnering meetings (and possibly RAB meetings) during that time frame.

- Previous (pre-2005) finalized standalone HHRAs were reviewed to assess whether their conclusions would remain protective when considering updated USEPA guidance, with respect to exposure assumptions, toxicological values, and comparison standards. Five HHRAs were the subject of this review:
    - USACE's OSR FUDS HHRA (1995 RI)
    - USACE's HHRA for Spaulding and Captain Rankin Areas (RI Report, 1996) – This document focused on the 4710 Woodway Lane property containing AUES bunkers. The property was designated for site-specific assessment, similar to the way 4825 Glenbrook Road is currently designated as its own site.
    - USEPA Region III's HHRA (1999) – This document was primarily based on split samples from the original 1995 USACE HHRA samples.
    - USEPA Region III's American University HHRA (2000)
    - USACE's HHRA for the 4801 Glenbrook Road property (2000) – This document addressed all three OU-3 properties (4801, 4825, and 4835 Glenbrook Road), but more recent HHRA efforts have superseded the 2000 information for the latter two properties.

Purpose: In summary, a total of three document efforts were conducted, each of which built upon the findings of the previous document. These included the evaluation document, the pre-2005 HHRA review document, and the addendum to the pre-2005 HHRA review document. The ultimate goal was to identify areas of the Spring Valley FUDS that potentially still pose human health risks and thus require a full current HHRA. Based on the finalized work plan for conducting the newly-identified current risk assessments, these new HHRAs will be presented within Section 7 of the Site-Wide RI report.

Pre-2005 HHRA Review Report: This document assessed the procedures and conclusions of the pre-2005 HHRAs to determine whether the chemicals of potential concern (COPCs) identified, the exposure pathways considered, and the toxicity evaluations would still be appropriate when considering updated USEPA guidance and site-specific background concentrations. It also identified remaining areas that require additional risk screening and risk assessment.

This document also contains a re-screening of all soil data, whether previously identified as a COPC or not. This re-screening was done using updated risk-based screening levels and background data, to ensure that any potential risks associated with soils still in place at the SVFUDS were evaluated.

In summary, the question is whether the COPCs identified in pre-2005 HHRAs would still be considered COPCs today. Chemicals that were not considered risks back in 1995 may be considered risks today. This is a function of new toxicity values becoming available since those HHRAs were completed. For example, cobalt is a naturally occurring metal. In the past, the cobalt screening value was 160 ppm but this has dropped to 2.3 ppm.

Screening Process: The updated screening process conducted in this HHRA review consisted of an initial screen for all detected chemicals in soil to determine provisional COPCs, and an additional screen incorporating other factors to identify COPCs that still remain in soil at the SVFUDS. This screening was conducted based on the original areas of investigation previously defined in the individual HHRAs, primarily on the POI level.

Initial screen: The initial screen compared the maximum detection against current risk-based screening levels and background concentrations. However, the use of the maximum detected value is a very

conservative approach that is not a realistic representation of the distribution of actual contamination at a site. Therefore, an additional screen was also performed, and incorporated other factors to make the evaluation more realistic and representative of current site conditions.

In summary, this was an exercise in identifying potential COPCs and screening out those that do not present risks. The initial screen was conservatively based on the full list of analyzed chemicals, because it is possible that a chemical may have been dismissed prior to 2005 but would be considered a COPC today, and because a much more robust background data set became available in 2008 for comparison purposes. Since the maximum level of naturally occurring metals will almost certainly exceed the corresponding standard at one or two locations, this initial screen approach would still keep that metal as a COPC, making it an extremely over-conservative and potentially unrealistic assessment. The follow-on screen (described below) uses other factors to make the assessment more realistic.

Follow-on Screen: A follow-on screen was conducted using additional screening factors, for the purpose of further evaluating the provisional COPCs that remained following the initial screen. This follow-on screen was comprised of four steps.

- **Risk Ratio** – USEPA's statistical software ProUCL was used to calculate the exposure point concentration (EPC) of each provisional COPC remaining after the initial screen. The risk ratio is the EPC divided by the most current risk screening level (RSL). If the risk ratio is less than or equal to one, then the COPC dropped out from further consideration. (For example, a concentration of 10 ppm divided by a screening level of 5 ppm would result in a risk ratio of 1.) If the risk ratio exceeded one, then the COPC remained and the next step was applied.
- **Background Comparison** – A two-sample hypothesis test was completed using ProUCL. This test compared site concentrations to background concentrations. (This is useful for determining whether naturally occurring metals are exceeding the natural background levels in the vicinity.) If the value was less than or equal to background, the COPC dropped out from further consideration. If the value exceeded background, then the COPC remained and the next step was applied.
- **Re-Analyze Data after Removing Samples that Represent Excavated Soil** – For areas where significant soil excavation had occurred, the team determined whether the soil that contained the sample results was still present (whether the COPCs still remained). If any of the COPCs were based on soil that had already been dug, those sample results were removed from the data set, and the steps were re-run to determine whether COPCs were still present.
- **Re-Analyze Data with Clean Backfill Data Added** – Clean soil was used to backfill the excavations, and needed to be accounted for, so the team determined whether COPCs still remained in the combined clean backfill and the remaining in-place soil. (For each grid where soil was excavated, the depths of contamination, excavation, and backfill were reviewed to find out whether the soil exceedance was removed or still remains in place.) The data results from the clean backfill were added to the in-place unexcavated soil data and the first two steps were re-run to determine whether COPCs were still present.

In summary, the follow-on screen examines any COPCs remaining upon completion of the initial screen.

Screening Results and Conclusions: Based on the initial screen and the follow-on screen, COPCs still remained for some of the five previously conducted HHRAs and the AUES List sampling. These COPCs were reported in the conclusions of the pre-2005 HHRA review report.

Screening Recommendations: The pre-2005 HHRA review report made three recommendations focused on ways to address the remaining COPCs. A map showed the areas containing COPCs that weren't eliminated during the screening process. These recommendations included:

- **Identification of exposure units (EUs) for further risk assessment.** The areas still containing COPCs were relatively small (because they were originally based on POIs or specific areas of investigation). They were grouped into larger, more manageable areas called EUs. These EUs were based on similar historical practices, similar receptor and exposure pathways, and geography.
- **Integration of the older pre-2005 HHRA samples with the more recent supplemental samples in each EU.** This allows risk assessment for each EU to be based on all data, without regard as to when the data were collected. Since these areas have been combined into larger EUs, it no longer matters when the samples were taken.
- **Re-screening of each EU based on a single data set (older samples combined with newer samples).** This re-screening approach (for the combined older and newer sample results into a single data set for each of the EUs) was performed in an addendum to the Pre-2005 HHRA Review report.

Final Addendum to the Pre-2005 HHRA review report – The addendum was finalized in December 2013. This document used the same elaborate screening procedure (described above) to conduct the follow-on screening on the EUs with the combined data sets, to identify remaining areas that require additional HHRA. This screening was completed for all chemicals in the data set, not just the COPCs identified as remaining in the areas covered in the Pre-2005 HHRA Review report. A map showed all of the areas that were screened in the Final Addendum.

Three sets of sample data were combined for this follow-on screen.

- The first data set comprised all of the samples used in the pre-2005 HHRAs.
- The second data set comprised samples from miscellaneous sampling efforts, collected for various reasons, which had not been captured in any prior risk assessments. Examples include soil samples associated with geophysical anomaly removals in the Dalecarlia Woods, and soil samples associated with isolated areas of stained soil.
- The third data set comprised the supplemental samples collected in 2011 and 2012.

Upon completion of this final addendum follow-on screen, some COPCs still remained for further risk assessment.

Further Evaluation: Further evaluation of each EU was conducted to determine whether the COPCs would be associated with potential human health risks if carried through a quantitative HHRA. Non-cancer and cancer risks were considered for the remaining COPCs, using assumptions of standard residential receptor scenarios.

Non-cancer hazard quotient (HQ) values were calculated, using the USEPA acceptable risk ranges of less than or equal to 1 HQ for non-carcinogens. Incremental cancer risks were estimated, using a greater than 1 in 10,000 cancer risk range.

Any COPCs that did not exceed these risks were eliminated from the evaluation. Any EUs that no longer contained any COPCs were also dropped from further consideration.

Conclusions: Based on further evaluation of the COPCs, three EUs warranted a full quantitative HHRA: the **AOI 9 EU**, the **Spaulding-Rankin EU**, and the **Southern American University EU**. A map showed these three areas in relation to the overall Spring Valley FUDS.

Recommendations: A full HHRA was recommended for each of the three EUs identified during this process.

Next Steps: A work plan (the Risk Assessment Work Plan) described the process for conducting HHRAs for these three EUs, and was finalized on February 10, 2014. Details included specific receptors and

exposure routes applicable to each EU. The actual full HHRAs for these EUs will be presented in the Site-Wide RI report.

Question from K. Connell, RAB Member – When you completed the risk assessment for the 4801 Glenbrook Road property, how did you analyze the risks? Have those risks corresponded well with AUES-related findings near the property, or are you surprised with what you're finding currently?

D. Noble and T. Bachovchin clarified that they are specifically referring to the HHRA, which focuses on risks of exposure to chemicals in soil.

Question from K. Connell, RAB Member – Would you have come up with a general sense of the probability of finding debris?

D. Noble explained that by the time the HHRA was completed in 2000, USACE had completed the removal action at the 4801 Glenbrook Road property. All AUES-related items and debris findings at the property occurred before preparation of the site-specific HHRA. Since then, no significant additional findings have been associated with the property except for a small portion of burial pit 3 extending across the property line from 4825 Glenbrook Road.

T. Bachovchin added that the HHRA spoke mostly to the findings associated with soil. These included some of the earliest and densest arsenic grid sampling conducted at residential properties, along with contaminated soil associated with AUES-related findings.

Question from N. Wells, ANC3D Commissioner – Did you say there were also reports completed for the 4825 and 4835 Glenbrook Road properties?

T. Bachovchin confirmed that the 4801 Glenbrook Road document addressed all three properties. However, significant efforts have been conducted at both properties (4825 and 4835 Glenbrook Road) since 2000, followed by updated site-specific HHRAs. As a result, these two properties did not need to be included in the pre-2005 HHRA review report.

Question from N. Wells, ANC3D Commissioner – Do you think they will change much from in the past? Do you think the risks will foreshadow current findings at the 4825 Glenbrook Road property?

D. Noble replied that all pre-2005 data has been re-evaluated. This question is skipping ahead of the presentation information.

N. Wells thanked D. Noble and T. Bachovchin for the information.

Question from A. Gates, At Large Representative for Horace Mann Elementary School – You mentioned that if a COPC went away after the first screen, this was because the COPC's values were below the screening levels. The actual metal's data does not get deleted, right? It remains in the permanent record?

T. Bachovchin confirmed that there is a permanent record of all sample analyses and detections. Each of the three preparation documents described earlier contain lengthy 11x17 tables containing all of the available data. Depending on the sampling location, the agency collecting the samples, and the associated analytical laboratory, a sample may have been analyzed for the full AUES parameter list of over 100 compounds, and all of this data is part of the record. The pre-2005 HHRA report screening was designed to narrow down which compounds are still considered COPCs.

T. Bachovchin added that the pre-2005 HHRA review screening process can be tracked directly within the tables. The initial screen is based on a maximum value of each chemical compared to the chemical's standard. If the sample doesn't exceed the standard, then it doesn't continue through the screening process.

Comment from D. Noble, Spring Valley Project Manager and Military Co-Chair – In the final Site-Wide RI document, the new pieces of information about potential remaining risks will focus on these three areas/EUs.

Question from K. Connell, RAB Member – Can you provide us with the boundaries of those three areas?

T. Bachovchin briefly described the color coding for the three EUs featured on the map.

D. Noble added that Sedgwick Street runs through the middle of the AOI 9 EU.

T. Bachovchin emphasized that the screening process was designed to eliminate potential COPCs. The full HHRA for each EU will be very specific and detailed, and may determine that a given COPC does or does not continue to present risks.

Question from N. Wells, ANC3D Commissioner – Can we have larger digital copies of these maps you presented tonight? You mentioned that the Sedgwick area is included in this, but what about Spring Valley West? Nothing in that area is included?

RAB and audience members briefly discussed the definition of Spring Valley West. This new area of the Spring Valley neighborhood is bounded by Massachusetts Avenue and Dalecarlia Parkway, and is the area where many things were discovered early during the project.

Lan Reeser, Spring Valley Technical Manager, asked for confirmation that N. Wells was referring to the area around 52nd Court, where the original 1993 disposal pit was located.

N. Wells responded affirmatively and confirmed this and asked for confirmation that no exceedances remain in that area.

T. Bachovchin confirmed this and explained that the entire Spring Valley FUDS, including the area in question, was part of the screening assessment and identification of EUs. The 52nd Court previous contamination was already removed and the remaining soil was screened out of the assessment.

Question from L. Monsein, RAB Member – I'm confused about discussing some of these areas that were backfilled with clean fill dirt. For example, I know that current arsenic values in soil are correct based on completed remediation. Did the values used during screening reflect these latest post-remedial values?

T. Bachovchin responded that the short answer is yes.

Question from L. Monsein, RAB Member – So, for example, we have 20 ppm arsenic in soil throughout the Spring Valley neighborhood, based on the soil cleanup goal. What is different about the EU containing arsenic that defines it as a potential area of risk?

T. Bachovchin clarified that the risk is definitely not based on arsenic concentrations. The project team knows a great deal about arsenic levels in Spring Valley, and most of the arsenic risks have already been detected and removed. The EUs are defined based on other chemicals, mostly metals.

Question from L. Monsein, RAB Member – So the COPCs of concern in these three color-coded EUs are metals, but not arsenic? Do you know what they are offhand?

T. Bachovchin explained that examples include the Southern AU EU, where COPCs include cobalt and a couple of other metals, along with polyaromatic hydrocarbons (PAHs) which are ubiquitous in the urban environment and can come from many sources.

Comment from L. Monsein, RAB Member – This is interesting, as I have been here for more than 10 years, and we primarily discussed arsenic and perchlorate risks. We never really discussed distributions and particular dangers of other heavy metals at this site. This is not a complaint, it is just a new topic.

T. Bachovchin replied that part of the reason is the pre-2005 HHRAs did not identify risks from these heavy metal COPCs. Instead, they found these heavy metals to be within reasonable levels based on screening criteria at that time.

Comment from L. Monsein, RAB Member – Again, I am not complaining. I simply find it interesting that we are discussing heavy metals contamination after such a long time period.

T. Bachovchin recapped the example focused on cobalt, where high concentrations were considered fine in the pre-2005 HHRAs, while much lower concentrations are now considered to present risks based on updated criteria.

Cliff Opdyke reflected on current uncertainty about why the cobalt screening levels are so much lower than previously. Updated cobalt screening levels decreased (and are thus much stricter) while updated arsenic screening levels increased (and are thus less strict).

Question from George Vassiliou, RAB Member – To clarify, these COPCs are metals that, for example, are dispersed in soil, or associated with a specific location where an item containing mercury was found.

T. Bachovchin replied that the COPCs generally reflect the former example (dispersed in soil) rather than the latter example. All soils contain naturally-occurring metals. This screening process provides a statistical assessment of a collection of samples mixed together, to determine whether the final value exceeds criteria and potentially poses a risk to human health.

Comment from L. Monsein, RAB Member – This is a subject for another meeting, but it would be interesting to have a review of the heavy metals of concern and their potential health risks.

T. Bachovchin noted that only a few heavy metals were identified as COPCs.

L. Monsein replied that his own research and presentations concentrated on arsenic for ten years.

Comment from G. Vassiliou, RAB Member – This fits into the subject of upcoming meeting topics and suggestions.

L. Monsein added that he could volunteer to give a risk assessment lecture on these heavy metals a year from now.

Comment from D. Noble, Spring Valley Project Manager and Military Co-Chair – This has been a long process. S. Hirsh, J. Sweeney, and Dr. Peter deFur have been following this process and have concurred with each step as we have taken them.

Question from A. Hengst, Audience Member – As a follow-up to Nan's earlier question about putting these maps on the Spring Valley project website, is this something you might do?

T. Bachovchin replied that these maps will be included in the full RI document.

D. Noble added that USACE will ensure the three finalized documents (including the Pre-2005 HHRA Review Report) are available in the Information Repository, and these maps will also be available once the Draft RI report is released for review by the RAB and the public.

Question from A. Hengst, Audience Member – If I were to visit the Information Repository, I would be able to access the documents containing these maps?

D. Noble confirmed that he would expect that all finalized documents would be available there.

Question from N. Wells, ANC3D Commissioner – You talked about individual chemicals. Do you take into consideration the co-located combinations of different contaminants including metals? Is there a potentiating effect when these COPCs are combined?

T. Bachovchin responded affirmatively. Co-located COPCs are always accounted for as part of the standard screening process. If a sample contains a potential COPC and eight other chemicals, the potential cumulative effect must be considered. Each COPC is adjusted downward by a factor of ten to provide a good conservative cushion, so that if the chemical would normally be acceptable at or above 100 ppm, it will now be screened using criteria of 10 ppm. If the chemical exceeds this adjusted criteria of 10 ppm, then it will remain a COPC to account for potential cumulative effects.

T. Bachovchin added that a similar process is used to assess individual target organs. For example, five chemicals in a sample may be slightly below criteria. If each chemical targets a different organ with respect to human health, then there is no cumulative effect, and the downward factor is not needed.

T. Bachovchin noted that these types of evaluations are built into the screening process, and are certainly part of the full quantitative HHRA that will be conducted for the EUs.

Question from N. Wells, ANC3D Commissioner – When you remove a COPC from the screening process, do you consider the cumulative effects, and how do you eliminate chemicals that have potential cumulative effects with other chemicals?

T. Bachovchin clarified that this is conducted using the process of adjusting the criteria downward to account for cumulative effects. If the sample concentration is 60 ppm compared with the No Observed Adverse Effect Level (NOAEL) of 100 ppm, then eliminating the COPC is fine. Once the level is adjusted, 60 ppm now exceeds the criteria of 10 ppm. This COPC will be conservatively assessed in the HHRA instead of screening it out, even though it is probably not going to pose a risk. Final conclusions will be determined once the HHRAs have been completed and finalized for each EU.

D. Noble emphasized that this process is defined by USEPA guidance, and is not a process developed only for this document.

T. Bachovchin further clarified that this conservative screening process was used to narrow down and identify the three EUs. During preparation of the RI report, risks within these three EUs will be assessed in detail, and the full quantitative HHRA will determine whether or not the criteria must be adjusted downward, based on factors such as target organs and exposures.

Comment from Ginny Durrin, Audience Member – This is the most amazing thing I've heard in months. To make sure I understand, if I were a homeowner within an EU, I would have a few questions to ask you. These include questions about whether I need an attachment to legally sell my house, how dangerous it is to live there, and is it possible to have all property soil removed and replace with fresh soil (or is the soil truly not a big deal).

D. Noble replied that the RI report and associated HHRAs are a long way from presenting final conclusions. The RI document will look at specific areas, assess if any continuing risks are present, and if necessary move forward into the step-by-step decision making process. The project team may very well decide that nothing further needs to be done to address these areas.

D. Noble emphasized that these metals are considered *potential* COPCs at this point. The HHRAs within the Site-Wide RI report will deliver the final verdict of whether action should be taken for any COPCs, and the process is very far from that determination.

Question from Ginny Durrin, Audience Member – I know this is a complicated process that takes time. When do you think you will have this information?

T. Bachovchin explained that the draft RI report will tentatively be available to the public in late summer or early fall 2014. If further evaluation is needed based on residual risks, then a FS will be completed to look at ways to mitigate these risks.

B. Barber added that this is the same RI/FS process that was followed for the 4825 Glenbrook Road property, just on a much larger scale.

D. Noble added that a public comment period would be held for the FS and Proposed Plan (PP) documents, followed by the Decision Document (DD) signed by the U.S. Army and concurred upon by EPA and DDOE.

T. Bachovchin added that the RI process can take years, but for this project, the field work for the massive sampling data set is completed. The RI report needs to cover a very large amount of information.

Hopefully the FS, PP and DD will be completed relatively quickly, but it will still take months to complete each successive document.

Comment from Ginny Durrin, Audience Member – Right. There are numerous ramifications of this, as a lot of people live in that area.

Comment from L. Monsein, RAB Member – Hypothetically, if the criteria for a given chemical were to drop significantly tomorrow, then these color-coded EUs could potentially change. The current EUs identified for full HHRAs are based on the criteria and risk levels known today.

T. Bachovchin confirmed that this is true for many of these potential COPCs.

Comment from L. Monsein, RAB Member – These criteria may increase and decrease again by the time the RI report is completed and further decisions are made.

T. Bachovchin responded that this is exactly the reason for conducting recurring reviews.

Question from N. Wells, ANC3D Commissioner – When you say the criteria will change, this might result in a very small amount of a chemical considered as problematic, so would there be constant reviews? How many reviews will occur?

D. Noble and T. Bachovchin replied that recurring reviews are conducted every five (5) years.

Question from N. Wells, ANC3D Commissioner – So you will update these risk assessments every five years for the community?

D. Noble replied that these updates are primarily conducted for EPA.

Dr. P. deFur explained that under Superfund, when EPA leaves a remediated site and something changes from the way it was left, then a five (5) year review will be conducted to determine if the original decision is still the best choice for the site. Also, EPA regularly reviews toxicity information, and sometimes complete reviews will reveal lower toxicity values for chemicals. This has occurred recently for a couple of major chemicals that are not associated with Spring Valley. When these toxicity values change, a single site or dozens of sites may be impacted and require soil removal or remediation, or the decisions previously made at those sites may still hold true. The EPA routinely assesses which sites contain that contaminant and will ask the same risk questions.

Comment from Andrea Takash, USACE Public Affairs Specialist – To be clear, this finalized report with the maps is available on the Spring Valley project website.

T. Bachovchin confirmed this.

Comment from G. Durrin, Audience Member – I still feel like I'm missing something. A homeowner at that portion of Sedgwick Street within the AOI 9 EU would really want sit down, talk, and understand what you are saying. They would not want to hear this information third hand through other residents. I think they deserve to hear an explanation of their property's status now, to alleviate their concerns or to help them understand the current situation. If someone realizes they live within one of these areas, they would have questions to ask you. I don't know how you want handle this situation. Maybe the RAB should meet more frequently because many RAB members aren't here tonight, and I think this is an important topic.

D. Noble replied that a public meeting will be held when the draft RI document is made available for review. This meeting is not required by the regulatory framework, but the community meeting will provide a summary of the contents, conclusions, and recommendations for further consideration. In a way, these considerations have been addressed this way from day one. For this residential community, USACE is really just placing on paper what we think about these RI findings and issues that have been discussed during the length of the project.

Comment from G. Durrin, Audience Member – I think people will be very surprised to hear about other COPCs in Spring Valley, because there has not been much on the table for discussion [aside from arsenic and perchlorate]. I don't know what the psychological issues are, but holding a large RI report meeting might provide a good start toward educating people ahead of time. This is a lot of information for a homeowner to absorb, and I think these homeowners might be rightfully shocked, surprised, and angry.

D. Noble explained that ERT conducted a massive screen of the sampling database, simply to pull things out and see if they present a problem and warrant a closer look. This doesn't mean we have identified any problems. This presentation was intended to share the conservative process by which the team has ensured that no potential risks are missed.

Question from G. Durrin, Audience Member – So, what are the next screening steps?

D. Noble and T. Bachovchin replied that the screening process is completed. The next step is to conduct the full HHRAs for each of three EUs.

Question from N. Wells, ANC3D Commissioner – Do you expect there will be further excavation or soil removals in these areas?

D. Noble replied that USACE is trying to determine the answer to this question. Outcomes and future actions resulting from the Site-Wide HHRA are pre-decisional at this point.

Question from N. Wells, ANC3D Commissioner – There could be additional work in the neighborhood?

D. Noble confirmed this.

Comment from J. Wheeler, RAB Member – There is a process used to determine if we are finished investigating the overall Spring Valley FUDS site. That's the question that will be answered by the RI/FS process, and we will know the answer once the RI report and the Feasibility Study (FS) have been completed. It is premature to surmise that everything has been completed other than the three sites that require an HHRA.

T. Bachovchin added that the RI document will tell you what needs to be done, and the FS document will tell you how to conduct it.

J. Wheeler agreed.

IV. Open Discussion and Agenda Development

A. Next Meeting: Tuesday, May 13, 2014

Upcoming meetings will be held in May 2014 and July 2014.

RAB meetings are not held in even numbered months.

B. Future Agenda Topics

- Update on the Community Relations Plan for the Spring Valley FUDS (TBD)
- Update on the ATSDR Health Consultation for 4825 Glenbrook Road (TBD)

[As mentioned in the January 2014 presentation materials, any updated information on the Draft ATSDR Health Consultation for 4825 Glenbrook Road will be shared with the RAB as it is received. This document will be available for public review tentatively as early as 2014. This document was described and discussed at the September 2013 and previous RAB meetings, and is being prepared by the ATSDR, not by USACE.]

C. Open Discussion

D. Noble asked if there were any additional agenda topics the RAB wishes to discuss.

No additional agenda topics were shared.

V. Public Comments

D. Noble asked if there were any topics the audience wishes to further discuss.

In response to minor confusion regarding features on different RI report maps, D. Noble and T. Bachovchin confirmed that the green squares represent the bunkers at the property on the 4700 Block of Woodway Lane.

No additional public comments or questions were shared.

D. Noble thanked everyone for attending.

VI. Adjourn

The meeting was adjourned at 9:00 PM.