



SPRING VALLEY FORMERLY USED DEFENSE SITE PROJECT

RAB Meeting

November 18, 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. USACE Program Updates**
Annual Project Funding
Site-Wide Remedial Investigation Document
Groundwater Study
Glenbrook Road
- 8:00 p.m. III. Community Items**
- 8:10 p.m. IV. Open Discussion & Future RAB Agenda Development**
Upcoming Meeting Topics:
▪ (Suggestions?)
▪ 4825 Glenbrook Road Health Consultation Update (ATSDR)
- *Next meeting: January 13, 2015
- 8:20 p.m. V. Public Comments**
- 8:30 p.m. VI. Adjourn**

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

Spring Valley

Formerly Used Defense Site

Restoration Advisory Board Meeting

November 18, 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
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Agenda Review

❖ Co-Chair Updates

- Introductions, Announcements

❖ USACE Updates

- Annual Project Funding
- Site-Wide Remedial Investigation Report Schedule
- Groundwater Study
- Glenbrook Road

❖ Open Discussion & Agenda Development

❖ Community Items

❖ Public Comments



Co-Chair Updates



Introductions



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Co-Chair Updates

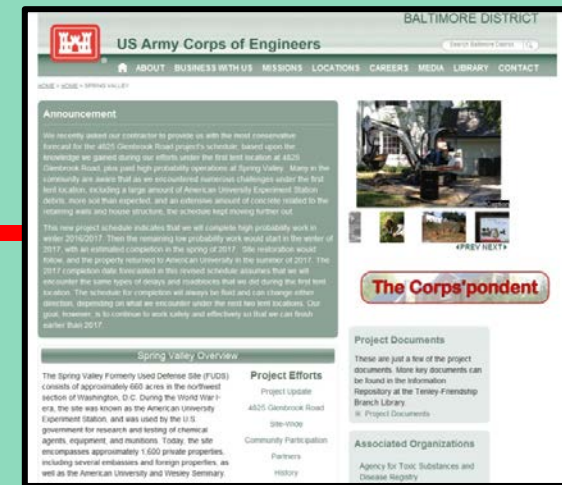
Announcements

➤ Website Updates:

- September & October Monthly Site-Wide Project Updates
- Weekly 4825 Glenbrook Rd Project Updates with photos
- August Partnering meeting minutes
- September RAB meeting minutes
- November Corps'pondent

➤ 2015 Meetings:

- January 13th is the first RAB of 2015
- 2015 RAB meeting schedule to be posted to the website in December



Task Group Updates



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Spring Valley FUDS Funding Summary

➤ **FY14 (\$33.28 M)**

- **Military Munitions Response Program (\$32.48 M)**
 - Site-Wide RI/FS Report
 - Conduct Remedial Action at 4825 Glenbrook Road
 - Stakeholder Outreach
 - Site Security
- **Hazardous Toxic Waste (\$0.74 M)**
 - Site-Wide RI/FS Report
 - Groundwater Investigation
- **Potentially Responsible Party (\$0.03 M)**
 - Conduct PRP Investigation
- **Technical Assistance for Public Participation (TAPP) (\$0.03 M)**
 - RAB Technical Consultant



Spring Valley FUDS Funding Summary

➤ FY15 (\$3.54M)

- **Military Munitions Response Program (\$2.78 M)**
 - Site-Wide RI/FS Report and Proposed Plan
 - Conduct Remedial Action at 4825 Glenbrook Road
 - Anomaly Investigation (1 residential property planned)
 - Landscape Reimbursement
 - Stakeholder Outreach
 - Site Security
- **Hazardous Toxic Waste (\$0.67 M)**
 - Site-Wide RI/FS Report and Proposed Plan
 - Groundwater Investigation
 - Arsenic Soil Removal (2 residential properties planned)
 - Landscape Reimbursement
- **Potentially Responsible Party (\$0.06 M)**
 - Conduct PRP Investigation
- **Technical Assistance for Public Participation (TAPP) (\$0.03 M)**
 - RAB Technical Consultant



Spring Valley FUDS Funding Summary

FY	1993	1994	1995	1996	1997	1998	1999	2000
\$\$ in M	11.859	8.861	1.744	0.087	0.292	1.164	8.874	10.892

FY	2001	2002	2003	2004	2005	2006	2007	2008 _a
\$\$ in M	9.824	19.819	11.000	11.471	20.362	11.063	13.843	20.871

FY	2009	2010	2011	2012	2013	2014	2015 _b	2016
\$\$ in M	15.700	19.345	17.220	6.501	9.210	33.280	3.539	TBD

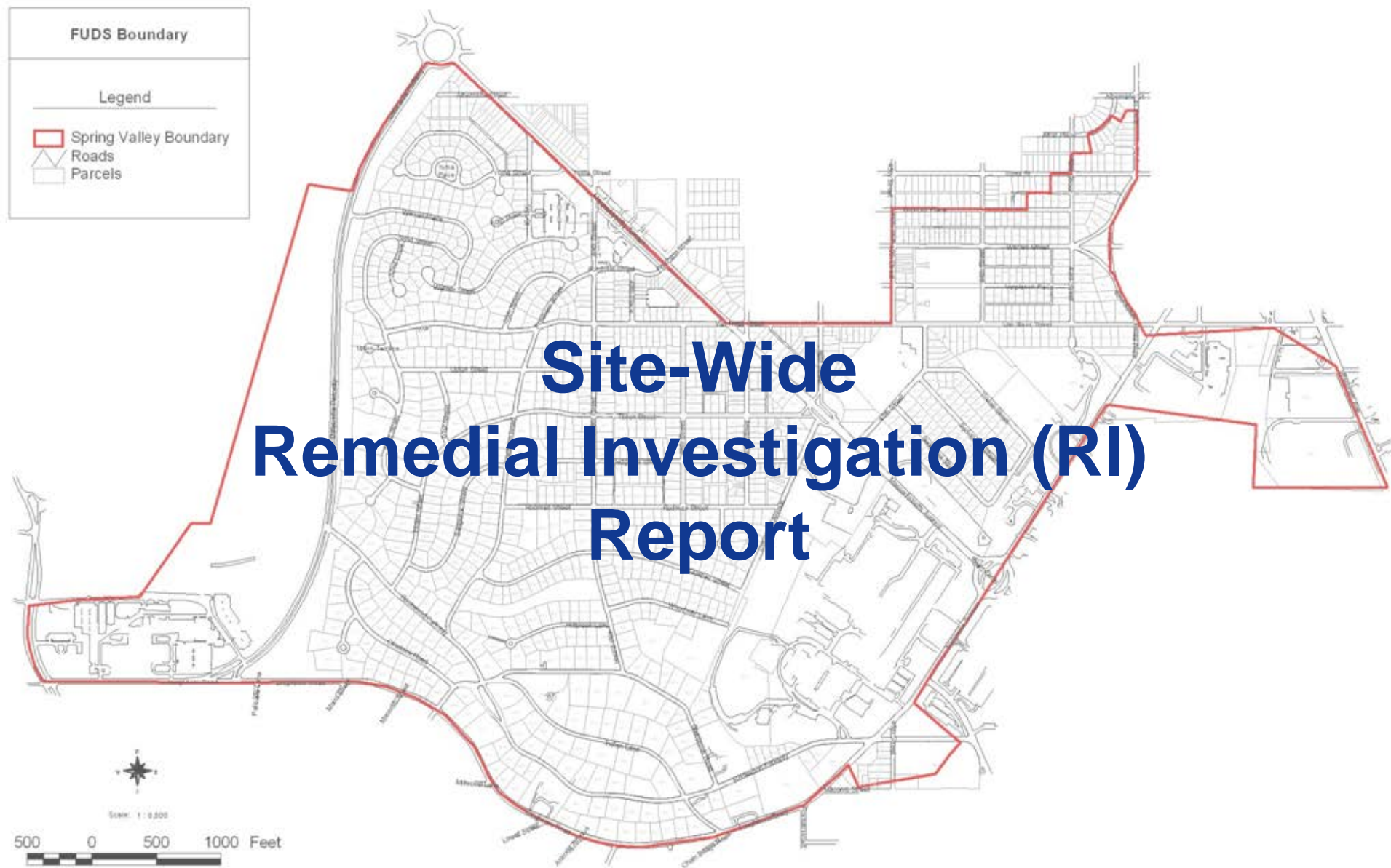
Spent through FY 2014: \$ 263.281M

a = FY08 includes \$3.2 M Congressional additional funding

b = Planned funding for FY15



USACE Updates



Spring Valley FUDS

Site-Wide RI Report Review

- **USACE has received and addressed internal Army comments from experts at three major internal Army organizations:**
 - Environmental and Munitions Center of Expertise (Part of the U.S. Army Engineering and Support Center).
 - US Army Public Health Command, Aberdeen Proving Ground, Maryland.
 - US Army Corps of Engineers Headquarters.
 - The nature of the comments were mainly editorial for content clarification.
- **Reviewers include chemical and conventional munitions experts, scientists, risk assessors, chemists, engineers, and attorneys.**
- **The Site-Wide Remedial Investigation (RI) report is currently under review at the office for the Assistant Chief of Staff for Installation Management (ACSIM) and the office for the Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health (DASA-ESOH).**
 - Anticipating comments in November.



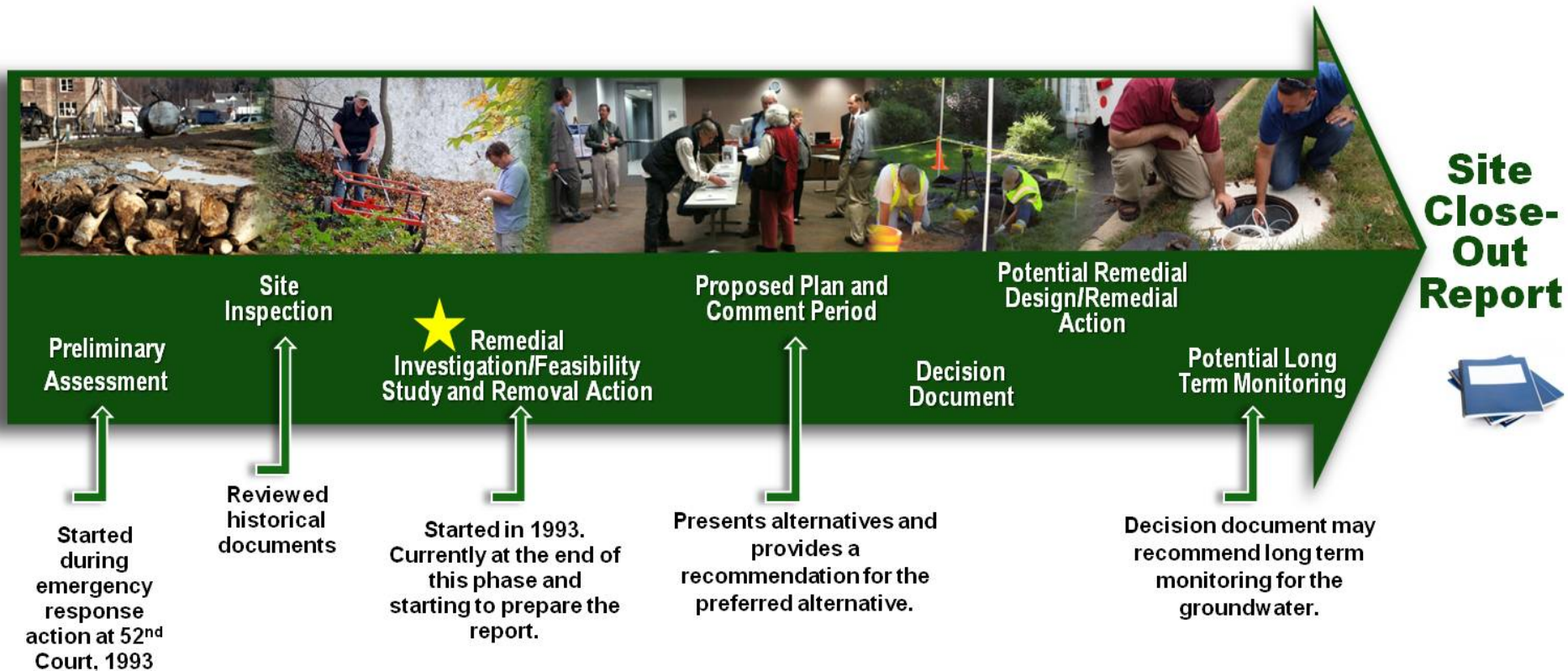
Spring Valley FUDS

Site-Wide RI Report Review

- A 60-day review period is planned for the regulatory Partners, AU, and TAPP Technical Consultant.
 - Partner review will start after receipt and resolution of all Army comments.
- The Draft Final RI report will be available to the community for an informal 45-day review after completion of the Partners review.
 - This review is not required by law. However, USACE will consider community comments and respond in writing.
- A community meeting is planned to discuss the RI during the community review period.
 - Anticipated in Spring 2015.
 - RAB briefing by TAPP Technical Consultant, Dr. Peter deFur.
- Next Steps: Feasibility Study
 - To be conducted to evaluate alternatives for addressing any unacceptable risks or hazards identified in the Final RI Report.



CERCLA Process



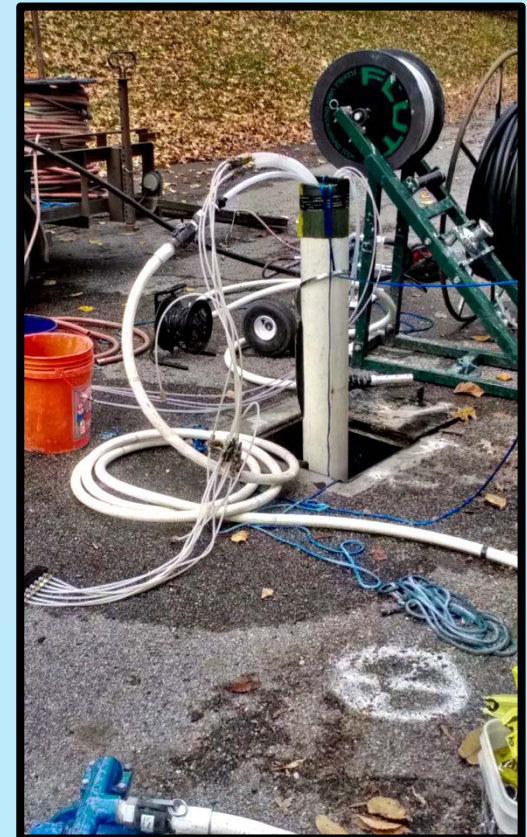
Groundwater



Groundwater

Well Liner Installation

The field crew returned to Rockwood Parkway to install the FLUTe liner with five sampling ports for MP-5 on November 4th & 5th.

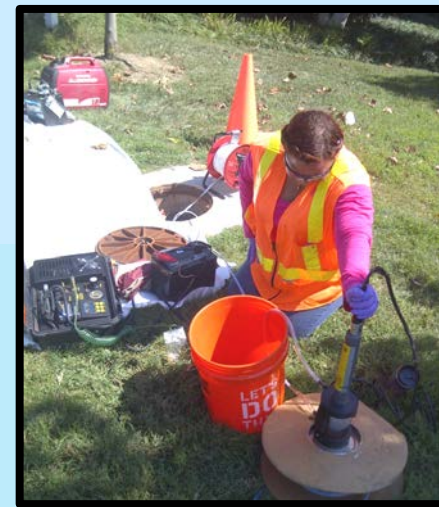


Groundwater

Groundwater Sampling Results

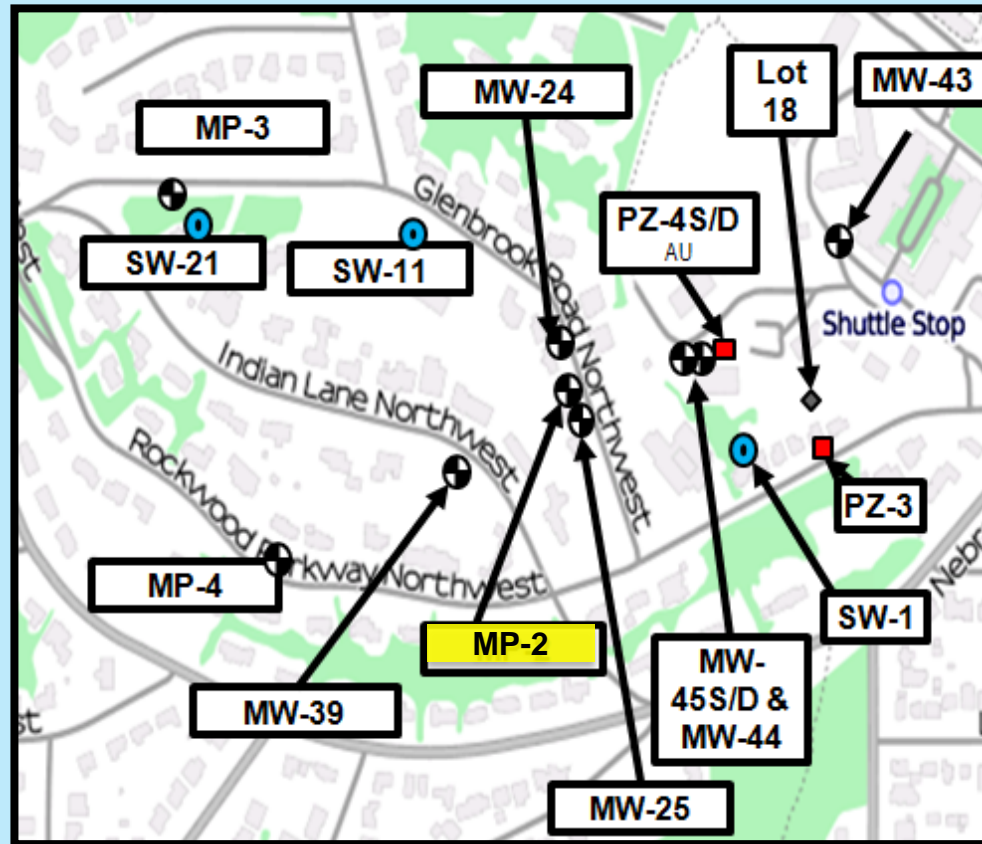
- **Summary of June 2014 Semi-Annual Groundwater Sampling Results** (from 20 existing monitoring wells, 10 surface water locations)
 - At MW-44, PZ-4D, and MW-22: Perchlorate concentrations are above the drinking water advisory level of 15 parts per billion (ppb)
 - At MP-2: Arsenic concentrations are above the drinking water standard of 10 ppb

- **Summary of September 2014 Quarterly Groundwater Sampling Results** (from monitoring wells in front of Kreeger Hall and at the Sibley Hospital Sump)
 - At MW-44 and PZ-4D: Perchlorate concentrations are above the drinking water advisory level of 15 parts per billion (ppb)
 - Arsenic concentrations were all below the drinking water standard of 10 ppb



Editor's note: Spring Valley groundwater is not used as a drinking water source, but for comparison purposes, groundwater contaminant concentrations are compared to drinking water standards and advisory levels established by the Environmental Protection Agency.

4800 Block of Glenbrook Road MP-2



Perchlorate And Arsenic Semi-Annual Sampling Results

4800 Block of
Glenbrook Rd
MP-2

Red = Arsenic
Blue = Perchlorate
bgs = below ground surface
Arsenic MCL = 10 ppb
Perchlorate DWAL = 15 ppb
Yellow = exceeds MCL/DWAL

MP2 – #1 Depth: 35-44 ft bgs		
06/30/14	6.9	1.39
06/30/14 FD	6.65	NT
12/11/13	6.6	3.08
04/30/13	7.6	5.82
07/20/12	8.4	6.3
05/03/12	7.4	4.5
03/30/12	7.5	5.8
3/30/2012 FD	7.6	7

MP2 – # 2 Depth: 49-54 ft bgs		
06/30/14	12.4	3.84
12/11/13	11	0.403
12/11/13 FD	7.1	NT
05/13/13	12.6	9.74
07/20/12	16	12
05/03/12	15	12
03/30/12	15	12

MP2 – #3 Depth: 56-71 ft bgs		
07/01/14	13.7	0.783
12/11/13	15.2	6.89
05/13/13	11	2.57
07/20/12	18	18
05/03/12	18	17
03/30/12	15	17

MP2 – #4 Depth: 73-77 ft bgs		
07/01/14	7.6	ND
12/11/13	9.9	8.09
05/13/13	9.2	1.57 J
07/20/12	12	25
05/03/12	15	25
03/30/12	12	21

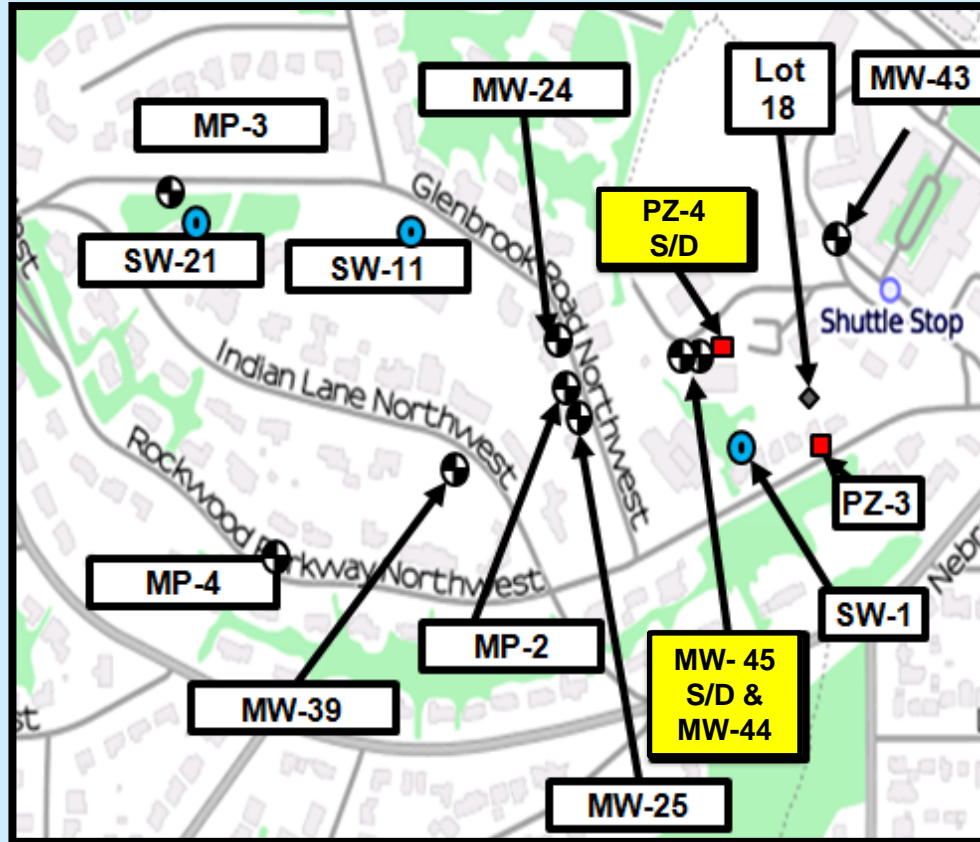
MP2 – #5 Depth: 96-102 ft bgs		
07/01/14	9.8	ND
12/11/13	10.3	5.07
05/13/13	9.1	2.67
07/20/12	14	26
7/20/12 FD	15	24
05/03/12	15	26
03/30/12	13	24

MP2 – #6 Depth: 105-114 ft bgs		
07/01/14	10.8	ND
12/11/13	10.2	2.43
05/13/13	11	9.05
07/20/12	16	25
05/03/12	17	25
5/3/2012 FD	17	26
03/30/12	15	27

MP2 – #7 Depth: 123-129 ft bgs		
07/01/14	11.8	0.245 J
12/11/13	12	8.18
05/03/13	12	16.6
07/20/12	16	24
05/03/12	17	25
03/30/12	14	20

MP2 – #8 Depth: 145-160 ft bgs		
07/01/14	11.9	0.917
12/11/13	10.3	3.67
05/13/13	12.6	17.9
07/20/12	15	25
05/03/12	16	24
03/30/12	14	24

American University



Perchlorate Sampling Results

American University

	Dec-13	Mar-14	Jun-14	Sep-14	Well Screen Depth (Below Ground Surface)
PZ-4S	6.75	10.9	8.58	4.16	27 - 47 feet
PZ-4D	39.8	44.5	16.7	13.8	52 - 62 feet
MW-44	40.2	42.3	49.8	40.1	80 - 95 feet
MW-45S	1.28	5.86	5.74	2.55	119 - 124 feet
MW-45D	5.3	ND	ND	0.221	147 - 152 feet

All concentrations reported in micrograms per liter (ug/L)

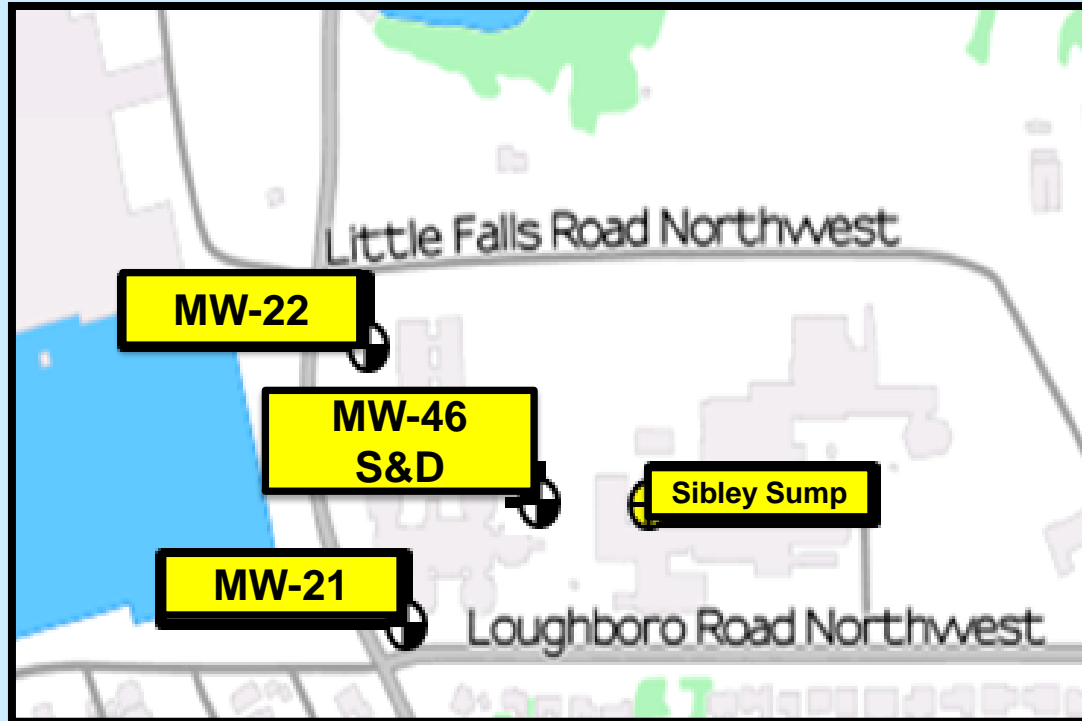
Yellow highlight indicates detected value exceeds the perchlorate IDWHA level of 15 UG/L

ND - Non Detect (analyte was not detected in the sample)

Find the “Groundwater Monitoring Map” with the **full set of sampling results** on our project website under “Project Documents” or follow this link:

<http://www.nab.usace.army.mil/Portals/63/docs/SpringValley/Groundwater%20map%20Oct%202014.pdf>

Sibley Hospital



Perchlorate Sampling Results

Sibley Hospital

	Dec-13	Mar-14	Jun-14	Sep-14	Well Screen Depth (Below Ground Surface)
Sibley Sump	17.5	13	9.99	13.5	Grab Sample
MW-21	3.76	NT	3.43	NT	9 - 24 feet
MW-22	16.7	NT	25	NT	25 -40 feet
MW-46S	NP	NP	NP	11.2	72 - 92 feet
MW-46D	NP	NP	NP	ND	108 - 118 feet

All concentrations reported in micrograms per liter (ug/L)

Yellow highlight indicates detected value exceeds the perchlorate IDWHA level of 15 UG/L

NT - Not Tested

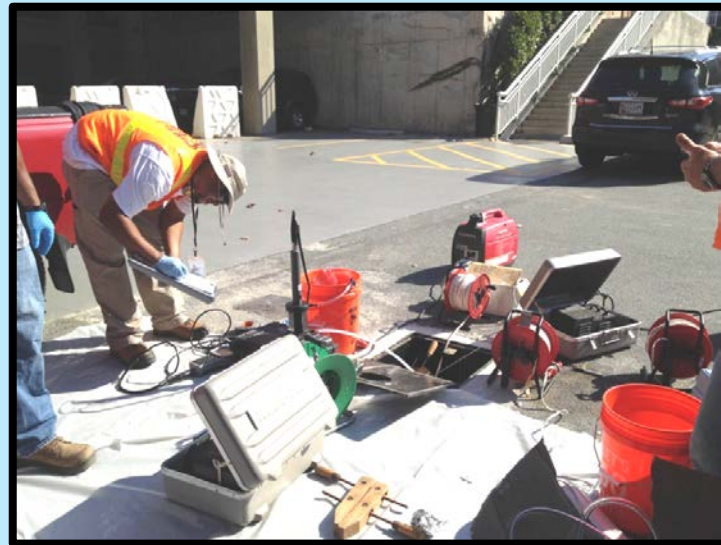
ND - Non Detect (analyte was not detected in the sample)

NP - Not Present (well not installed as of that date)

Groundwater

Upcoming FY 2015 Groundwater Investigation Efforts

- **Several monitoring wells require maintenance.** This field work is planned for the week of Thanksgiving.
- **Sampling MP-5:** MP-5 can be sampled once the team receives a new permit. Estimated sampling date is January 2015.
- **Annual sampling events:** Select monitoring wells will now be sampled annually. The next sampling event is planned for spring 2015.



Sampling at MW-46 S&D

Groundwater

Upcoming FY 2015 Groundwater Investigation Efforts

- **Preliminary Groundwater Study Remedial Investigation Report (RI):** The Groundwater RI is being developed separately from the Site-Wide RI.
 - The Groundwater RI report will provide a summary of the groundwater investigation to include a review of all the data collected to determine the nature and extent of contamination.
 - The Groundwater RI will also include a Human Health Risk Assessment (HHRA).
 - Old data will be re-evaluated against current screening values, similar to the Site-Wide RI process described at the March and May RAB meetings.



4825 Glenbrook Road

Update



4825 Glenbrook Road

Shelter-in-Place During High Probability

- As we prepare for the high probability operations to resume under the second tent location on **December 1**, we tested the Shelter-in-Place (SIP) ring-down system on Wednesday, November 12, and the complete SIP siren system on November 17. This allowed us to verify our system is working and also reminded participating residents about the SIP program.
- We will return to our regular monthly tests on Wednesday, **December 3**, and the first Wednesday of every month throughout high probability operations.



Shelter-In-Place Zones During High Probability Operations

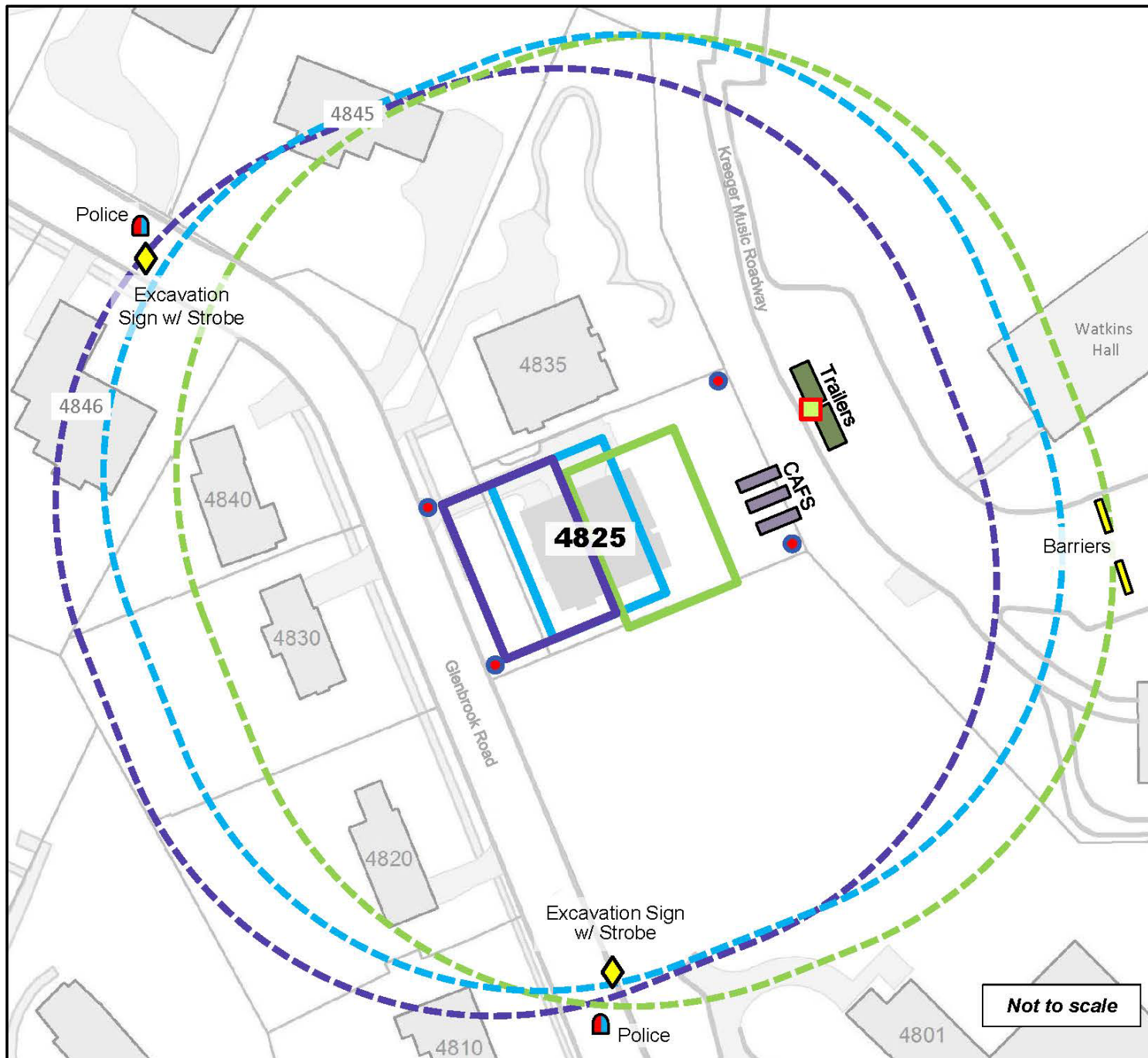
Key

- ECS 1
- ECS 2
- ECS 3
- - - Zone 1
- - - Zone 2
- - - Zone 3
- Base Station
- Strobe & Speaker
- ◆ Excavation Sign w/ Strobe

The first scheduled Engineering Control Structure (ECS) location (purple) is in the front yard towards Glenbrook road. Then the ECS moves towards the backyard and Kreeger Music Roadway (green).

Three Chemical Agent Filtration System (CAFS) units will be utilized for this operation

District of Columbia-Metropolitan Police Department (MPD) District 2 will cut and pull traffic during an emergency. This map indicates the 2 locations they will respond to, after receiving a 'Code 1' notification. All MPD District 2 officers working during operation times will be briefed prior to operations starting.

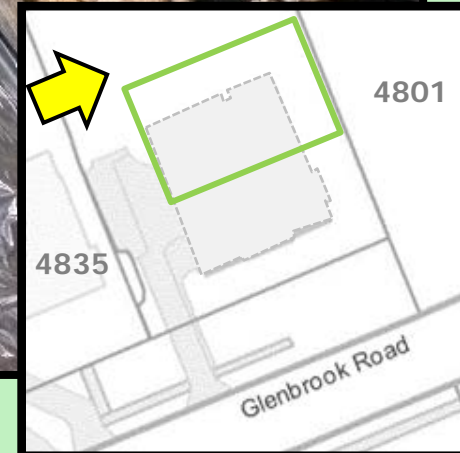


4825 Glenbrook Road

Low Probability

In mid-September, the site crews finished the low probability excavation work in the area where the back wall of the Engineering Control Structure (ECS) was later re-located. Then I-beam was placed at the base of the excavated area, to support and stabilize the back wall of the ECS.

During this excavation effort, a small amount of American University Experiment Station glassware was encountered on September 15, 2014.



4825 Glenbrook Road

Tent Move Activities



Crews were able to stage and assemble the crane in the American University parking lot, overlooking the project site, near Watkins Hall, on September 20th for the ECS tent relocation.

The relocation took four weeks.



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4825 Glenbrook Road

Tent Move Activities



4825 Glenbrook Road

Tent Move Activities



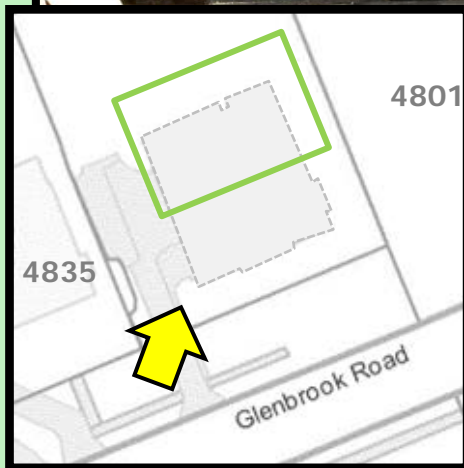
Crews continued setting up the equipment and preparing the site for the next phase of high probability excavations.

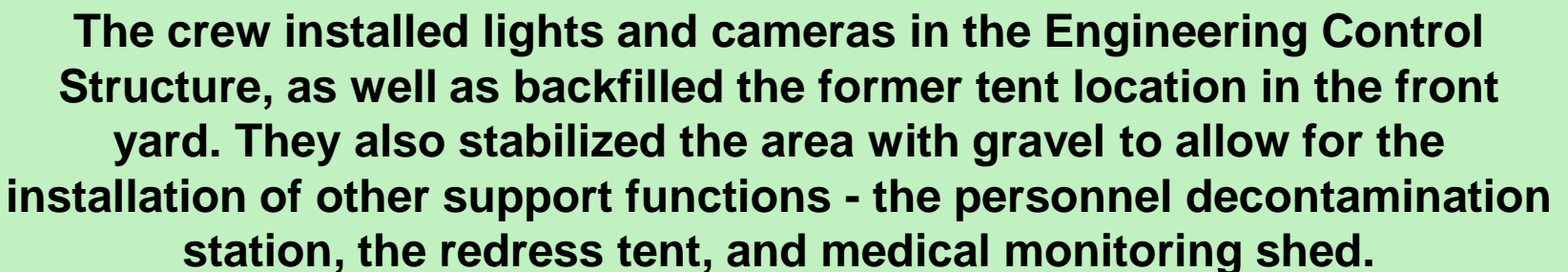
They finished securing the fabric on the Engineering Control Structure, ensuring a tight fit to maintain the negative pressure inside the tent.

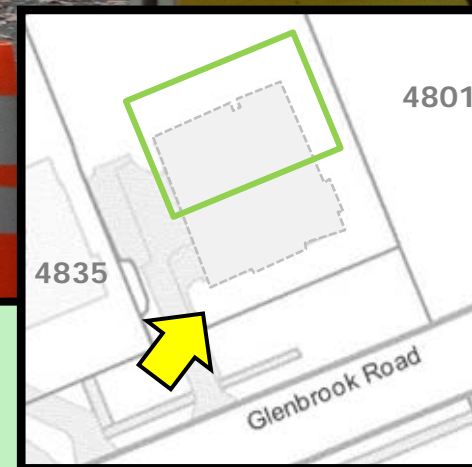
We will performed a smoke test on **November 20** to ensure negative pressure.



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Personnel
Decontamination
Station

Medical
Monitoring
Station

MiniCAMS
Shed

Redress Tent

Ambulance
Parking

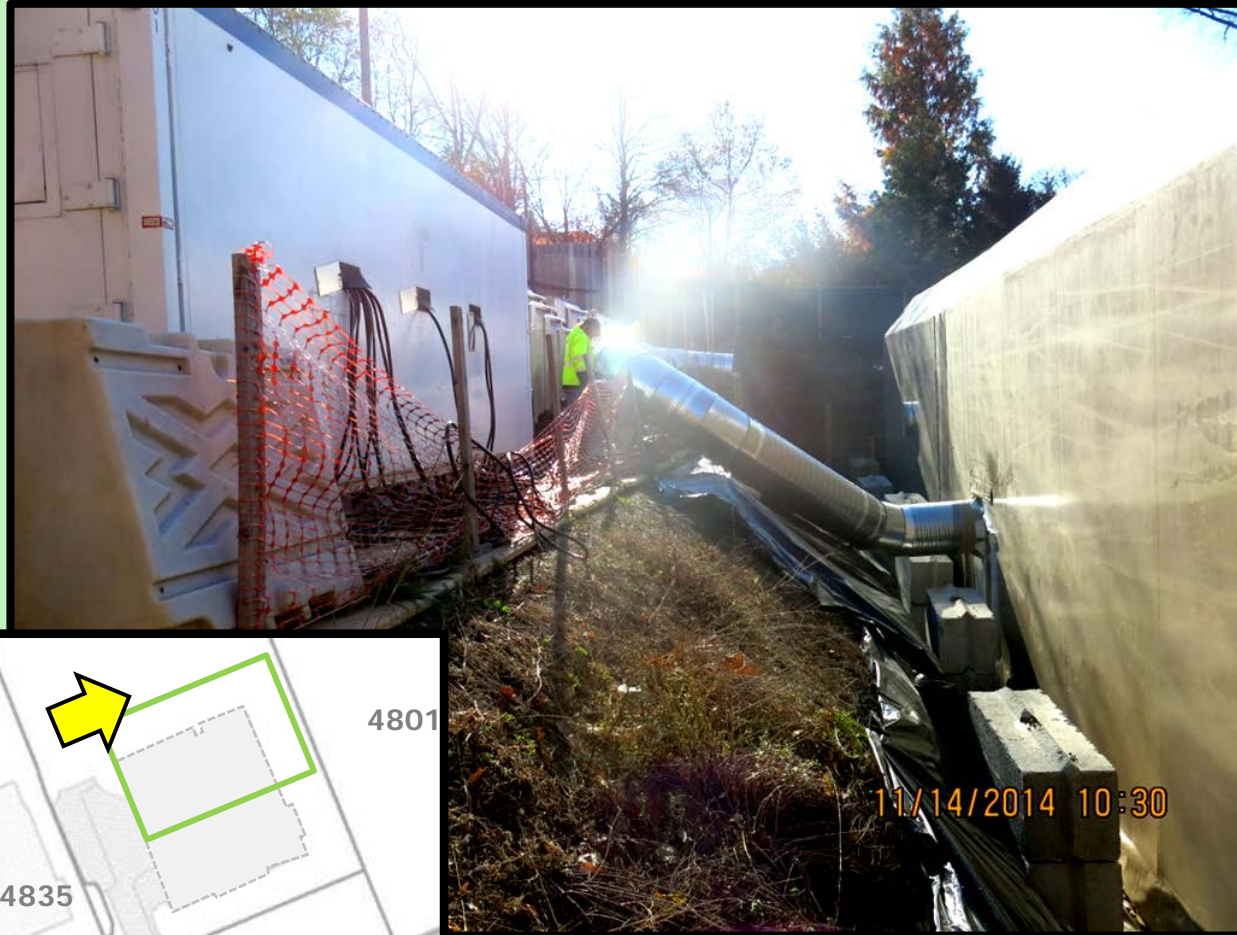
SIP Siren

Driveway to Truck Door

Entrance Alcove

4825 Glenbrook Road

Tent Move Activities



Representatives from the Edgewood Chemical Biological Center also were on site installing the ducting for the Chemical Air Filtration System (CAFS) and testing the generator for the CAFS.



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4825 Glenbrook Road

Tent Move Activities



This is a modified photo with a proposed redesign to the front fence at the Glenbrook Road project site.

We are looking at various options to re-design the fence on the front of the property to help improve the property's appearance along Glenbrook Road.



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4825 Glenbrook Road

Schedule Update

✓ **December 2012 through May 2013**

Site Preparation/ Initial Low Probability Work

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

✓ **May 2013 through September 2013**

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

→ **September 2013 through Winter 2016/2017**
High Probability Excavation

Winter 2017 through Spring 2017

Final Low Probability Excavation

Spring 2017 through Summer 2017

Site Restoration



Spring Valley FUDS

Restoration Advisory Board

Community Items



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Spring Valley FUDS

Restoration Advisory Board

➤ **Reminder: Our next meeting will be**
January 13th

➤ **Upcoming Agenda Items**

- **Suggestions?**

- **Site-wide Remedial Investigation Report Update**
- **4825 Glenbrook Road Health Consultation Update (ATSDR) - TBD**



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Spring Valley FUDS

Restoration Advisory Board

- **Public Comments**
- **Wrap-Up**



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**U.S. Army Corps of Engineers
Spring Valley FUDS Restoration Advisory Board Meeting
St. David's Episcopal Church
Minutes of the November 18, 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
Tom Smith	Community Member
Lee Monsein	Community Member
George Vassiliou	Community Member
John Wheeler	Community Member
Dr. Peter deFur (Represented by Laura Williams)	Environmental Stewardship Concepts/RAB TAPP Consultant
James Sweeney	Agency Representative – District Department of the Environment
Mary Douglas	Community Member
William Krebs	Community Member
Steve Hirsh	Agency Representative – US Environmental Protection Agency Region III
Linda Argo	At Large Representative – American University
Mary Bresnahan	Community Member
Lawrence Miller	Community Member
Alma Gates	At Large Representative – Horace Mann School
RESTORATION ADVISORY BOARD MEMBERS NOT PRESENT AT THIS MEETING	
Kathleen Connell	Community Member
Paul Dueffert	Community Member
Malcolm Pritzker	Community Member
ATTENDING PROJECT PERSONNEL	
Todd Beckwith	USACE, Spring Valley Project Manager
Lan Reeser	USACE, Spring Valley Technical Manager
Brenda Barber	USACE, Spring Valley Project Manager

Andrea Takash	USACE Corporate Communication Office
Rebecca Yahiel	ERT Inc., Spring Valley Community Outreach Program
Lattie Smart	ERT Inc., Spring Valley Community Outreach Program
HANDOUTS FROM THE MEETING	
I. Final Agenda for the November 18, 2014 RAB Meeting II. USACE Presentation III. November <i>Corps' pondent</i>	

AGENDA

Starting Time: The November 18, 2014 RAB meeting began at 7:05 PM.

I. Administrative Items

A. Co-Chair Updates

Greg Beumel, Community Co-Chair, 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.

B. Introduce Guests

Steve Hirsh, USEPA Region III, introduced his colleague Paul Leonard attending the meeting.

Susan McNeil of the DC Water Design Branch also attended the meeting, along with her supervisor, Duncan Mukira. DC Water is planning their water main upgrades in the neighborhood.

C. General Announcements

D. Noble announced that the latest website updates include the August Partnering minutes, the September RAB meeting minutes package, monthly site-wide project updates (for September and October 2014), the November *Corps' pondent*, the weekly remediation progress updates for the 4825 Glenbrook Road site, and associated photographs as appropriate. He reminded everyone that the Glenbrook Road weekly updates are posted on the Spring Valley project website on Friday afternoons. Additionally, the November *Corps' pondent* was available at the meeting and was in the mail to all Spring Valley homes.

D. Noble reminded RAB attendees that this was the last RAB meeting for 2014. The first RAB meeting of 2015 is scheduled for January 13. The complete 2015 RAB meeting schedule will be posted to the project website in December. RAB meetings are on the second Tuesday of every odd numbered month.

D. Task Group Updates

No task group updates were presented.

II. USACE Updates

D. Noble provided a status update on the Annual Project Funding and the Site-Wide RI Report Schedule.

Brenda Barber, Spring Valley Project Manager, provided a status update on the progress to date for 4825 Glenbrook Road.

Todd Beckwith, Spring Valley Project Manager, provided a status update on the groundwater investigation, focused on the completed well liner installation, the June semi-annual and the September quarterly sampling events, and the preliminary Groundwater Study Remedial Investigation (RI) report.

A. Annual Project Funding

D. Noble gave an update on the funding summary for Fiscal Year (FY) 14, FY 15, and an overview of spending since 1993 when the project began.

Spending for FY14 was over \$33 million. FY14 was largest spending year on the project, mainly due to the \$32 million spent on the Military Munitions Response Program (MMRP). USACE-Baltimore received extra funding from USACE-Headquarters for the Glenbrook Road project. At this point, due to the extra funding, the Glenbrook Road project is fully funded through FY16. The project continues to spend money on the other usual categories, including site security, the hazardous and toxic waste (HTW) portion of the program, including writing the Site-Wide RI/FS report, and the ongoing groundwater investigation. Additionally, the team is funding a few small projects, including the PRP investigation and the TAPP technical consultant.

Since the Glenbrook Road project received significant funding in FY14, funding will decrease for FY15. The other funding categories will maintain the same level of funding as the team continues to write the Site-Wide RI/FS report, continues the support of the TAPP technical consultant, and continues the PRP investigation. We are projected to spend a total of about \$3.5 million in FY15.

Since 1993 when the project started, the last big spending year was 2008 when more than \$20 million was spent, before the \$33 million spent in FY14. To date, the project has spent a total of \$263.281 million.

Questions from Alan Hengst, Community Member - Is there any money in FY15 for the Fordham Road investigation?

Dan Noble explained that USACE is still accounting for an anomaly investigation on one residential property and two arsenic contaminated soil removal actions on two properties in the budget.

B. Site-Wide Remedial Investigation (RI) Schedule

D. Noble gave an update about the status of the Site-Wide RI schedule, which is in its draft final stage.

There are three major internal Army organizations that must see the RI report before the document is released publically. These Army organizations are the USACE Center of Expertise (CX) in Omaha, who provides technical expertise on chemical warfare materiel issues, the US Army Public Health Command at Edgewood Arsenal, MD, who reviews the Human Health Risk Assessment portion of the report, and the USACE-HQ. In addition to the project team, reviewers include chemical and conventional munitions experts, scientists, risk assessors, chemists, engineers, and attorneys.

The Spring Valley project team has received comments from these three organizations. The comments were mainly editorial to clarify content.

The document is now at the Assistant Chief of Staff for Installation Management (ACSIM) and the office for the Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health

(DASA-ESOH). The two senior leaders of these agencies have worked with the Spring Valley team before, including signing the Decision Document for the Glenbrook Road project. The project team is anticipating their comments on the Site-Wide RI later in November. Once the comments are addressed, the latest updated versions of the revised draft report will then be provided to EPA and DDOE, as well as the TAPP technical consultant, Dr. Peter DeFur, on behalf of the RAB.

Since the Site-Wide RI is such a large document, the Spring Valley team will give DDOE and EPA at least 60 days to review the content. While there is no requirement in CERCLA for an RI report to have a public comment period, USACE believes an informal public review is appropriate in this case, due to the complexity and the length of time that the project has taken, and the impact that it has had on the community. Therefore, early next year a public meeting and presentation will be scheduled to discuss the Site-Wide RI report for those who would like to learn more about what the document contains, what it means, and ask questions. The team is also considering providing written responses to the public's written comments and questions, to be included into the public record. The RI is basically going to recommend which portions of the site should proceed to a Feasibility Study (FS). The FS would evaluate alternatives for addressing any unacceptable risks or hazards identified in the Final RI Report for certain areas in the project site. This process is similar to the process we followed for Glenbrook Road. Next steps include the FS, a Proposed Plan (PP), a Decision Document (DD), and potentially Remedial Action (RA).

C. Groundwater Study

Todd Beckwith, Spring Valley Project Manager, provided a status update on the groundwater investigation, focused on the completed well liner installation, the June semi-annual and the September quarterly sampling events, and the preliminary Groundwater Study RI report.

MP-5 Well Liner Installation: The field crew successfully completed the installation of the final FLUTE liner with five sampling ports for the new deep well, MP-5, on November 4th and 5th.

The well borehole was drilled to 200 feet. The liner has five sampled ports designed into the flexible plastic tubing. These specially designed ports allow the team to collect samples from the five different depths within that borehole where there are bedrock fractures and groundwater flow. A scaffold was built to assist with the liner installation. To install the liner, water is pumped into the liner. The height of the scaffold combined with the weight of the water pushes the liner down through the borehole and seals the liner against the borehole wall. Once the liner was installed, plastic tubing was connected to each sampling port for the collection of the groundwater samples. The well is finished and covered with a manhole.

[Editor's note: MP is the abbreviation for a 'multi-port' well, which has multiple sampling ports, and MW is the abbreviation for a standard 'monitoring well.' Additionally, S is the abbreviation for a 'shallow' well, which D is the abbreviation for a 'deep' well.]

Groundwater Sampling Results:

September 2014 Quarterly Sampling: The quarterly sampling of the wells in front of Kreeger Hall on American University and the Sibley Hospital sump was concluded in September.

The September quarterly sampling detected perchlorate concentrations above 15 parts per billion (ppb) at MW-44 and PZ-4D on AU's campus. The arsenic concentrations were all below the drinking water standard of 10 ppb.

June 2014 Semi-annual Sampling: The third semi-annual sampling event was completed in June 2014. A total of 20 shallow and deep wells and a total of 10 surface water locations were sampled. The sampling results were consistent with what has been seen in the past. Perchlorate was detected above the drinking water advisory level of 15 ppb at MW-44 and PZ-4D at AU's campus, and MW-22 near Sibley Hospital.

MP-2, located across from 4825 Glenbrook Road, was the only location where arsenic was detected above the drinking water standard of 10 ppb.

Spring Valley groundwater is not used as a drinking water source, but for comparison purposes, groundwater contaminant concentrations are compared to drinking water standards and advisory levels established by the Environmental Protection Agency (EPA).

Question from Tom Smith, RAB Member – I know you said that the results from the wells near Kreeger Hall have been consistent with past results, but have you seen any reduction in the contaminant concentrations?

Todd explained that additional information in the USACE presentation addresses those questions.

Perchlorate and Arsenic Sampling Results – MP-2 along Glenbrook Road: The deep well MP-2 on Glenbrook Road was drilled to 200 feet and has eight different sampling ports, the shallowest port being 35-44 feet below ground surface (bgs) and the deepest port being 145-160 feet bgs. When these wells were first sampled, perchlorate was detected at some of the highest concentrations above the drinking water standard. However, during the last few sampling events, all of our perchlorate results have been below the drinking water standard. The highest perchlorate result from June 2014 was about 4 ppb. It appears that the perchlorate concentrations at MP-2 have decreased since it was first sampled in 2012.

The arsenic sampling results have stayed consistent, ranging from 18 ppb down to 6.6 ppb. We continue to see arsenic concentrations above the drinking water standard at a number of the different sampling depths.

In summary, the perchlorate concentrations seen at MP-2 have been decreasing. Perchlorate is a more mobile contaminant than arsenic because it is more soluble and it does not absorb to soil. Arsenic will take longer to flush out because it absorbs to soil more readily. These wells are down-gradient from 4825 Glenbrook, 4801 Glenbrook, and Lot 18 on AU where a lot of AUES-related material removals were done. It is possible that those removals had some positive impact on the groundwater.

Perchlorate Sampling Results – American University: The wells PZ-4S&D (sampled since 2006), MW-44, and MW-45S&D in front of Kreeger Hall at AU all represent different depths to get vertical delineation of the areas' groundwater.

Sampling results from **MW-45S&D** have been below the drinking water standard and non-detect in the past year.

PZ-4S has been sampled since 2006. There have been 11 sampling events over the years. Presented information focused on the results from this past year; however, all of the results have been shared and discussed in the past. All of the results for the groundwater study are available on the project website under "Project Documents"

(<http://www.nab.usace.army.mil/Portals/63/docs/SpringValley/Groundwater%20map%20Oct%202014.pdf>).

PZ-4S is the shallowest well at 27 to 47 feet bgs of the well stream. [The deepest interval at MW-45D is 147 to 150 feet bgs.] Historically, PZ-4S had the highest detection of perchlorate in Spring Valley at 146 ppb in 2007. More recent detections of perchlorate at PZ-4S have been significantly less than the first sampling events, the lowest result being 4 ppb this September. It appears as though there is not a continuing source of contamination in this area. Additionally, it appears like the contamination seen in this shallow well has started to flush out.

PZ-4D has been sampled since 2006. Results showed a couple anomalous detections that were below the 15 ppb standard. However, results have usually been between 14 and 45 ppb.

MW-44 was installed in March 2012. Its results consistently range from 33 to 50 ppb. MW-44 is a deeper well. The groundwater flow at this depth is an order of magnitude less than PZ-4S, which means that the

groundwater flow at PZ-4S may be around a foot a day, compared to an inch a day at MW-44. This means that the contamination seen at MW-44 may take longer to flush out over time.

Question from T. Smith, RAB Member - Do you find that looking at this [data] over a longer term basis, that seasonally the numbers are pretty consistent near here?

T. Beckwith explained that they will do a seasonality test in the Groundwater RI report, using statistical procedures. Just visually looking at the data, there do not appear to be changes based on the season the samples were taken. The data appears to be consistent season to season.

Perchlorate Sampling Results - Sibley Hospital Area: MW-21 and MW-22 are shallow wells along MacArthur Boulevard, and the Sibley sump is in the bottom of the elevator shaft at Sibley Hospital, where the groundwater infiltrates through the sump.

The new well at Sibley Hospital, **MW-46S&D**, was sampled for the first time in September 2014. MW-45S&D is deeper bedrock well, which will provide a better vertical delineation of the groundwater in that area. MW-46S is 72-92 feet bgs, and MW-46D is 108-118 feet bgs. The Sibley sump has consistently detected perchlorate in the range of 15 to 25 ppb; the most recent sampling result from September 2014 was 13.5 ppb. In December 2013, the perchlorate concentration was 18 ppb.

Concentrations of perchlorate detected at **MW-21** were significantly lower than when it was first sampled in 2006 (between 40-50 ppb). Now, perchlorate detections are lower, about 4 ppb.

However, **MW-22** has had the opposite results of MW-21. When MW-22 was first sampled, the perchlorate concentrations were around 5-10 ppb. The most recent sampling results in December 2013 and June 2014 detected perchlorate concentrations at 17 and 25 ppb. One explanation could be that the higher levels of perchlorate seen at MW-21 and the Sibley sump is making its way down-gradient towards MW-22. The groundwater is flowing towards the Potomac River.

Question from Jerry Burton, Community Member – Does that mean, if the groundwater is flowing from Sibley to MW-22, then MW-22 to MW-21, is it then flowing into the Reservoir?

T. Beckwith explained that the groundwater is moving under the reservoir towards the Potomac River. The blue area on the map that J. Burton was referring to is actually the water treatment plant holding tanks, which treat water from the Reservoir. The slope and the groundwater gradient towards the Potomac River are significant enough that we know that the groundwater is moving towards the Potomac River, not into the water supply at the water treatment plant.

Steve Hirsh, EPA Region III, explained that the groundwater is pumped and drained out from underneath the water treatment plant so that [the groundwater] does not lift up and damage the tanks at the treatment plant. The facility discharges the pumped groundwater into the Potomac. This was actually the first place they found perchlorate in the groundwater. However, no groundwater is getting into the water treatment plant.

Question from T. Smith, RAB Member – Is there any reason why MW-21 and MW-22 were not tested in the spring and fall of 2014?

T. Beckwith explained that these two wells are not part of the quarterly sampling event. They are only part of the semi-annual sampling event.

T. Smith asked why USACE samples some wells quarterly and other wells semi-annually. T. Beckwith explained that USACE discussed the groundwater monitoring requirements with EPA and DDOE and decided they wanted to keep a closer eye on the wells near Kreeger Hall and Sibley sump and thus decided to test these wells on a more frequent basis. The rest of the wells we felt we could sample on a semi-annual basis.

Upcoming FY 2015 Groundwater Investigation Effort:

May Well Inspections: Several monitoring wells require maintenance. This field work is planned for the week of Thanksgiving.

Sampling MP-5: USACE is planning to sample MP-5 once the groundwater stabilizes with the liner in place and the team receives a new occupancy permit to shut down the road for the sampling effort. The estimated sampling date is January 2015.

Annual sampling events: Per the discussion about future groundwater monitoring requirements during the October Partners meeting with EPA and DDOE, select monitoring wells will now be sampled annually on a select number of wells: those wells around Kreeger Hall, along Glenbrook Road, and around Sibley Hospital. The next sampling event is planned for the spring of 2015. We are scaling back our monitoring program and moving into our Remedial Investigation report writing phase.

Preliminary Groundwater Study Remedial Investigation Report: The Groundwater RI is being developed separately from the Site-Wide RI. It will provide a summary of the groundwater investigation findings to include a review of all the data collected to determine the nature and extent of contamination in Spring Valley from past Army activities. The Groundwater RI will also include a Human Health Risk Assessment (HHRA), which will look at potential exposure scenarios for groundwater, including the potential future use of groundwater as a drinking water source. Similar to the Site-Wide RI process, old data will be re-evaluated against current screening values.

When all of the monitoring wells were first installed and sampled in Spring Valley, USACE did a full sweep of the analytical parameters that would have potentially been a concern in Spring Valley. Since then, USACE has narrowed it down to arsenic and perchlorate as the main contaminants of concern. However, as the team looks at all the old data, it is likely that a few new potential compounds of concern may emerge in the groundwater study as the old data is compared against the most up-to-date screening values from EPA, which may have recently changed. However, this may not change our opinions about what the main contaminants of concern in the groundwater are. This just means the team and the Partners will have to talk about them and address them in the Groundwater RI report.

Discussion:

Comment from J. Burton, Community Member – I hope that in your [RI] report you will find a better way to present all of this data. I've been looking at data most of my life (contour maps, geology, etc.) and I've been trying to fit this stuff in my head, but it's just impossible. You've got physical locations, time, and depths that vary, and two different contaminants, and you present it in all on one graphic. It is very difficult to figure out the diagrams and see data points.

T. Beckwith agreed that there is a lot of data and explained that there will be a lot of information in the Groundwater RI report. We will try to present all of the data as best we can. The RI report will include a lot of maps that show the sampling results. We are still currently working out the details of the RI report. We do not yet have plans for all the maps that will be included, but we may have maps showing estimated plume sizes and areas, and how they have changed since 2006.

J. Burton asked if the RI report would include 3D maps. T. Beckwith confirmed this.

Question from Ginny Durrin, Community Member – With your data so far, your assumptions are that there is no source for any contamination except at 4825 [Glenbrook Road] to cause perchlorate and arsenic coming down to the groundwater? What about a potential [contamination] source up at Kreeger Hall? Why are [contamination] levels so high near Kreeger Hall?

T. Beckwith explained that USACE has done a lot of investigation up around Kreeger Hall looking for potential source areas and did not find any. As I mentioned earlier, it looks as though the shallow groundwater concentrations up near Kreeger Hall have come down quite a bit, which would indicate that

there probably is not a continuing soil source, otherwise you would not see the shallow groundwater concentrations decreasing as much.

G. Durrin asked about the higher concentrations at the deeper groundwater levels.

T. Beckwith explained that higher concentrations at the deeper groundwater levels would not be indicative of a contamination source in the soil. There may be some residual contamination in the groundwater and since the groundwater is moving very slowly at that depth, it will probably take longer for the contamination to flush out. There appears to be no soil source above it that is continuing the feed the groundwater contamination.

G. Durrin commented that she was just doing point of information, so where did [the contamination] come from?

T. Beckwith explained that the deep groundwater is interconnected with the shallow groundwater. It is likely that the deep groundwater interacted with the shallow groundwater when the shallow groundwater was contaminated. Thus, the contamination is still in the deeper groundwater because it has not flushed out as quickly due to its slower movement.

G. Durrin thanked T. Beckwith for the explanation.

Question from T. Smith, RAB Member - What kind of notification is done when you need to close the road to do work at the new well on Rockwood Parkway?

T. Beckwith explained that the Community Outreach Team has gone out a week before the road closures to hand out fliers to the neighbors on Rockwood Parkway and Indian Lane to let them know when the road will be shut down.

Rebecca Yahiel, Community Outreach, explained that they went door-to-door with the fliers to talk with the neighbors to explain what the USACE planned to do and answer any questions the residents may have had.

T. Smith asked if a broader message could be sent out next time, rather than just to the residents that live close by Rockwood Parkway. A lot of people use Rockwood Parkway and it would be good for them to know that the road is going to be closed. He mentioned that he received a lot of calls last time the road was closed and he is trying to avoid getting a lot of calls next time. If USACE could notify the residents ahead of time, it would be very helpful.

T. Beckwith agreed. Next time, the Outreach team could send an email out on the broader list serve.

T. Smith added that he has a newsletter that he sends out [to his constituents as an ANC representative] and that he would be happy to add a note about the road closures if he is aware of it ahead of time.

D. Military Munitions Response Program

4825 Glenbrook Road

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

High Probability Schedule and Shelter-In-Place: High Probability operations will resume under the second tent location on December 1. In preparation for High Probability operations, the Shelter-In-Place (SIP) system has been tested twice to allow us to verify the system is working and also to remind participating residents about the SIP program and that they need to be prepared to follow SIP procedures again in case there is an emergency. We will resume our regular monthly tests on Wednesday, December 3, and the first Wednesday of every month throughout high probability operations.

Within the second tent location, the SIP zone shifts slightly. The new location of the SIP zone will include Watkins Hall at AU. All of the residents are being notified and still participating in the SIP program.

Low Probability Work: In mid-September, the site crews were performing some low probability excavation work behind the retaining wall in order to put in the anchor location for the second tent. On September 15, the crew encountered a small amount of suspect AUES glassware debris. There was no contamination found on these items.

Tent Move: Since the tent is large and heavy, a large crane was mobilized on September 20 to move the tent in three sections. The first two sections were moved whole, and the third section was disassembled and reassembled partially by crane and partially by hand. The large crane was disassembled and moved off the property once the tent move was completed.

Second Tent Preparation: The front portion of the second tent location is on large concrete blocks because of the elevation difference in the back of the property, where the tent is now located. The tent's 'skin' is now wrapped around the entire tent to ensure negative pressure under the tent once again. On November 20, the site crew plans to perform the smoke test to ensure it is maintaining negative pressure. The smoke test was postponed due to poor weather earlier this week.

Since the tent was completely reassembled, the crew began to install the support equipment (the redress tent, personal decontamination station, and medical monitoring shed) and some MINICAMS monitoring equipment that was originally in the back of the property into the front yard area. The small secondary MINICAMS (Continuous Air Monitoring System) shed was necessary due to the distance limitation of the main MINICAMS shed at the back of the property. All of the engineering controls in the back of the property remained in place. The crew plans to drape tent fabric similar in color over the support equipment in order to minimize their visual aesthetics from the road. The ambulance will now also be stationed at the front of the property.

For the new tent location, the duct work had to be modified in order to continue operate the Chemical Air Filtration System (CAFS). Now there is a much smaller section of ductwork from the CAFS down to the new tent location.

In addition to the beige fabric that will be draped over the support equipment, we plan to install a new fence in front of the property to improve the property's appearance along Glenbrook Road. This new fence will be more stable now that the tent is located at the back of the property. The fence will have a grey fabric that will not be transparent so that nobody will be able to see into the property from the road.

There is no change to the schedule presented at the last meeting. We are proceeding with High Probability operations again, which will continue through winter 2016 - 2017, which is the worst-case scenario. Low Probability and site restoration is still scheduled to be completed spring 2017.

B. Barber wanted to let the RAB and community that that the team has plans to do an interview with *Al Jazeera America* and a story will likely come out about the site-wide Spring Valley site, as well as the Glenbrook Road site, probably during the Thanksgiving holiday.

Discussion:

Question from Allen Hengst, Community Member – The siren is still tested at 4:05 PM?

B. Barber confirmed that the SIP siren is tested on the first Wednesday of every month at 4:05 PM.

Question from T. Smith, RAB Member – When do you plan on making a final decision about the new fence?

B. Barber explained that the team is definitely replacing the fence. They are currently working with AU to get the permitting done. The team has received two fencing contractor quotes and Parsons is already pursuing purchasing the fence.

In response to T. Smith's question about what the fence will actually look like, B. Barber explained that it will look similar to the artistic representation shown in the presentation slide. Right now, the front fence is the translucent green construction fencing. It will be replaced with a chain link fence with a non-translucent grey fabric wrapped around it, which is consistent with the grey-colored fence between 4835/4825 Glenbrook Road. The fence along the 4825/4801 property boundary will be wrapped on both sides so that the fence's interior will not be seen from the street since the fence is now more visible after the tent move. This work is planned to be completed in the next month or two.

Question from T. Smith, RAB Member – Out of curiosity, why are you doing the interview with *Al Jazeera America*?

B. Barber explained that the team saw this as a good opportunity for the project. We met with the reporter and producer who want to do a piece that shows the day-to-day operations of the site, how we are interacting with the community, and how we have had a successful operation here so far. It is good opportunity to highlight the project and the community as a whole.

Question from Larry Miller RAB Member - Who initiated the interview? Which side?

Andrea Takash, USACE Corporate Communication Office, explained that *Al Jazeera America* initiated the interview. Lisa Starks is the reporter who will be doing the interview.

T. Smith added that *Al Jazeera America* has actually been reaching out to the community to ask community members to participate in the interviews as well.

A. Takash explained that *Al Jazeera America* was upfront with the project team about their efforts to interview community members, but USACE did not know if anyone has committed to an interview.

T. Smith knew that at least two people had said 'no.'

Question from Mary Douglas, RAB Member – How are you interacting with the neighbors? Especially the ones who were so upset and had the article in the *Washingtonian*.

B. Barber explained that the team continues to follow up with the neighbors and giving them updates. We have not had any negative feedback. We did have some negative feedback after the last schedule update, but it has been quiet since then.

T. Smith asked if the team had been keeping the neighbors informed about the new fence.

B. Barber explained that a couple residents did express their concern about the old fence and that our actions are in response to their concerns that the fence is starting to look disheveled. Our plans for the new fence design were included the November *Corps'pondent*. We have worked extensively with AU since it is their property, and they did share some concerns about the old fence, and we feel as though this will address the issues with the old fence.

W. Krebs asked if this fence will be a temporary fence and what will happen to it once the project is over.

B. Barber confirmed that this is still a construction fence, but it will be more robust since it will be more permanent. With the first tent location, the crew often had to take panels up and down, so the fence had to be more flexible. This time, the fence will have sturdy concrete posts, and the nontransparent fabric will not allow anyone to see into the site like you currently can today. What will happen to the fence, once the project is complete, is up to AU/the property owner.

Question from T. Smith, RAB Member – With so few homes there, would it be possible to take a more active approach and send a picture around to them instead of just relying on the *Corps'pondent*?

D. Noble explained that this fencing change was in response to a couple residents asking the team if we could spruce up the fence, and we will definitely get back to them.

III. Community Items

No Community Items

IV. Open Discussion and Future RAB Agenda Development

Next Meeting: Tuesday, January 13, 2015

D. Noble hopes that USACE will have a positive update on the Site-Wide Remedial Investigation report at the next meeting and a schedule update as to when we may be able to get the public document to the community.

V. Public Comments

Question from M. Douglas, RAB Member – There are three RIs, is that correct? The Site-Wide RI, the 4825 RI, and the Groundwater RI?

D. Noble confirmed this. The Site-Wide RI will address the issues of explosives site-wide and chemical contamination site-wide in the soil. The Groundwater RI will address the chemical contamination in the groundwater only, since munitions are not a groundwater issue. We hope to combine the Site-Wide and Groundwater RIs at some point, but this will depend on how each document progresses. We began writing the Site-Wide RI a while ago while the groundwater investigation was still very active. It was unclear at that point if the groundwater study was going to be over any time soon, and so they began to write the Site-Wide RI without further delay. If possible, the two studies may come together at the Proposed Plan phase to produce a single Decision Document. However, if there is some controversial issue for one document, it would be shame for the other document to be held up until the other issue is resolved.

Question from A. Hengst, Community Member – Has there been any progress on negotiating a [Right-of-Entry] for the Fordham Road property since the spring?

D. Noble confirmed that the team does not have a ROE for the Fordham Road property at this time, but they will keep trying. However, the team does have a soil removal action planned for a neighboring property.

Comment from Greg Beumel, RAB Community Co-Chair - If Peter DeFur is able to see the Draft Final RI report in December, he could potentially brief the RAB at the January meeting. If P. DeFur and the Partners receive it later than anticipated, the RI briefing may have to be in March. D. Noble confirmed this.

D. Noble thanked everyone for attending.

VI. Adjourn

The meeting was adjourned at 7:57 PM.