SPRING VALLEY FORMERLY USED DEFENSE SITE PROJECT
RAB Meeting

November 12, 2019
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
- TAPP Contractor
- RAB Membership

7:15 p.m. **II.** **USACE Program Updates**

Project Funding
Site-Wide Remedial Action
Glenbrook Road
Groundwater Study

8:05 p.m. **III.** **Community Items**

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

Upcoming Meeting Topics:
- (Suggestions?)

*Next meeting: January 14, 2020 (First meeting of 2020)

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
12 November 2019

U.S.ARMY

US Army Corps of Engineers®

AGENDA REVIEW

Co-Chair Updates

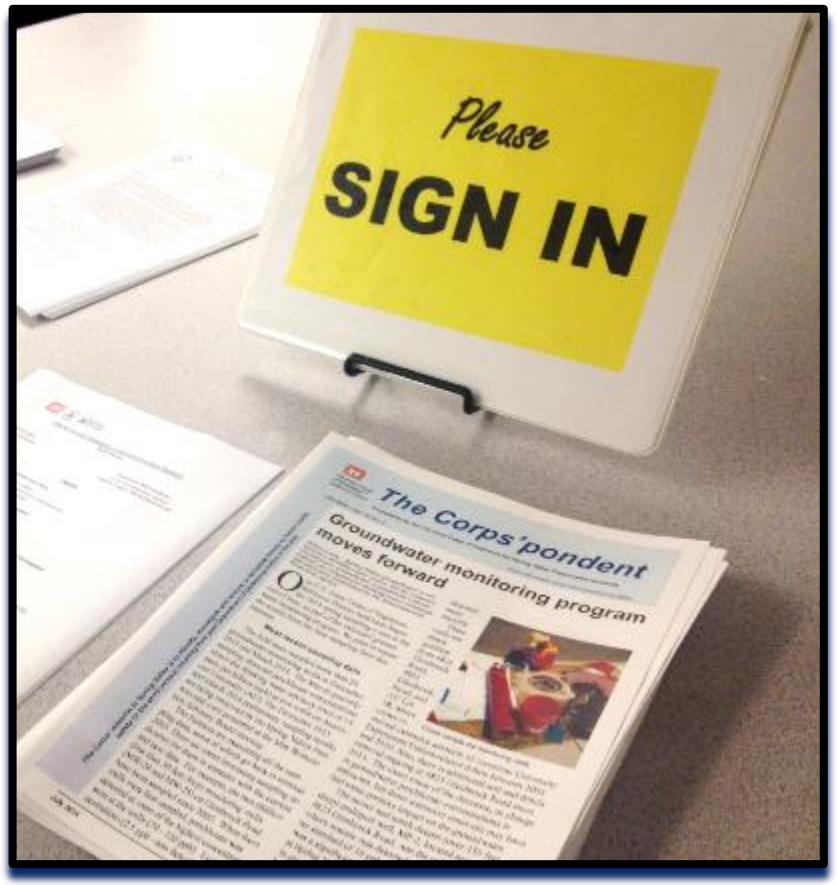
- Introduction, Announcements

Task Group Updates

- TAPP Contractor
- RAB Membership

USACE Updates

- Project Funding
- Site-Wide Remedial Action
- Glenbrook Road
- Groundwater Study



Community Items

Open Discussion & Future RAB Agenda Development

Public Comments

CO-CHAIR UPDATES

Introductions

CO-CHAIR UPDATES

Announcements

Website Updates

- September and October Monthly Site-Wide Project Update
- Weekly 4825 Glenbrook Rd Project Updates with photos
- August Partners meeting minutes
- Next Partners meeting date: *December 5th*
- September RAB Meeting Minutes

TASK GROUP UPDATES

New TAPP Contractor

TASK GROUP UPDATES

New RAB Technical Assistance for Public Participation (TAPP) advisor

- Two firms appeared qualified and expressed interest in supporting the RAB.
- Two packets of information were sent to the RAB on August 7th introducing these companies. The two potential companies are **ATI, Inc.** and **Nspiregreen, LLC.**
- Two additional resumes of potential TAPP contractors were sent to the RAB co-chairs in October.

ANNUAL PROJECT FUNDING

USACE Updates

US Army Corps of Engineers

SPRING VALLEY FUDS FUNDING SUMMARY

FY19, Actual Funding ($11.054 M)

- **Military Munitions Response Program ($10.870 M)**
  - Site-Wide Remedial Action ($4.254 M)
  - Conduct Remedial Action at 4825 Glenbrook Road ($6.616 M)
  - Stakeholder Outreach
  - Site Security
  - PRP Effort
- **Hazardous Toxic Waste ($0.163 M)**
  - Site-Wide Remedial Action ($0.065 M)
  - Groundwater RI/FS/PP/DD ($0.098 M)
- **Technical Assistance for Public Participation (TAPP) ($0.021 M)**
  - RAB Technical Consultant ($0.000 M)
  - RAB Cost ($0.021 M)

US Army Corps of Engineers

SPRING VALLEY FUDS FUNDING SUMMARY

FY20, Projected Funding ($6.173 M)

- **Military Munitions Response Program ($6.021 M)**
  - Site-Wide Remedial Action ($3.772 M)
  - Remedial Action at 4825 Glenbrook Road ($2.249 M)
  - Stakeholder Outreach
  - Site Security
  - PRP Effort
- **Hazardous Toxic Waste ($0.097 M)**
  - Site-Wide Remedial Action ($0.000 M)
  - Groundwater RI/FS/PP/DD ($0.097 M)
- **Technical Assistance for Public Participation (TAPP) ($0.055 M)**
  - RAB Technical Consultant ($0.025)
  - RAB Cost ($0.030)

US Army Corps of Engineers

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	2016
$$ in M	15.700	19.345	17.220	6.501	9.210	33.280	3.561	7.497

FY	2017	2018	2019	2020[b]	2021			
$$ in M	13.900	25.228	11.054	6.173	--			

Spent through FY 2019: $ 324.522 M

a = FY08 includes $3.2 M Congressional additional funding

b = Planned funding for FY 20

US Army Corps of Engineers

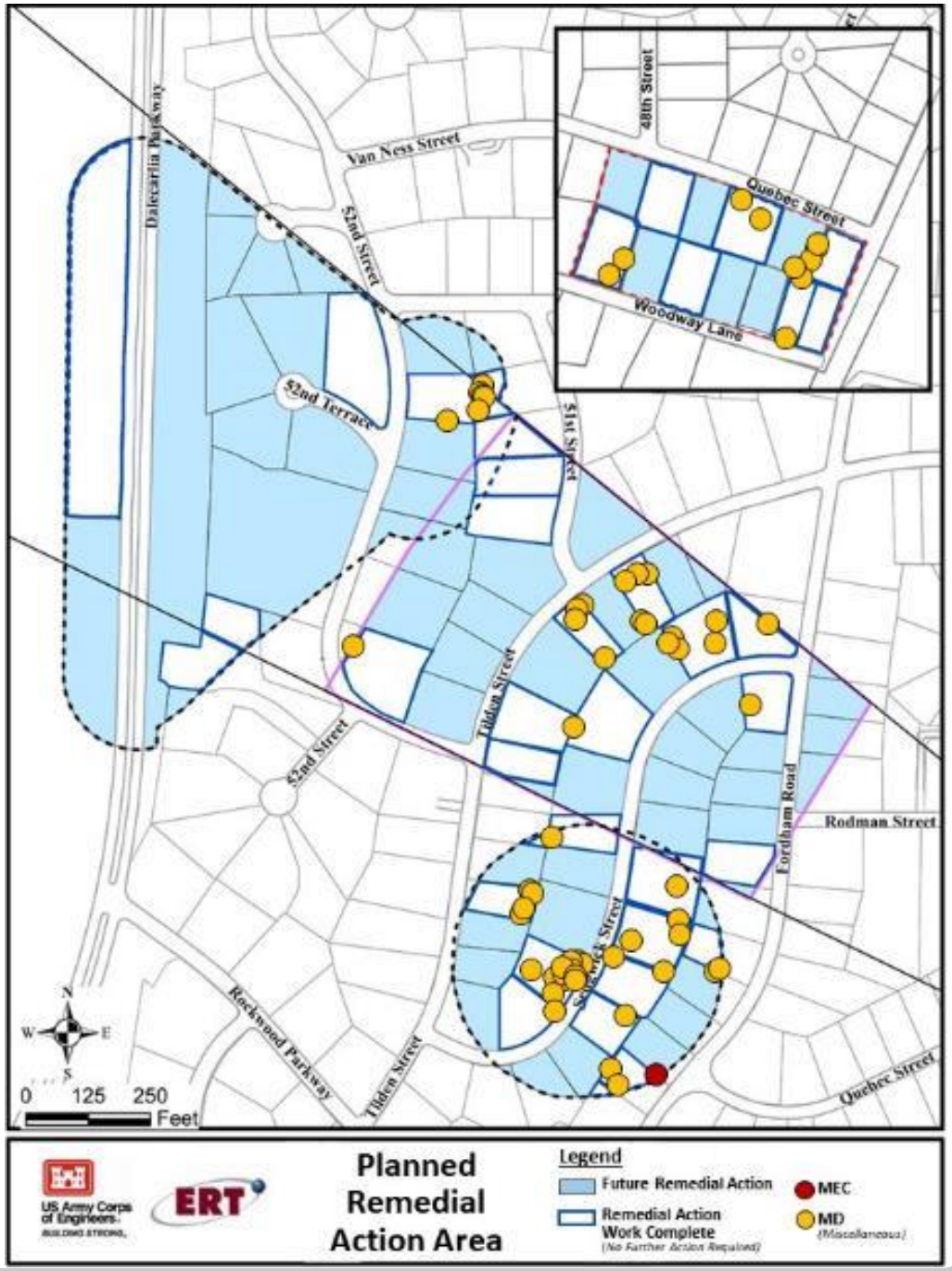
SITE-WIDE REMEDIAL ACTION (RA)

USACE Updates

SITE-WIDE REMEDIAL ACTION

Final survey effort at 92 residential properties and 13 Federal/City Lots:

- Currently working with on 81 residential properties at different stages of the remedial action process.
- 80 civil surveys and 80 arborist surveys have been completed.
- 79 properties have been visited by the geophysist team, who provide technical recommendations on plant removal.
- Vegetation has been removed from 34 private properties and 13 City/Fed lots.
- Geophysical surveys completed at 34 private properties and 7 City/Fed lots off Dalecarlia Parkway.
- Anomaly removal completed at 34 private properties and 4 City/Fed lots off Dalecarlia Parkway.
- Issued 1 Assurance Letter.



SITE-WIDE REMEDIAL ACTION

Preparations before Geophysical Surveys this Winter

EXISTING VEGETATION						REPLACEMENT VEGETATION								APPRAISED COST			
1	2	3a	3b	3c	4	5	6	7	8	9	10	11	12	13	14	15	16
#	Species	Height (ft)	DBH (in)	Area (sq ft)	Condition	Replacement Species	Size	# of plants	Plant Cost	Total Plant Cost (7x8)	Adjusted Plant Cost (4x9)	Actual Cost to Install	Actual Replacement Cost (9+11)	Years to Parity	Annual Compounded Interest Factor	Appraised Value (10+11)	Compounded Appraised Value (14x15)
43	Aucuba	7			70%	Aucuba	26" H x 18" W	1	$13.20	$13.20	$9.24	$39.60	$52.80	15	1.77	$48.84	$86.25
44	Cherry Laurel	5			75%	Skip Laurel	5-6'	1	$115.00	$115.00	$86.25	$345.00	$460.00	0	1.00	$431.25	$431.25
45	Cherry Laurel	7			75%	Skip Laurel	5-6'	4	$115.00	$460.00	$345.00	$1,380.00	$1,840.00	4	1.17	$1,725.00	$2,018.01
46	Cherry Laurel	7			50%	Skip Laurel	5-6'	1	$115.00	$115.00	$57.50	$345.00	$460.00	4	1.17	$402.50	$470.87

Arborists conduct landscape inventory to thoroughly document all plant life on a property.

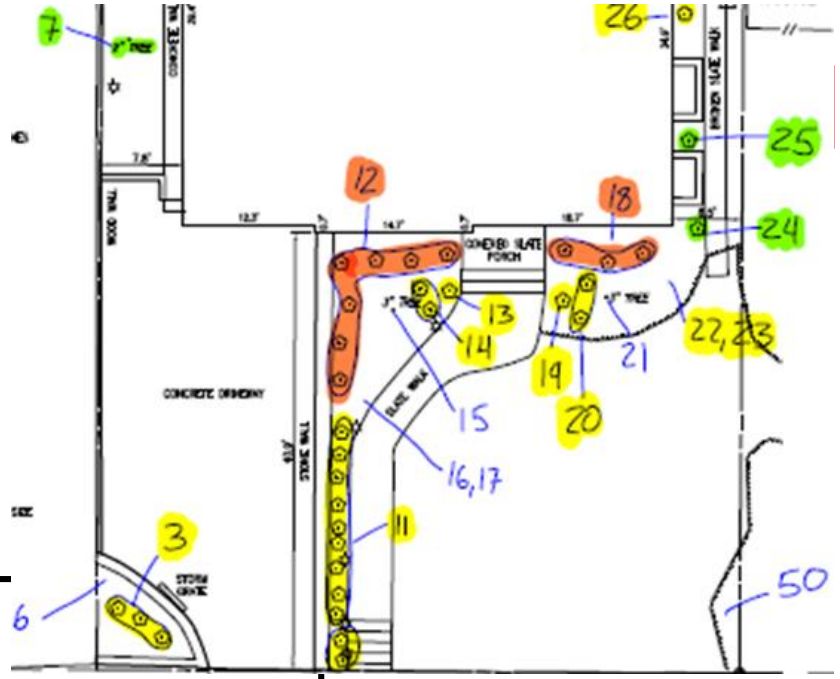
Geophysicists identify vegetation to be removed.

SITE-WIDE REMEDIAL ACTION

Preparations before Geophysical Surveys this Winter

The team is working with homeowners to approve of their landscape removal plans. Once the plans are approved by the homeowners and the Army Corps, the approved plants will be removed.

The team aims to minimize the amount of time between plant removal and restoration efforts.



LANDSCAPE REIMBURSEMENT ESTIMATE

Key	*Plant Name*	*Quantity Existing*	*Proposed Action*	*USACE Reimbursment* [1]
1	Linden, American	1	Leave	
2	Oak, Northern Red	1	Leave	
3	Yew	3	Remove	$855.46
4	Hellebores	6	Leave	
5	Perennials	3	Leave	
6	Ferns	6	Leave	
7	Serviceberry	1	Trim to 6 feet	
8	Privet	1	Trim to 6 feet	
9	Liriope	80	Leave	
10	Nandina	2	Remove	$570.00
11	Yew	7	Remove	$1,996.07
12	Cherry Laurel	7	Remove	
13	Boxwood, American	1	Remove	$795.60
14	Holly, Japanese	2	Remove	$300.30
15	Crape Myrtle	1	Leave	

This map (above) illustrates the proposed actions for landscaping items, which corresponds with a key (left).

SITE-WIDE REMEDIAL ACTION

Hardscape Digs & Restoration

Some anomalies are detected underneath hardscape which are not reinforced with metal.

Once the dig team recovers the anomaly, a professional hardscape company completes the restoration or temporary patching.

Five hardscape digs were completed in October.

In order to avoid trip hazards, holes are temporarily patched until final restoration is complete.

SITE-WIDE REMEDIAL ACTION

October Intrusive Finds

A 75mm projectile is about one foot long and 75 millimeters, or ~3 inches, wide.

An intact empty 75mm projectile shell was recovered from underneath a asphalt driveway in October.

The item was deemed non-hazardous and cleared headspace for any mustard or lewisite.

SITE-WIDE REMEDIAL ACTION

October Intrusive Investigation Finds

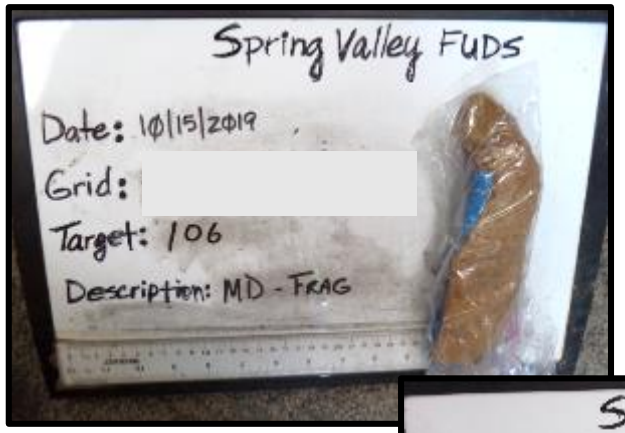
Non-Munition Related Debris

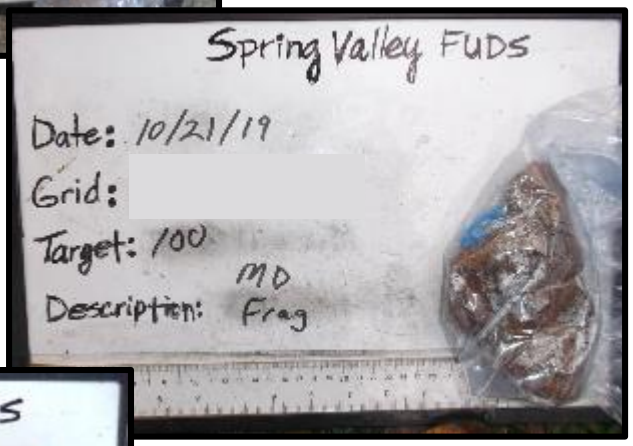
Metal Pipe

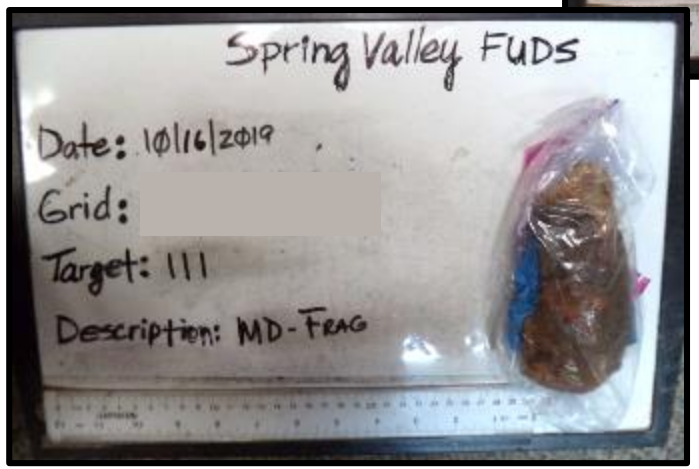
"Blind Seed

Non-munition related scrap metal

Recovered Munitions Related Debris







Munition fragments are double bagged and tested for potential chemical residue (all clear to date)

SITE-WIDE REMEDIAL ACTION

Tentative Schedule

Fall/Winter 2019	• Continue to finalize plant removal plans and conduct plant removal in Dalecarlia Woods and private properties. • Continue geophysical surveys. • Continue to obtain Rights-of-Entry from the next group of homeowners. • Continue sampling to delineate the soil removal areas in the southern AU campus exposure unit.
Winter/Spring 2020	• Continue anomaly removal efforts. • Continue finalizing plant removal plans with subsequent groups in preparation for geophysical surveys.

SITE-WIDE REMEDIAL ACTION

AU's Former Public Safety Building

- Completed preparatory work, installed erosion and sediment controls around the former building's footprint, and pruned tree roots in the excavation area.
- Cut and capped waterline to Jack Child Hall which crossed the slope above the former PSB.
- The team evaluated the slope required to safely excavate the PSB foundation below.
  - Air monitoring DAAMS tubes have been installed around the work area.
- With the DOEE's approval of the updated work plans, the team began excavating the slope.
- The team began intrusive activities in November. The excavation work is anticipated to take 2-4 months to complete.

Clean each truck before they leave the site

Drainage channel

Air spading where drainage channel crossed buried electric lines

SITE-WIDE REMEDIAL ACTION

AU's Former Public Safety Building

Tree trunk protection

Benching efforts

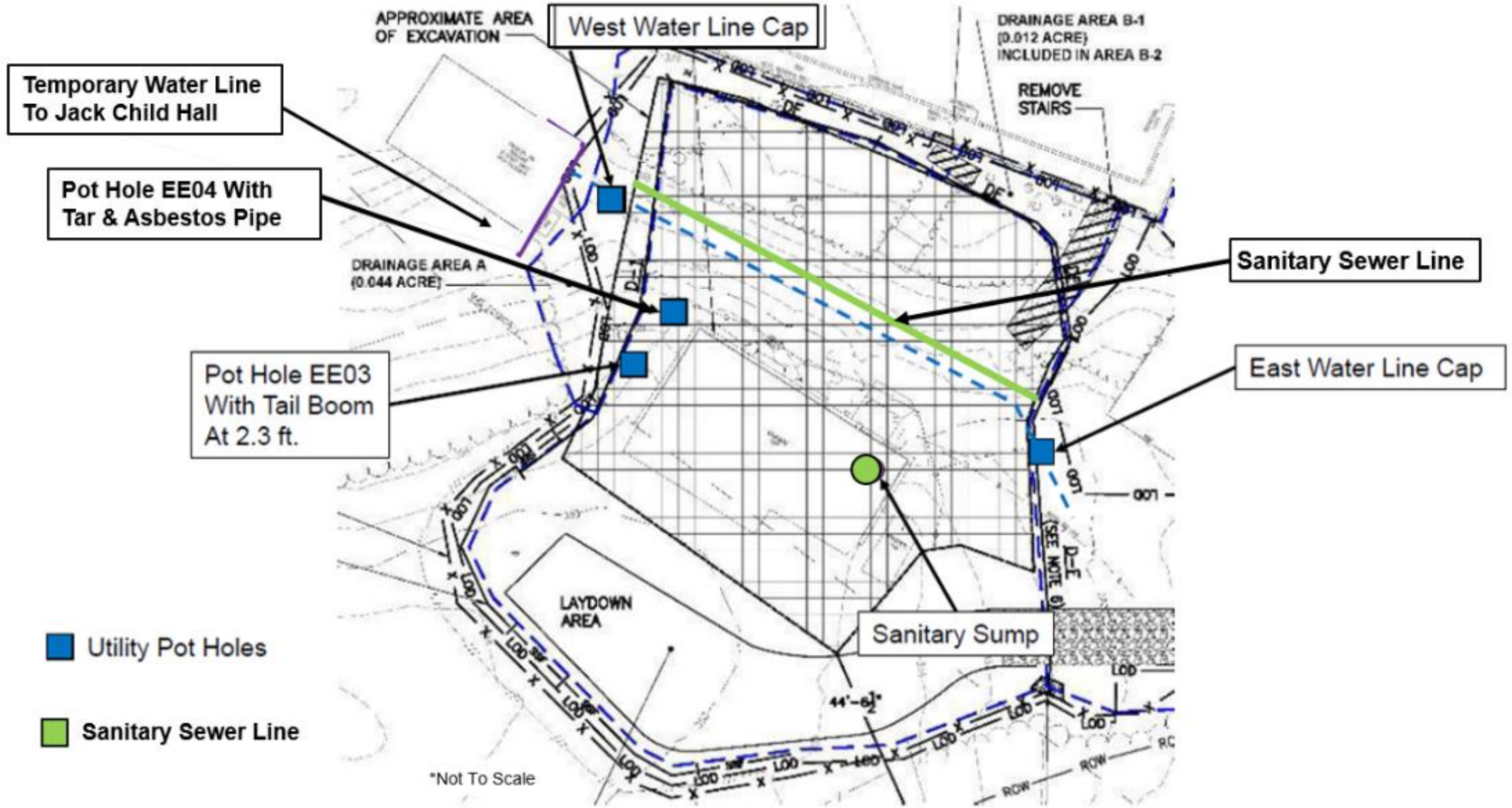
Screening soil with metal detector

Excavated soil loaded into trucks for storage at the federal property

Erosion controls

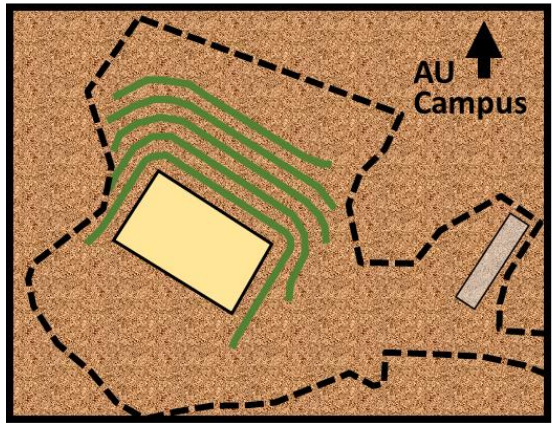
SITE-WIDE REMEDIAL ACTION

AU's Former Public Safety Building



SITE-WIDE REMEDIAL ACTION

AU's Former Public Safety Building



PSB Excavation Cross Section

*Not to scale

GLENBROOK ROAD

USACE Updates

GLENBROOK ROAD – RECENT EFFORTS

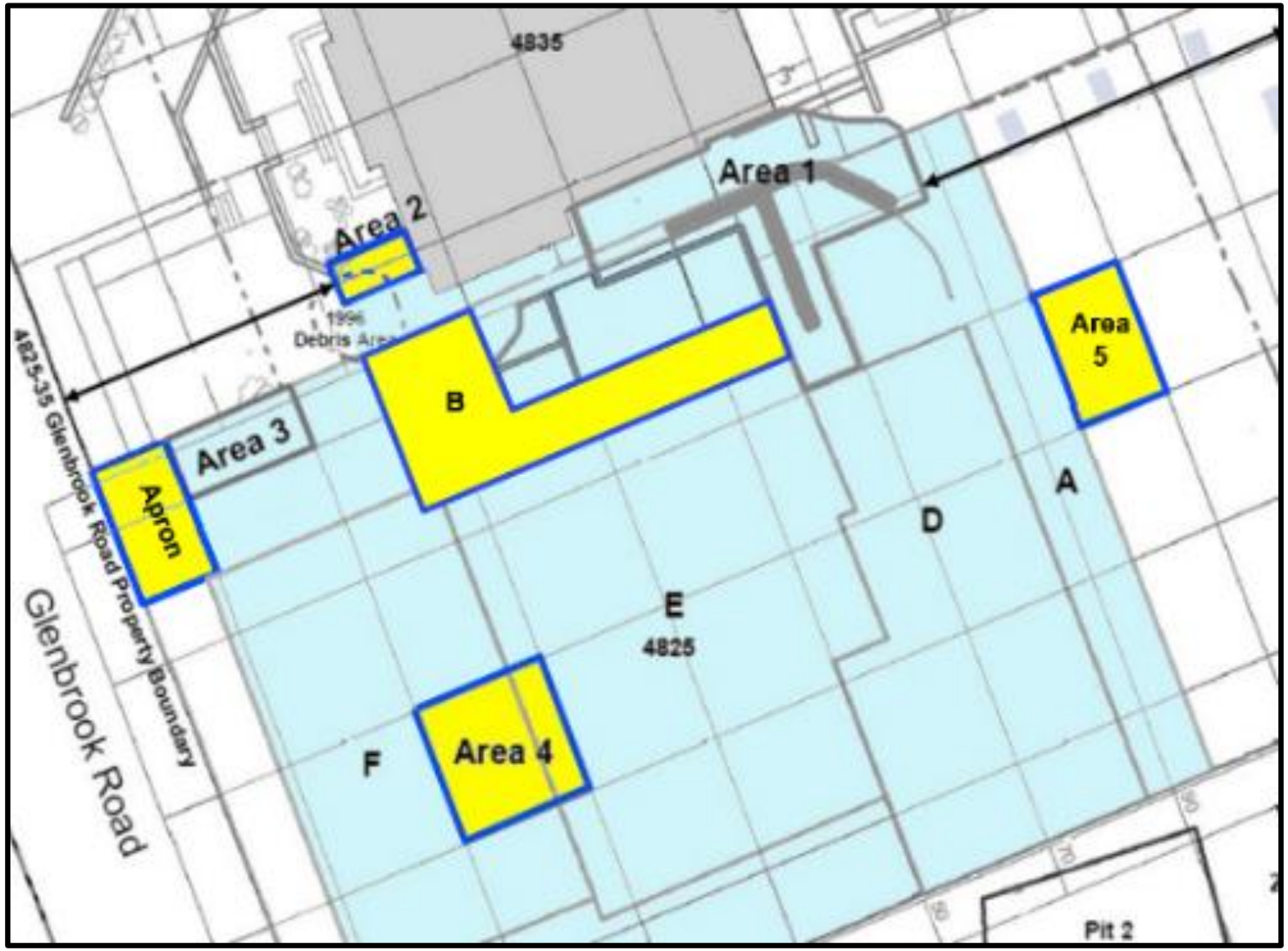
- Completed removal of HTW/arsenic contaminated soil.
- As part of the final restoration efforts, the team began compacting clean soil in these completed areas.
- Began final compaction to existing grade on September 30th. First utilizing clean back fill soil already staged then bringing in one truck load of soil at a time, as needed.

GLENBROOK ROAD – RECENT EFFORTS

Backfill to re-establish contours of the site

GLENBROOK ROAD – RECENT EFFORTS

- Excavated remaining "hot spots" to reduce potential unacceptable risks.
- Completed the soil gas sampling in the 4835 Glenbrook Rd. basement. Anticipating receiving the sampling results in January.



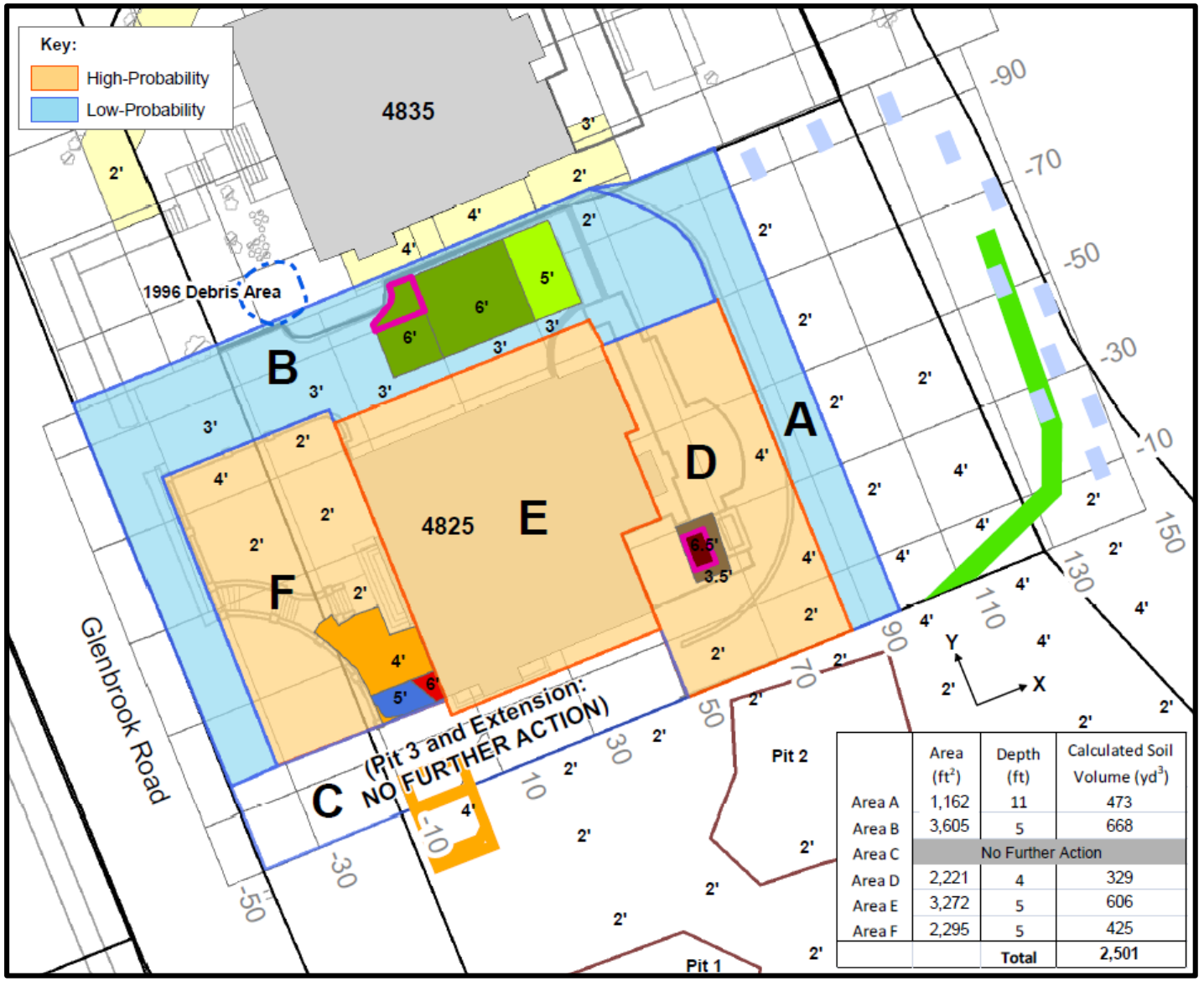
GLENBROOK ROAD – AREA 2 EXCAVATION

- Completed the planned small dig areas overall, in Areas 2. Area 2 completion is pending additional discussions with American University. Area 4 completion is pending consensus with the Partners.
- Last week, less than 12 pieces of glassware were recovered from Area 2. The glass was found was next to the foundation of the house, and weighed less than (1) one pound. No glass was found as we moved further from the house. There was a total of 27 barrels of soil collected. There were 11 samples taken, with 2 validation samples from the floor and wall, totaling 13 samples.

GLENBROOK ROAD – AREA 2 EXCAVATION

GLENBROOK ROAD – RECENT EFFORTS

- Completed a draft risk reduction report for Partner discussion and consensus.
- The report examines potential risk for HTW components. The primary components are arsenic and dichloronaphthalene.



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

GLENBROOK ROAD

Worked at the Federal Property on a variety of tasks including preparing and sending waste shipments, performing trailer and site repairs, and carrying out equipment inventory and inspections.

Loading a truck with soil for the Subtitle D landfill.

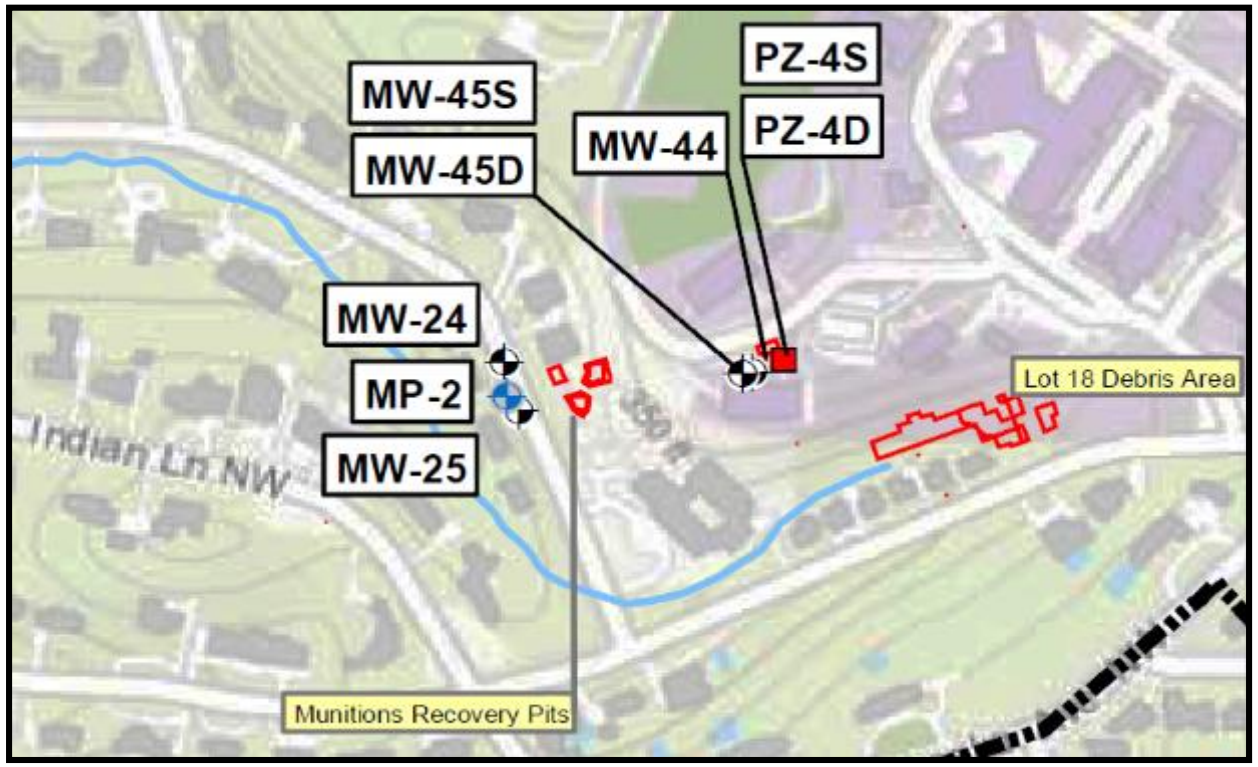
GLENBROOK ROAD

Tentative Schedule

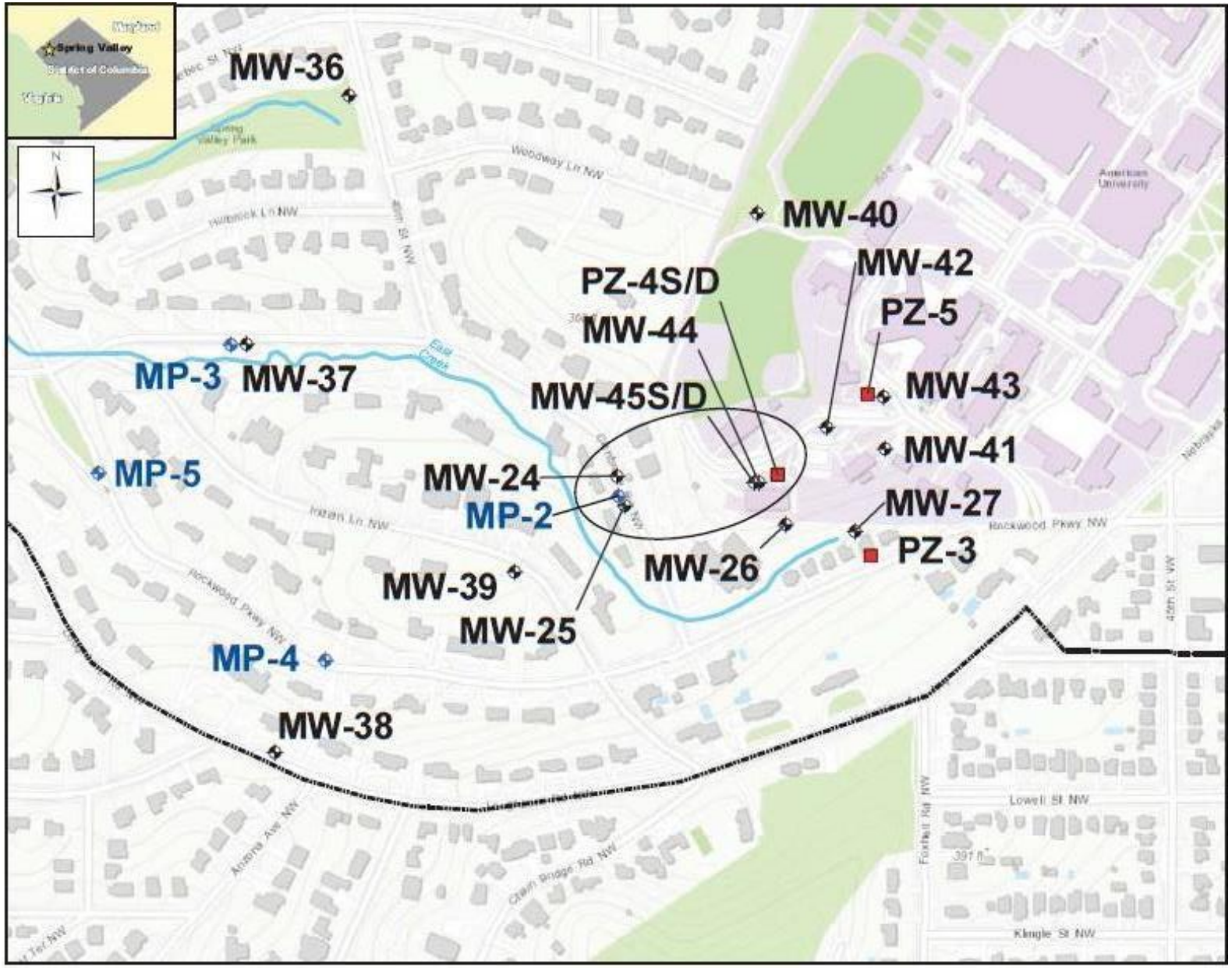
Late Fall 2019	**The final site restoration has began with soil compaction underway at completed areas.** **Completion of low probability operations: Focus was on recovering glassware at Area 2, at the front of 4835 Glenbrook Road, near the property line.** ***Working hours:*** **Monday - Thursday from 6:30 am to 5:00 pm. Heavy equipment operations do not begin until after 7:00 am.**
Winter 2020	**Completion of any remaining intrusive activities per Partner consensus on the conclusion of the HTW effort, and the Soil Gas Sampling results.** **Ongoing site restoration for the Glenbrook project area.**
Summer 2020	**Anticipated project completion.**

GROUNDWATER STUDY

USACE Updates



GROUNDWATER STUDY: EXPOSURE UNIT 2



Key

- Area encompassing the EU2 Monitoring Wells
- Spring Valley FUDS Boundary
- Piezometer
- Monitoring Well
- Multiport Well

S/D = Monitoring well or piezometer with screened intervals in the same borehole.

ARSENIC AND PERCHLORATE IN EU2: MP2

MP2-1 (35'-44')		
Date	Arsenic	Perchlorate
Sep-19	6.7	2.8
Apr-15	5.6	3.08
6/30/2014	6.9	1.39
6/30/2014 FD	6.65	NT
12/11/2013	6.6	3.08
4/30/2013	7.6	5.82
7/20/2012	8.4	6.3
5/3/2012	7.4	4.5
3/30/2012	7.5	5.8
3/30/2012 FD	7.6	7

MP2-2 (49'-54')		
Date	Arsenic	Perchlorate
Sep-19	7.6	1.7
Apr-15	10	4.05
6/30/2014	12.4	3.84
12/11/2013	11	0.403
12/11/13 FD	7.1	NT
5/13/2013	12.6	9.74
7/20/2012	16	12
5/3/2012	15	12
3/30/2012	15	12

MP2-3 (56'-71')		
Date	Arsenic	Perchlorate
Sep-19	7.7	2.3
Apr-15	9.5	2.06
7/1/2014	13.7	0.738
12/11/2013	15.2	6.89
5/13/2013	11	2.57
7/20/2012	18	18
5/3/2012	18	17
3/30/2012	15	17

MP2-4 (73'-77')		
Date	Arsenic	Perchlorate
Sep-19	6.6	0.7
Apr-15	6.4	1.5
7/1/2014	7.6	ND
12/11/2013	9.9	8.09
5/13/2013	9.2	1.57 J
7/20/2012	12	25
5/3/2012	15	25
3/30/2012	12	21

Key

MP = Multi-Port well

NT = Not Tested

ND = Non-Detect

= Value over drinking water standards

(Arsenic MCL is 10ppb, and the Perchlorate advisory level is currently 15ppb)

ARSENIC AND PERCHLORATE IN EU2: MP2

MP2-5 (96'-102')		
Date	Arsenic	Perchlorate
Sep-19	7.6	3.1
Apr-15	11.3	7.21
7/1/2014	9.8	ND
12/11/2013	10.3	5.07
5/13/2013	9.1	2.67
7/20/2012	14	26
7/20/2012 FD	15	24
5/3/2012	15	26
3/30/2012	13	24

MP2-6 (105'-114')		
Date	Arsenic	Perchlorate
Sep-19	7.5	3.4
Apr-15	11.6	8.11
7/1/2014	10.8	ND
12/11/2013	10.2	2.43
5/13/2013	11	9.05
7/20/2012	16	25
5/3/2012	17	25
5/3/2012 FD	17	26
3/30/2012	18	27

MP2-7 (123'-129')		
Date	Arsenic	Perchlorate
Sep-19	7.6	2.9
Apr-15	10	2.98
7/1/2014	11.8	0.245 J
12/11/2013	12	8.18
5/3/2013	12	16.6
7/20/2012	16	24
5/3/2012	17	25
3/30/2012	14	20

MP2-8 (145'-160')		
Date	Arsenic	Perchlorate
Sep-19	7.2	2.8
Apr-15	9.7	8.44
7/1/2014	11.9	0.917
12/11/2013	10.3	3.67
5/13/2013	12.6	17.9
7/20/2012	15	25
5/3/2012	16	24
3/30/2012	14	24

Key

MP = Multi-Port well

NT = Not Tested

ND = Non-Detect

= Value over drinking water standards

(Arsenic MCL is 10ppb, and the Perchlorate advisory level is currently 15ppb)

ARSENIC AND PERCHLORATE IN EU2:
PZ-4S AND PZ-4D

PZ-4S (37' to 47')		
Date	Arsenic	Perchlorate
Sep-19	ND	2.0
Apr-15	NT	4.49
9/16/2014	5.7	4.16
9/16/2014 FD	5.5	4.44
7/2/2014	6.2	8.58
3/20/2014	2.8	10.9
12/13/2013	3.6	6.75
7/24/2013	1.4	ND
7/24/2013 FD	1.5	ND
5/3/2013	.22 J	5.57
2/8/2012	2.4 J	28
11/9/2011	ND	25
8/4/2011	ND	19
7/28/2011 (a)	NT	18
5/16/2011	2.6 J	30
11/10/2009	NT	50
6/16/2007	ND	146
7/7/2006	ND	71.8

PZ-4D (52' to 62')		
Date	Arsenic	Perchlorate
Sep-19	ND	32.5
Apr-15	NT	16.1
9/16/2014	6.1	13.8
7/2/2014	7.8	16.7
3/20/2014	3.9	44.5
12/13/2013	1.8	39.8 D
7/24/2013	1.5	5.59
5/3/2013	NT	NT
4/9/2012	NT	36
2/7/2012	2.7 J	39
11/8/2011	ND	45
8/5/2011	ND	39
7/28/2011 (a)	NT	9.8
5/16/2011	2 J	39
11/11/2009	NT	41
6/13/2007	ND	41
7/7/2006	0.6 J	34.7

Key

PZ = Piezometer
S = Shallow
D = Deep
NT = Not Tested
ND = Non-Detect
= Value over drinking water standards

(Arsenic MCL is 10ppb, and the Perchlorate advisory level is currently 15ppb)

ARSENIC AND PERCHLORATE IN EU2:

MW 44, 45S AND 45D

MW-44 (80' to 95')		
Date	Arsenic	Perchlorate
Sep-19	0.1 J	15.7
Apr-15	NT	39.2
9/16/2014	0.55 J	40.1
7/1/2014	1.2	49.8
3/20/2014	0.69 J	42.3
3/20/2014 FD	0.78 J	40.5
12/12/2013	0.75 J	40.2
12/12/2013 FD	0.85 J	39.8
4/29/2013	0.15 J	40.5
9/6/2012	ND	35
9/6/2012 FD	ND	36
3/29/2012	ND	34
3/29/2012 FD	ND	33

MW-45S (119' to 124')		
Date	Arsenic	Perchlorate
Sep-19	0.6	1.4
Apr-15	NT	2.42
9/6/2014	1.2	2.55
7/1/2014	1.8	5.74
3/20/2014	1.2	5.86
12/13/2013	1.5	1.28
5/3/2013	0.53 J	31.1
5/3/2013 FD	0.32 J	30.9
9/6/2012	ND	6

MW-45D (147' to 152')		
Date	Arsenic	Perchlorate
Sep-19	0.9	0.5
Apr-15	NT	ND
9/6/2014	3	0.22 J
7/1/2014	1.5	ND
3/20/2014	1.3	ND
12/12/2013	1.3	5.3
12/12/2013 FD	1.4	5.26
5/3/2013	ND	54.3
5/3/2013 FD	0.16 J	52.9
9/6/2012	ND	3.6

Key

MW = Monitoring well
NT = Not Tested
ND = Non-Detect
= Value over drinking water standards

(Arsenic MCL is 10ppb, and the Perchlorate advisory level is currently 15ppb)

GROUNDWATER STUDY

The Dispute Resolution was paused at Tier 2 while the Army Corps and their Partners agreed to conduct additional groundwater data collection.

The Army Corps and the regulatory Partners (DOEE and EPA) reviewed the initial sampling results and agreed to conduct additional groundwater data collection in Spring 2020.

Next Steps:

- Confirm arsenic concentrations are below drinking water standard.

- Continue to monitor perchlorate concentrations.

- Perchlorate MCL scheduled to be published in June 2020.

Groundwater Sampling Well

SPRING VALLEY RESTORATION ADVISORY BOARD

Community Items

SPRING VALLEY RESTORATION ADVISORY BOARD

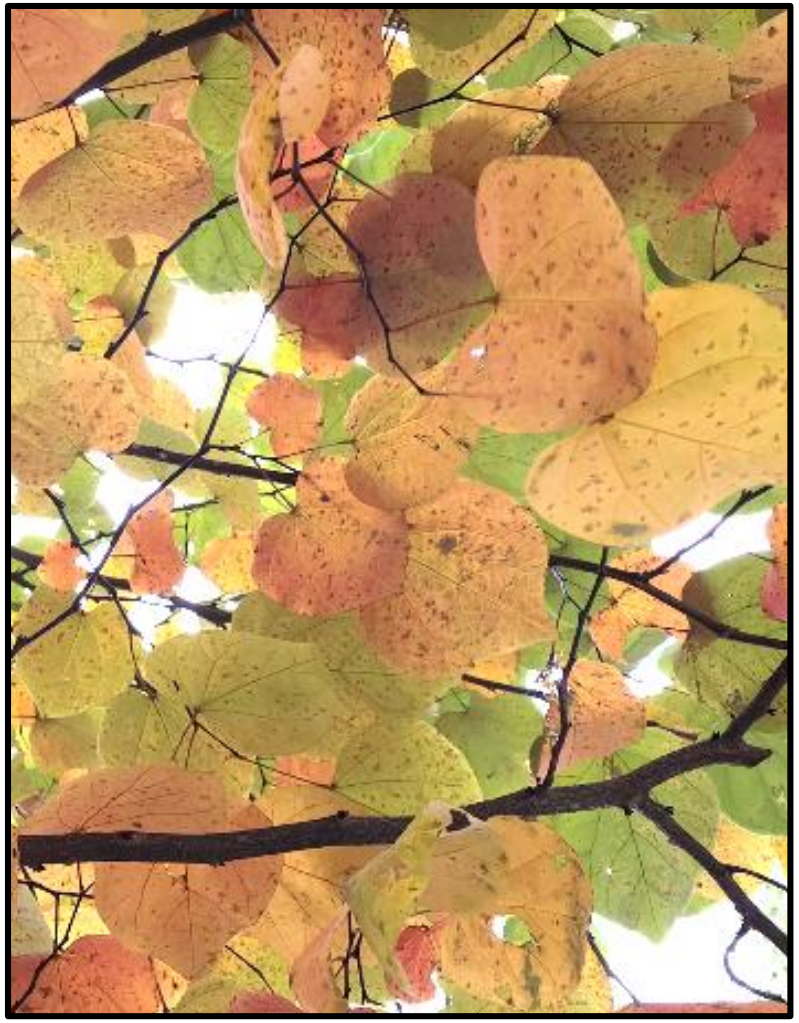
Open Discussion:

Reminders:

- The next RAB meeting will be **Tuesday, January 14th, 2020**

Upcoming Agenda Items:

- *Suggestions?*
- Upcoming Spring 2020 Groundwater sampling results.



SPRING VALLEY RESTORATION ADVISORY BOARD

- Public Comments
- Wrap-up