



US Army Corps
of Engineers ®
Baltimore District

The Corps' pondent

A newsletter by the U.S. Army Corps of Engineers for Spring Valley Project area residents

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<http://www.nab.usace.army.mil/projects/WashingtonDC/springvalley.htm>

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

Chemical munitions destroyed using EDS

by Joyce Conant
Public Affairs Specialist

The U.S. Army Corps of Engineers used the Army's Explosive Destruction System to safely destroy munitions recovered from the Spring Valley Formerly Used Defense Site.

After careful planning, the preparation of an engineering evaluation and cost analysis, and extensive public outreach, five 75-mm chemical munitions and 19 conventional or non-agent filled munitions were destroyed using the EDS on federal property located within the Spring Valley FUDS.

The munitions were recovered by specially trained explosive safety ordnance technicians in 2007 and 2008 from the area known as Pit 3 in the 4800 block of Glenbrook Road, N.W. Once recovered, the munitions were placed in multiple round containers, which are sealed metal cylinders that have been tested and approved to safely store and transport munitions. Once removed from the neighborhood, the MRCs were stored on federal property under 24-hour security inside the interim holding facility until destruction operations began April 16. Operations were completed May 5.

The EDS was designed by the Army to provide on-site treatment of chemical munitions in a safe and environmentally sound manner. The EDS has been approved for use in the field by the Army and the Department of Defense. Since 1999, it has been used at many locations across the country to safely destroy more than 1,700 recovered chemical munitions.

"We safely removed these munitions from the neighborhood, and now they have been safely destroyed," said Todd Beckwith, USACE project manager. "As we do with all of our projects, we worked closely on the munitions destruction with our regulatory partners at EPA and the District Department of the Environment, and we ensured the public had an opportunity to provide input during our planning process."

The EDS uses cutting charges to explosively access chemical munitions, eliminating their explosive capacity before the chemical agent is neutralized. The system's main component, a sealed, stainless steel vessel, contains all the blast,

vapor and fragments from the process. Treatment is confirmed by sampling residual liquid and air from the vessel prior to reopening the EDS.

All munitions handling operations were done by trained professionals within a vapor containment structure with a chemical agent filtration system. The vapor containment structure provided secondary containment in the event an accident was to occur. Appropriate safety precautions were in place to ensure public safety.

"Every plan we have at Spring Valley is about ensuring the public's safety, especially in this operation," said Col. David Anderson, Commander of the USACE, Baltimore District. "The safety and health of the residents of Spring Valley and our workers is always our first priority."

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Detonation chamber planning underway

by Todd Beckwith
U.S. Army Corps of Engineers

USACE began planning for the destruction of the remaining munitions in storage at the federal property. Now that the EDS has safely destroyed chemical and liquid filled munitions, the detonation chamber will be used on-site to destroy conventional munitions that contain a small amount of explosives and to demilitarize empty munitions. The detonation chamber operation is scheduled to begin later this year.

The detonation chamber is made of thick steel and is specifically designed to withstand detonations of specific amounts of high explosives. The munitions are wrapped in explosives and placed inside the detonation chamber. The chamber door is closed and the explosives remotely detonated, destroying explosives within the munition and leaving only scrap metal. Gases and heat from the detonation pass through an expansion tank which acts to

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Spring Valley project updates

by Joyce Conant
Public Affairs Specialist

American University campus/Glenbrook Road

Since the last Corps' pondent, crews have continued making progress on the southern portion of the American University (AU) campus and on Glenbrook Road. Teams have completed major intrusive activities, or digging, in the area around AU's Public Safety Building (PSB) and conducted investigative trenching in areas around the soccer field.

Digging was completed in front of the PSB. Following clean-up work, the second floor entranceway was rebuilt. Some of the heavy equipment has been removed from the site, with the expectation that all equipment will be gone by early June.

On May 17, a specialty sub-contractor began collecting soil samples from underneath the foundation of the PSB to see if there are any detectable levels of World War I-related contaminants.

The contractor brought a drill rig to the site that is capable of performing horizontal drilling. This equipment allows for the collection of samples with minimal disruption to the occupants of the building.

"Eight borings were performed, and 16 soil samples were collected; and the effort was successfully completed on May 24," said Dan Noble, project manager, U.S. Army Corps of Engineers.

Investigative trenching around the soccer field was conducted to determine if ground scars visible in historic aerial photography have left behind any trace of chemicals from Army activity on the campus in World War I. Trenching results were all negative; a single soil sampling location on the soccer field will be investigated in the next few weeks and this should wrap up this effort, Noble said.

The project in the 4800 block of Glenbrook Road is more complex. Teams have been at work excavating inside of an Engineering Control Structure, or ECS, in the front yard of one of the homes since early January. A large amount of laboratory glassware has been encountered in this location - about 500 pounds so far. Much of the recovered glassware is contaminated with mustard and lewisite chemical agents, which were commonly used at the American University Experiment Station, as well as quite a bit of the soil in the vicinity of the debris.

"This large amount of debris, and the delicate nature of the material (the team attempts to recover

glass bottles intact if they are in this condition), has caused work to proceed in a slow, careful manner," said Noble.

In late March, the team was recovering glassware when a couple pieces of debris began to fume or "smoke." The smoking was the generation of hydrogen chloride gas. The gas was being generated because the items contained small amounts of a chemical called Arsenic Trichloride.

Noble said that this chemical reacts quickly with moisture in the air to produce the hydrogen chloride and arsenic byproducts.

Arsenic trichloride itself is quite toxic. This combination of a very toxic chemical that is also very reactive has led the USACE team to suspend the operation while all safety procedures are reviewed.

"These types of reviews always take time," said Noble. "The USACE team consults with many experts and outside agencies to ensure that work is always to the highest standard with regard to safety of the public and site workers."

Once the team returns to work, tasks will have to be completed under the current ECS and then the structure will be moved to enclose an additional area to the north. This area also appears to have glass debris buried in the ground.

"Such a move has unfortunately been quite common at this site since a resumption of clean-up activities in 2007," Noble said. "Debris has been more widespread than originally anticipated."

Arsenic contaminated soil removal

USACE and its soil removal contractor, Severson Inc., are making good progress toward a goal that has been long anticipated - the final soil removal from a residential property in the Spring Valley neighborhood.

After almost 140 residential property clean-ups, the team is down to the last five private properties. In the next four to six months, barring any complications from weather, this goal should be achieved.

"We have been working toward this goal for quite a while," said Noble. "It's nice to be this close."

Some testing of individual properties still continues as owners grant permission and it's possible that a couple more properties may be added to the clean-up list, but calendar year 2010 should be the final year that such clean-ups are conducted.

"More than 26,000 tons of contaminated soil have been removed from the community - an impressive achievement that has improved environmental quality in the neighborhood," said Noble.

Dalecarlia Woods geophysical investigation

by Joyce Conant
Public Affairs Specialist

The geophysical survey field team prepares to return to work in the Dalecarlia Woods this month after a nearly two month break caused by a contractor worker injury. The injured worker received a cut on his leg from a brush cutting tool, which caused the team to temporarily stand-down while the accident prevention plan went through a thorough review and update.

U.S. Army Corps of Engineers (USACE) contractor, Earth Resources Technology, Inc (ERT), is conducting the geophysical investigation in Dalecarlia Woods area, which is a former World War I down range impact and possible munitions disposal area that includes about 62-acres.

ERT has completed all the site preparations for the geophysical survey, with the exception of a small section of land along the east side of the Dalecarlia Parkway, since field work began in July 2009.

Site preparations include grid layout of the property, a surface metal clearance and overgrown brush removal.

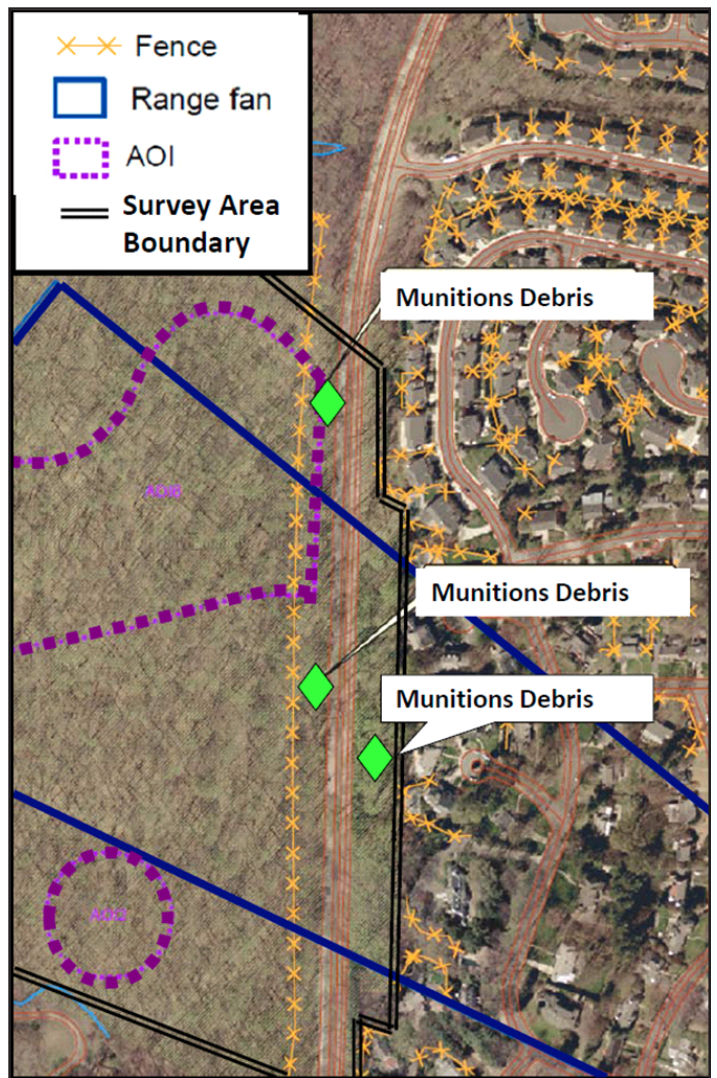
Surface clearance operations to date have recovered three munitions debris items. The three items were found along the Dalecarlia Parkway corridor as shown on the figure pictured right. Two of the items, which were found in early February on the west side of the parkway, were remnants of 75-mm shells. The third item, which was found in early April on the east side of the parkway, was a partial 3-inch stokes mortar.

The geophysical survey or digital geophysical mapping (DGM) of the 62-acre area is approximately 65 percent complete.

"Between the early February snows and the worker injury we have lost about three months of work time, but fortunately this activity is not on the critical path and will not delay the overall project schedule," said Lan Reeser, design team leader, USACE. "We have plenty of data already collected to keep the data processors, anomaly review board, and intrusive anomaly investigation contractor busy while the DGM work is being completed."

Shaw Environmental, USACE's intrusive anomaly investigation contractor, began digging anomalies in several test grids on the federal property in May. Intrusive activities for the entire investigation area are scheduled until the summer of 2011.

"Based on the former use of this area and what's already been found on the surface, it would not be a big surprise to find a significant amount of munitions debris directly below the surface in this area," said Reeser. "We have procedures in place to safely address whatever munitions-related finds we may encounter."



The Corps'pondent

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Detonation planning underway

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reduce pressure and heat prior to release through the air pollution control equipment.

The detonation chamber will be sited at the federal property adjacent to where the EDS operation occurred. All operations at Spring Valley go through extensive safety considerations and are closely reviewed by the regulatory partners and various organizations within the Department of Defense, with ultimate approval of safety procedures provided by the Department of Defense Explosives Safety Board. The safety planning is ongoing, but the Spring Valley team expects to use the additional protection of sandbag barriers to ensure the safety of the workers and the surrounding community during the detonation chamber operation. USACE also plans to install sound proofing equipment to minimize noise in the adjacent neighborhood.

Monthly RAB meetings

Restoration Advisory Board (RAB) meetings are held the second Tuesday of every month, with the exception of August and December, at 7 p.m. at St. David's Episcopal Church, 5150 Macomb Street, N.W. If you are interested in becoming a member of the RAB, please contact Maya Werner with the Spring Valley Community Outreach Team at 410-962-0157.

Update: Groundwater Study

by Todd Beckwith
U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers Spring Valley project team continued its groundwater investigation by installing its first deep well. Previous investigations identified perchlorate in the shallow groundwater. The next phase of the investigation will determine if there is significant groundwater flow at greater depths and whether or not any of the perchlorate has migrated into those deep groundwater flow areas.

The deep well was drilled to a depth of 187 feet using rock coring, which allows the project team to extract cylinders of the bedrock and inspect potential fracture areas within the bedrock to determine where groundwater flow areas may be present. Several instruments were also lowered into the well which measured various characteristics of the subsurface and provided the project team with information about areas of potential groundwater flow.

The U.S. Geological Survey conducted groundwater sampling using a method called packer testing, where specific depths of the well are isolated with inflatable packers and then tested. Later this month, USACE will sample the well using a different technology that uses a liner installed in the well with sampling ports at specific depths of the well.

After all testing and sampling of this well is complete; the project team will analyze data and work with regulatory partners at the District Department of the Environment and the U.S. Environmental Protection Agency to determine what well testing and sampling methods will be used in the three additional deep wells that are planned for later this year.