

The St. Louis Sites

Formerly Utilized Sites Remedial Action Program • Summer 2017

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www.mvs.usace.army.mil

St. Louis Formerly Utilized Sites Remedial Action Program Activities

St. Louis Downtown Site

At the St. Louis Downtown Site (SLDS), the U.S. Army Corps of Engineers (USACE) has almost completed remedial activities at the Mallinckrodt, LLC (Mallinckrodt) Plant 6 area within the former Building 101 footprint and perimeter area. The Formerly Utilized Sites Remedial Action Program (FUSRAP) team completed excavation activities within the footprint of the former Building 101 in January 2017. Backfill activities are ongoing. The team is phasing the final restoration and grading of the remediated area to accommodate the remediation of the adjacent portions of Destrehan Street and Plant 7 West. This area is situated between Hall Street and the Burlington Northern/Santa Fe Railroad Vicinity Property at SLDS. Remedial activities for Destrehan Street-East and Plant 7 West-North began in June 2016 and are continuing. To date, the FUSRAP team has removed approximately 8,500 cubic yards – about half of the planned excavation volume. The team recently completed preconstruction activities to relocate or abandon existing utilities along



The FUSRAP team excavated contaminated soil at former Building 17 at SLDS.

this portion of Destrehan Street. These utilities included overhead electrical and fire/security communication systems, as well as underground gas, sewer and water lines. The team removed the Destrehan Street Security Guard Station and will remove the abandoned Electric Substation Building as remediation nears that area. Destrehan Street remediation is scheduled to be completed in mid-to late 2018.

FUSRAP has begun remediation activities for the former Building 17 area, located in Mallinckrodt Plant 1. They completed site preparation and installation of sheet-pile shoring in the deeper excavation area May 29, 2017. A portion of the excavation to the east of the shored area was completed July 12, 2017. It was backfilled to interim grade to provide a stable work area for equipment during excavation within the shored area. The installation of the bracing system for the shored area of the former Building 17 remediation is planned for late summer 2017. Once the bracing system has been installed, excavation activities will resume within the shored area to design depth,

Upcoming Events

Information Releases: Winter Newsletter 2018

This newsletter is issued twice a year.

Upcoming Meetings: Public Meeting - Tentatively scheduled for February 2018. Check for updates at: <http://www.mvs.usace.army.mil/Missions/Centers-of-Expertise/Formerly-Utilized-Sites-Remedial-Action-Program>.



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USACE completed remedial activities at Duchesne Park in February 2017. More than 8,600 cubic yards of contaminated material were removed. The City of Florissant has re-opened the restored park to the public.

including removal of the Plant 1 sewer. After remediation activities are complete, the shored area will be backfilled to interim grade and Mallinckrodt will replace the Plant 1 sewer. As of July 27, 2017, the FUSRAP team has excavated about 860 cubic yards of the former Building 17 area's total planned excavation volume of about 3,100 cubic yards.

North St. Louis County Sites

Duchesne Park

The FUSRAP team completed remediation of Duchesne Park in February 2017. More than 8,600 cubic yards of contaminated material were removed and shipped to an out-of-state licensed disposal facility. In April, the team backfilled, seeded and mulched the remediated area, completing the restoration activities at the park. The City of Florissant has now reopened Duchesne Park to the public.

Palm Drive Properties

Remedial activities at the six Palm Drive Properties started on May 2, 2017. The FUSRAP team completed remediation of the properties in mid-June, removing more than 5,600 cubic yards of contaminated material. The team completed backfill activities in the area of excavation in July 2017. Restoration activities, including seeding and mulching the area, are underway.

This was the first time FUSRAP remediated an area located in the backyards of residences. USACE worked closely with the Palm Drive residents to ensure they were informed and updated on remedial activities on their properties. USACE took every precaution to protect the residents and the public during the excavation of the properties and to ensure the remediation would take place quickly, efficiently and safely. The excavated area was cordoned off from the public and several air-monitoring stations were placed around the excavation to obtain air dispersion data during excavation and loading activities.

Coldwater Creek

USACE's FUSRAP team continues investigating and sampling the next 1-mile section of Coldwater

Creek (CWC) banks, sediment and adjacent properties within the 10-year flood plain north of St. Denis Bridge. Sediment sampling usually takes place in the summer or fall when the water temperature is above 50°F. In shallow water depths (less than 3 feet), sample collection is done by wading and using a hand-held core sampler. At water depths over 3 feet, a special floating platform is used to collect sediment samples.

Keeping in Touch

Mailing List - To receive newsletters and other printed communications, sign up for the FUSRAP mailing list.

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If you have any suggestions, questions or comments, contact the U.S. Army Corps of Engineers.

Delineation/bounding sampling is taking place south of St. Denis Bridge at areas in the creek and adjacent properties where initial sampling identified the presence of contamination. Delineation or bounding sampling will show the extent and depth of the contaminated area. This sampling will be used to help develop a remedial design to remediate these areas.

Ballfields Phase 2B

USACE has resumed the remediation of Investigation Area (IA)-09 (Ballfields) Phase 2B. The depth of the excavated areas will vary to a maximum of approximately 7 feet below ground surface. The team will remove approximately 17,300 cubic yards of contaminated material in Phase 2B. As stated in the 2005 North County Record of Decision (ROD), IA-09 and IA-08 remediation will include radiological and non-radiological contaminants of concern (COCs). IA-08 to IA-13 are the only St. Louis Airport Site (SLAPS) Vicinity Properties that have non-radiological COCs.

Evaluation of Structures along Coldwater Creek (CWC)

At this time, USACE is not sampling within homes adjacent to CWC because contamination has not been found immediately adjacent to residential structures. However, if a demonstrated transport mechanism is found, future sampling in homes may be required.

FUSRAP developed a conceptual site model (CSM) that explains the physical, chemical, and biological processes controlling the transport, migration, and actual/potential impacts of contamination (in soil, air, ground water, surface water, and sediments) to human or ecological receptors. The original sources of contamination for CWC were SLAPS, the Hazelwood Interim Storage Site/Futura (HISS/Futura), and the transportation of the material by truck from the SLAPS to the Latty Avenue Sites.

Potential transport mechanisms are ways by which material could move from

SLAPS, HISS/Futura, and roads into CWC. These mechanisms include surface water (storm-water runoff), ground water seepage from beneath storage areas to CWC, windblown emissions in the immediate vicinity, and physical movement (spillage of contaminated material during transport).

After evaluating these transport mechanisms and how material moved by water into CWC, USACE developed the current sampling strategy to investigate CWC, the CWC corridor, and adjacent properties within the 10-year flood plain. Thus far, sampling has not shown contamination immediately adjacent to homes bordering CWC.

USACE uses a standard, accepted methodology when reviewing potential for impact to structures that was developed in the Final Status Survey Plan for Structures. It requires that the land surrounding the structures be evaluated to determine the potential for structure impacts. This process has been used throughout the St. Louis Sites and has shown that significant soil contamination levels must be very close to a structure in order to potentially impact that structure. This finding was shown to be true at the HISS/Futura Sites. To date, elevated soil contamination levels immediately adjacent to residential foundations along CWC has not been found. More than 20 surveys were performed on exterior structural materials — such as concrete, asphalt, buildings, homes, and playgrounds — within the CWC flood plain. No contamination was found on any of these structures surveyed.

Therefore, based on an evaluation of the contaminant migration pathways and existing data, there is no indication that Manhattan Engineer District and Atomic Energy Commission-related contamination would have entered homes. However, if soil immediately adjacent to a home exhibits levels of contaminants above remedial goals, and evidence shows that CWC did flood into a home, then sampling within that home may be warranted.

USACE is developing a fact sheet that includes a more detailed explanation.



Educational Information

Q: What can you tell me about thorium-230 in soil on residential properties along Coldwater Creek?

A: Thorium-230 (Th-230) is a radiological contaminant that is being addressed by FUSRAP according to the ROD for the North St. Louis County Sites. The storage sites where contamination originated have already been cleaned up. FUSRAP cleanup is occurring on other properties, including properties along the part of CWC north of I-270.

Th-230 alpha particles are stopped by 2 inches of air and thin layers of materials (like clothing or skin). Radiation from Th-230 is only a hazard if it is eaten or breathed. Th-230 in the environment essentially locks onto soil particles and doesn't dissolve easily in water. Water has to move soil particles to move the Th-230. Water from rain moved soil particles from the storage sites to CWC. Then, soil particles with Th-230 settled from the creek onto downstream soil. Other sediment or fill may have settled on top of that.

North of I-270, the highest sample result in the upper 6 inches of soil on a residential property is 73 pCi of Th-230 per gram of soil. This level is five times the cleanup goal. The risk from Th-230 for this property is slightly less than the upper bound of the risk range under the federal law that applies to this cleanup. However, because the ROD cleanup goals are exceeded, this soil will be removed.

To date, the FUSRAP team removed contaminated soil from two recreational properties, four residential properties, and one undeveloped property north of I-270. Removal of contaminated soil on one residential property north of I-270 is in progress. So far, 23 residential properties north of I-270 have been evaluated and found to meet established cleanup goals.

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