



Former Frankford Arsenal Area II Soils

U.S. ARMY CORPS OF ENGINEERS

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Introduction

The former Frankford Arsenal consists of 109 acres located at 5601 Tacony Street in Philadelphia. The property currently has four owners: Arsenal Business Associates, a limited partnership, the Philadelphia Department of Parks and Recreation, Dietz and Watson, and PIDC (Philadelphia's public-private economic development corporation). The site has been divided into four active projects to improve efficiency for the clean-up efforts (Area 1, Area 2, Area 3 and Groundwater). Since 1996, the U.S. Army Corps of Engineers has performed several investigations for munitions and residual chemicals.



Work at the arsenal included the manufacturing of small arms and ammunition.

Site History

Operation as an arsenal began in 1816. During that time, a wide variety of ordnance-related activities took place over the years, including the development of artillery and infantry equipment, proving and testing of musket and rifle powder, development and manufacturing of small arms and ammunition, and many other research and development initiatives. In 1976, Frankford Arsenal was declared excess and was closed on Sept. 30, 1977. A decontamination and clean-up program was completed in 1980. The work included remediation of radiological contamination, explosive residues, and heavy metal residues.

Area II Soils – Proposed Plan

The Former Frankford Arsenal Area II Proposed Plan is based on the Area II Remedial Investigation and subsequent Feasibility Study completed in June 2016. The primary purpose of this Proposed Plan is to identify preferred remedial alternatives to mitigate unacceptable risks posed by soil contamination that may remain within Area II of the Former Frankford Arsenal.

During the Area II Remedial Investigation, there were several chemicals of concern (COCs) identified in the soil, including lead, polychlorinated biphenyls (PCBs), and benzo(a)pyrene. A human health risk assessment was completed for all three zones in Area II to determine if there was an unacceptable risk to current and potential future receptors at the site. Based on the results of the risk assessment for each zone, **there was no unacceptable risk to current workers and school students at the site.** There was unacceptable risk identified for potential future residents at the site, and six Areas of Concern (AOCs) were identified as requiring additional actions to address risks to potential future residents (see map).

The Proposed Plan summarizes the three cleanup alternatives evaluated in the Feasibility Study, and identifies the Army's preferred cleanup alternative for remaining unacceptable risks in soils in the six AOCs. As detailed in the Feasibility Study, alternatives are evaluated against the short and long-term aspects of three broad screening criteria: effectiveness to protect human health and the environment, implementability, and cost. The three cleanup alternatives evaluated and the AOCs they were selected for are as follows:

No Further Action	Not Selected
Excavation and Disposal	Selected for AOCs 1, 6, 10 and 20
Installation of a Cap and Future Use Restriction	Selected for AOCs 13 and 21



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Explanation of Selected Alternatives in the Proposed Plan

The initial broad screening eliminated No Further Action because it failed key elements of the effectiveness and implementability screening criteria, and more specifically it would not be protective of human health and the environment because it does not address potential exposure to contaminated soil.

The other alternatives, “Excavation and Disposal” and “Installation of a Cap and Future Use Restriction,” were selected for certain AOCs based on the different characteristics of each AOC.

Excavation and Disposal: In AOCs 1 (including AOCs 1A, 1B, 1C and 1D), 6, 10 and 20, the contaminated soils are accessible, meaning that in many cases the public has a direct contact pathway to the contaminated soils. This also means that the soils can be more easily excavated. Generally, these are factors in the selection of Excavation and Disposal for these AOCs. It’s estimated that implementation of this alternative for these selected AOCs would involve the excavation and disposal of approximately 3,112 cubic yards of contaminated soil from the site.

Installation of a Cap and Future Use Restriction: In AOCs 13 and 21, the contaminated soil is below an already existing cap. In the case of AOC 13, the existing cap is asphalt paving and at least 8 inches of concrete. In AOC 21, the existing cap is asphalt paving. These existing caps serve to limit potential contact between the public and the contaminated soils. The existing caps also would complicate potential excavation of the soil and increase the cost of any such excavation. As such, for these AOCs, the Army is recommending leaving the caps in place and implementing restriction of future work that would reduce the efficacy of the existing caps.

The Corps of Engineers released the Area II Proposed Plan for public comment in summer 2016 and plans to start any necessary clean-up work later in 2016. The Corps of Engineers is committed to a complete and thorough cleanup at the former Frankford Arsenal

Status of the Other Areas

Several investigations and removal actions have taken place at Area 1 since 1999. After completion of these removals, the Corps of Engineers determined that there are no remaining unacceptable risks to human health or the environment, and recommends no further action for Area 1 Soils. The Pennsylvania Department of Environmental Protection approved the Remedial Investigation Report, which summarized these findings. The Final No Further Action Decision Document for Area I Soils was signed on 1 July 2015.

The Area III Soil Remedial Investigation Report was finalized in March 2016, and USACE is evaluating alternatives for addressing Area III soil contamination in a Feasibility Study. The Groundwater Remedial Investigation Report is expected to be finalized in October 2016.

For More Information

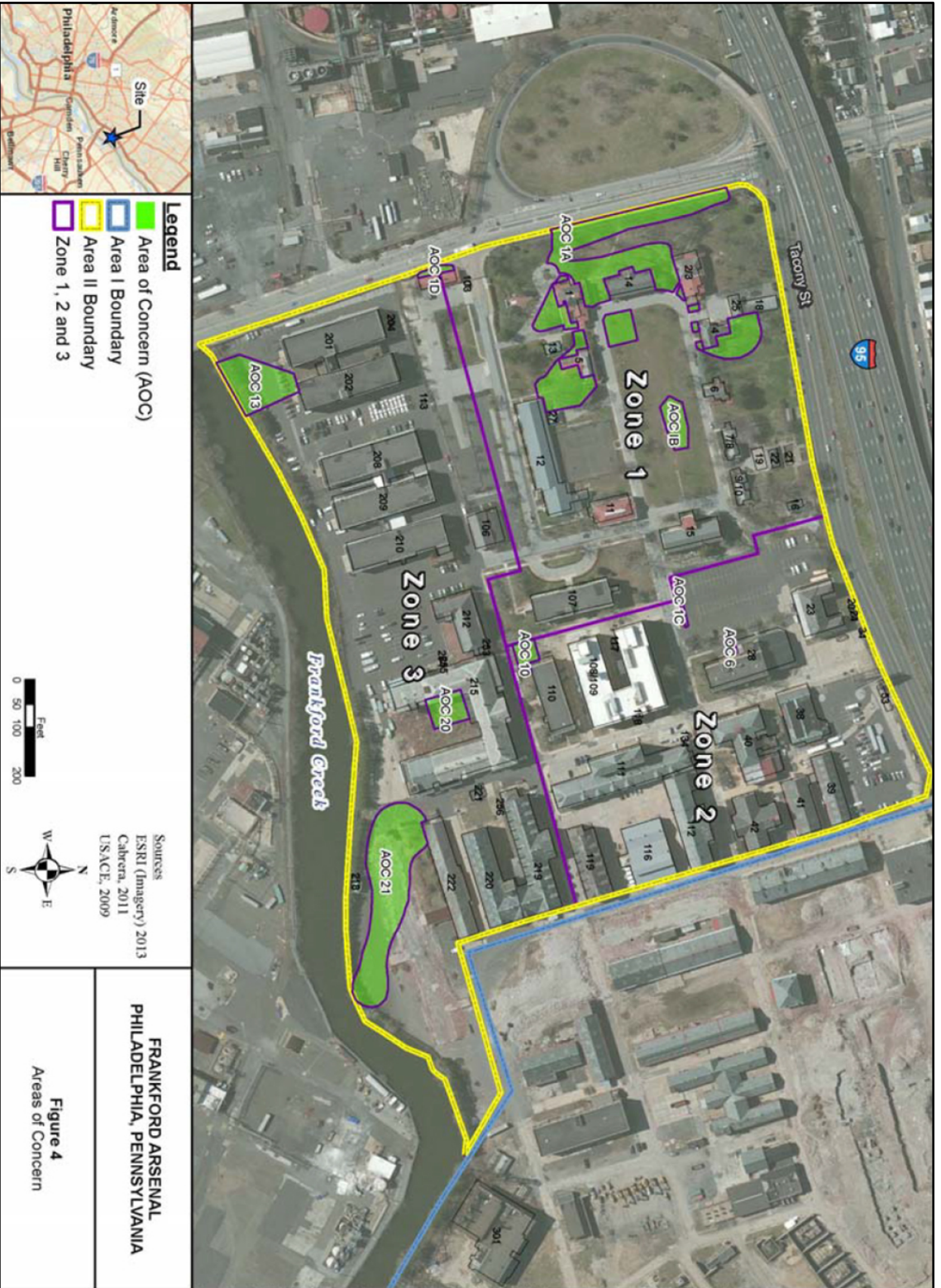
The Corps of Engineers has made a project website with additional documents, including the full Proposed Plan, and additional project information available for the public at www.nab.usace.army.mil/Frankford

If you have questions, please contact the Baltimore District Corporate Communication Office at cenab-cc@usace.army.mil or 410-962-2809.



Crews remove one of buildings in Area 1 as part of the clean-up work.

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Map of Area II of the Former Frankford Arsenal showing the six Areas of Concern shaded in green.