

**Draft Proposed Plan  
Former Fire Fighter Training Area  
Site ID 51315.1031  
Fort Gregg-Adams, Virginia  
July 2024**



**PUBLIC COMMENT PERIOD**

**JULY 8, 2024 – August 7, 2024**

During the comment period, interested parties may submit written comments on *the Proposed Plan*.

Virtual Public Meeting:	Document Repository location:	For additional information contact:
<b>Date:</b> July 24, 2024 <b>Time:</b> 6:30 to 7:30 pm	<a href="https://home.army.mil/greggadams/about/Garrison/directorate-public-works/environmental-management/documents-review">https://home.army.mil/greggadams/about/Garrison/directorate-public-works/environmental-management/documents-review</a>	Mr. Craig Norris Environmental Engineer Directorate of Public Works Environmental Management Division Building 6005 825 19th Street USAG Fort Lee, Virginia 23801 Desk: (804)734-3772 craig.a.norris10.civ@army.mil

**1.0 INTRODUCTION**

This Proposed Plan describes the preferred remedy for the Former Petroleum Lab/Firefighter Training Area (FFTA) also known as the inactive Fire Training Pit (51315.1031\_FTLE-31) at Fort Gregg-Adams (formerly known as Fort Lee), Virginia. The preferred remedy consists of plume stability monitoring in support of five-year reviews and land use controls (LUCs). It is the Army's current judgment that the preferred alternative identified in this Proposed Plan is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

This Proposed Plan (PP) summarizes information that is described in the Preliminary Assessment/Site Investigation (PA/SI), Interim Removal Action Completion/Remedial Investigation (IRA/RI) Report, as well as other documents are contained in the Administrative Record (AR) for this site.

The U.S. Army (Army) is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and Section

300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This Proposed Plan is issued by the Army, the lead agency for site activities, in consultation with the Virginia Department of Environmental Quality (VDEQ), the support agency.

This Proposed Plan informs the public of the remedy preferred by the Army in consultation with VDEQ, and to act as a mechanism to solicit public comments pertaining to the preferred alternative, as well as the remedial alternatives evaluated. The Army in consultation with VDEQ will select a final remedy for the site following review and consideration of all information received during the 30-day public comment period. The public is, therefore, encouraged to review the documents contained in the Administrative Record to gain a better understanding of the site and cleanup activities that have been conducted to date.

**2.0 SITE BACKGROUND**

This Proposed Plan provides a brief description of the site, an overview of the site history, as well as a summary of previous investigations, and is divided into the following sections:

- Introduction (1.0)
- Site Background (Section 2.0)
- Site Characteristics (Section 3.0)
- Scope and Role of Response (Section 4.0)
- Remedial Action Objectives (Section 5.0)
- Summary of Remedial Alternative (Section 6.0)
- Summary of Preferred Decision (Section 7.0)
- Community Participation (Section 8.0)
- Glossary –definitions of terms

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As shown on Figures 1 and 2, the FFTA is located near the southern installation boundary and the intersection of H Avenue and 38<sup>th</sup> Street. FFTA consists primarily of wooded areas and is bounded to the west by landscaped vegetated areas associated with the active Fire Training Pit. The site is located within the main operational grounds of Fort Gregg-Adams and no private residences are located within 1,300 feet.

As shown on Figure 2, FFTA consists of a historic, inactive Fire Training Pit that is located on the eastern portion of the site and was closed in the early 1980s. An additional fire pit (labeled as active; though this modern training pit was demolished in 2012, this label has been retained for consistency) is located approximately 100 yards west of the inactive pit and was constructed using an earthen dike with a metal burn pad in the center of the pit. A metal pipe with a valve was also installed through the dike for drainage. It is assumed that the inactive pit was similarly constructed. No records have been found that define the materials that were burned in the inactive pit, but Fort Gregg-Adams personnel reported that waste fuels and possibly solvents were burned in the inactive pit during the 1970s.

A PA/SI was completed for the Petroleum Laboratory in 1997 which included concrete storage pads and buildings, the active Fire Training Pit, and the inactive Fire Training Pit. Soil sampling was conducted, and groundwater monitoring wells were installed as part of the study. No

further action was recommended regarding the Petroleum Laboratory portion of the site along with and the associated concrete storage pads and buildings; however, the FFTA was identified as an area of concern, which will be the focus of this proposed plan.

## Remedial Activities to Date

Remedial activities include an Interim Removal Action (IRA) field investigation (2007) and soil excavation (2009) followed by performance monitoring (through 2011).

The IRA field investigation was performed in November and December 2007 to evaluate the type and magnitude of contamination, impacts of contamination on various media such as groundwater and soil, extent of impacted soils, and risks to human health and ecological receptors. Results of the field investigation confirmed the presence of the contaminant source (possibly waste fuels and solvents) in subsurface soil and groundwater. Strong petroleum odors and heavy staining was visible in soil borings obtained from within the soil removal boundary

The IRA began in January 2009 and consisted of soil excavation from pre-defined limits (based on the field investigation). However, during removal activities, the Army decided to increase excavation boundaries based upon field data and observations. The final excavation area was approximately 40 feet wide by 60 feet across (2,400 square feet) and extended to the groundwater

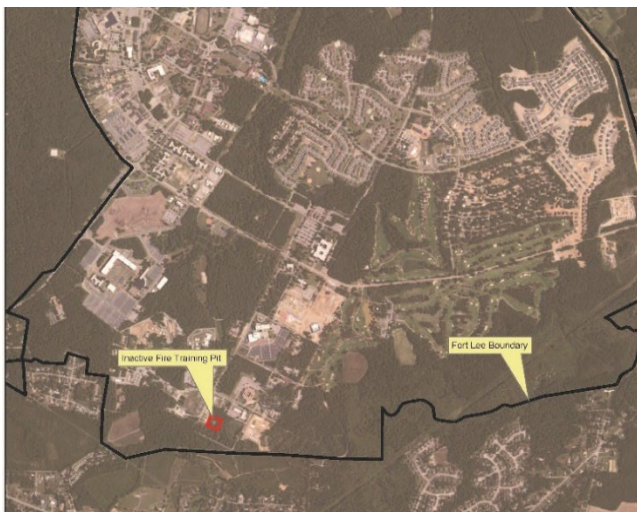


Figure 1 - Location Map



Figure 2 - Site Map

table (approximately 16 feet deep). A total of 2,081 tons of soil was excavated and transported to a local Subtitle D disposal facility (landfill). Following the soil excavation and removal, an amendment (oxidizer/oxygen release) was applied to the base of the excavation as a supplement treatment that was anticipated to assist in the degradation of any residual contamination that could be present in the soils above and below the groundwater table. The excavation pit was backfilled with clean soil material, graded, compacted, topped with topsoil, and seeded.

Performance monitoring was conducted in May 2009, 2010, and 2011 to evaluate constituent trends in groundwater and the associated effectiveness of the IRA. Overall, results of the performance monitoring indicate a decrease in volatile organic compound (VOC) and semi-volatile organic compound (SVOC) constituent concentrations at the inactive Fire Training Pit boundary. Constituent reductions at the site boundary are indicative of a reduction or elimination of contaminant mass in the source area.

The FFTA was sampled annually as part of a long term monitoring (LTM program) (beginning in 2007 through 2018; no 2008 data). During the last 3 annual sampling (2016, 2017 and 2018) events benzene was detected at concentrations above the maximum contaminant level (MCL). During the 2018 LTM sampling event, Benzene was detected in one well just above the MCL (5 µg/L).

### 3.0 SITE CHARACTERISTICS

#### Site Physical Characteristics

##### Topography and Surface Hydrology

The topography of the surrounding area is generally flat with a gentle slope to the northwest and southwest which develops a surface water drainage divide between the inactive and active Fire Training Pits. As reported in the 1997 Final PA/SI, "this topographic feature may also suggest that a shallow groundwater divide may occur along a northwest-southeast line extending through the middle of the site."

Surface drainage would likely move in two directions; runoff from areas near the active Fire Training Pit would drain towards the north-northwest and ultimately drain into Bailey Creek head waters, while runoff from areas near the inactive Fire Training Pit would drain towards the south-southeast and ultimately into Blackwater swamp, which is approximately 500 yards to the south.

##### Site Geology and Hydrogeology

Fort Gregg-Adams is located on the western edge of the Atlantic Coastal Plain Geologic Province. The Coastal Plain Province extends from the

transitional zone of the Piedmont, or Fall Line, to the Continental Shelf and is comprised of a sediment wedge of unconsolidated clay, sand, and gravel with occasional bituminous shale, limestone, and sandstone lenses which increases in thickness from west to east. The upper stratigraphic units at Fort Gregg-Adams, from land surface to approximately 300 feet below ground surface, are representative of fluvial sediments deposited during the Pleistocene and Pliocene Epochs. The fluvial nature of the deposits is characterized by the inter-tonguing of clay, silt, and sand facies observed in local trenches and well bores and by the presence of aggrading stream deposits observed in fill cuttings.

The PA/SI indicated that the soils consist of a thin layer (1 to 2 feet thick) of sand to silty sand underlain by clays, silty sands, and clayey silts. These soil types were also identified during activities associated with the IRA.

The most recent site-wide groundwater gauging event, the water table elevations at the site ranged from 131.44 feet to 131.66 feet above mean sea level (amsl) corresponding to depths ranging from 17.5 to 20 feet below ground surface. Groundwater generally flows towards the northwest.

#### Nature and Extent of Contamination

The nature and extent of contamination was evaluated in the IRA Completion/RI Report (March 2012). As the soil removal activities encompassed areas containing constituent exceedances (U.S. Environmental Protection Agency [USEPA] Regional Screening Levels [RSLs]) for VOCs and SVOCs, only post-removal data or data outside of the excavation was used to determine the nature and extent of contamination. Although VOCs and SVOCs were detected in soil samples obtained from the outer wall of the excavation pit, the detections were below applicable screening criteria. In addition, numerous inorganic constituents were detected in these soil samples, but were below background levels for the installation and vertical distribution of inorganics was not noted.

Using 2009 groundwater results (data used for the site evaluation and risk assessment), four VOCs and two SVOCs were detected above USEPA screening criteria. These detections were the highest in MW-3, located closest to the excavated area. Although numerous inorganic constituents were detected above USEPA screening criteria, only iron was detected above background levels and was detected in only one monitoring well.

### **Risk Summary**

A human health risk assessment (HHRA) was performed and included in the IRA Completion/RI Report. The site is located within an area where land usage would best be described as industrial. As the site is not likely to be re-developed for future residential use (following the 2005 Defense Base Closure and Realignment Commission [BRAC] Report recommendations which identified Fort Gregg-Adams as an important training installation for the foreseeable future) risks to future residential users at the site were not calculated. The HHRA determined that cancer risks and non-cancer hazards to potential receptors (excluding residential) were within the allowable ranges as established by the NCP.

Screening-level ecological risks were also evaluated in the IRA Completion Report and determined that there are no potentially complete exposure pathways from constituents in surface soil and groundwater. An evaluation of subsurface soil indicated petroleum related constituents (VOCs and SVOCs) do not present a long-term threat to ecological receptors due to biodegradation. Overall, the ecological risk assessment concluded there is no significant hazard to ecological receptors.

### **4.0 SCOPE & ROLE OF RESPONSE**

As discussed previously, soil impacts associated with the inactive Fire Training Pit were addressed in a removal action. As performance groundwater monitoring has demonstrated, the decreasing or stable concentrations may be suitable for further mitigation via natural processes, the response action appears to be working as intended.

Remedial actions have been and will be undertaken to protect the health of workers, visitors, and trespassers within the site boundary.

The remedy will address the protection of human health and the environment as well as compliance with applicable or Relevant and Appropriate Requirements (ARARs).

### **5.0 REMEDIAL ACTION OBJECTIVES**

Remedial Action Objectives (RAOs) are site-specific, qualitative or quantitative initial clean-up objectives that are established based on the nature and extent of contamination, the resources that are currently and potentially threatened, and the potential for human exposure.

Prior to IRA activities, benzene was detected in groundwater at concentrations of 42 ug/L in one well near the source area and 7.5 ug/L in another well

downgradient of the source area. After the IRA, the most recent performance monitoring event indicates benzene concentrations have been reduced to just below or above the MCL in two monitoring wells (WW-3 and MW-4).

The anticipated RAOs for the inactive Fire Training Pit will be to:

1. Reduce the concentration of the constituents of concern (COCs) to meet chemical-specific Applicable and Appropriate Requirements (ARARs), in this case maximum contaminant levels (MCLs).
2. Prevent human exposure to COCs exceeding chemical-specific ARARs.

Current site land use, as well as future land use, is planned to be non-residential (and not available to sensitive receptors such as children). Shallow groundwater is not utilized as a potable water source and potable groundwater wells are restricted from areas on Fort Gregg-Adams that are serviced by municipal water providers.

### **6.0 SUMMARY OF REMEDIAL ALTERNATIVE**

As discussed in the Site Background (Section 2.0), the PA/SI recommended additional investigation related to the petroleum related impacts to soil. Prior to the IRA, additional investigations were completed in December 2007 and the IRA was executed in January 2009. The March 2011 IRA Completion/RI Report concluded that no further action is warranted based on the results of the risk assessment, which indicates minimal potential risks for human and ecological receptors based on the existing land use scenario (non-residential).

Therefore, in order to prevent a future residential land use scenario, land use controls (LUCs) will be implemented along with groundwater plume stability monitoring for benzene every 5 years until MCLs are met.

### **7.0 SUMMARY OF PREFERRED DECISION**

As residential use of the site was not included in the risk assessment (not anticipated in the foreseeable future), the preferred remedy will include LUCs. LUCs will be established in the Fort Gregg-Adams Master Plan and will prohibit residential development of the site, as well as groundwater withdrawal from the site.

Historical performance groundwater monitoring activities indicate stable or decreasing VOC and SVOC groundwater concentrations and confirm that the IRA has removed a significant contributing contaminant source from groundwater.

Plume stability monitoring will be conducted every 5 years for benzene in support of the five year review with the purpose of

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monitoring future increases or decreases in contaminant concentrations. Plume stability monitoring will be conducted every five years until concentrations no longer exceed the MCLs. At this time sampling may cease and VDEQ will be petitioned for no further action concurrence

The remedy meets the RAOs, while protecting human health and the environment. Long term protection of human health and the environment will be maintained using a combination of plume stability monitoring of groundwater benzene concentrations, paired with LUCs until MCLs are met, then sampling may cease and VDEQ will be petitioned for no further action concurrence.

LUCs will be used to eliminate potential contact with contaminated media to eliminate risk to human health impacts associated with COCs. LUCs will be used at the site to provide adequate protection against changes in land use that could create new exposure pathways and receptors.

Furthermore, the preferred remedy allows the site to remain in its current use (non-residential), while preventing a future residential land use scenario, without posing a risk to human health. As previously discussed, based on current land use and reasonably anticipated future land use, both of which identify training or industrial use areas, no unacceptable human health risks for groundwater were identified.

The remedy implementation plan includes the preparation of the Decision Document, followed by inclusion in the Installation Wide QAPP/Work Plan, and plume stability monitoring in support of 5 year review(s).

The Army, in consultation with VDEQ, will make a final remedy for the site following review and consideration of all information received during the 30-day public comment period. Community acceptance will be evaluated after the public comment period ends and will be described in the Decision Document (DD).

*This selection is preliminary and subject to public comment. The selection could subsequently be changed if additional information is presented.*

### 8.0 COMMUNITY PARTICIPATION

The Fort Gregg-Adams Public Affairs Office canvassed the surrounding communities for potential interest in establishing a Restoration Advisory Board (RAB) in February 2024. No responses were received from the local community. Based on the results of Fort Gregg-Adams's efforts to determine interest in forming a RAB, it was determined that there was not enough community interest to establish and sustain a RAB at this time. The surrounding community for Fort Gregg-Adams includes the Cities of Petersburg (population of

approximately 32,000), Hopewell (population of approximately 22,000), and Colonial Heights (population of approximately 17,000), and the County of Prince George (population of approximately 36,000).

The Installation Restoration Program (IRP) at Fort Gregg-Adams operates under the guidelines established by the Fort Gregg-Adams Community Relations Plan, whose implementation and maintenance are the responsibility of the Fort Gregg-Adams Public Affairs Office. The site reports, including the PA/SI and the Proposed Plan, have been made available at the public information repository at the Appomattox Regional Library in Hopewell, VA, for a public comment period, which will begin on July 8, 2024 and end on August 7, 2024.

In accordance with NCP Section 300.430(f)(3)(i)(D), a public meeting will be held during the public comment period. The meeting format is anticipated to be virtual, and an advance copy of the Proposed Plan will be provided electronically.

To send written comments during the comment period or obtain further information, contact:

#### Mr. Craig Norris

Environmental Engineer  
Environmental Management Division  
Building 6005  
825 19th Street  
USAG Fort Gregg-Adams, Virginia 23801  
Desk: (804)734-3772  
Email: [craig.a.norris10.civ@mail.mil](mailto:craig.a.norris10.civ@mail.mil)

The VDEQ representative reviewing and providing concurrence for the PP is:

#### Mr. Kyle Newman

Risk Assessor  
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Virginia Department of Environmental Quality  
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A suggested comment form is included at the end of this Proposed Plan. Besides being available in the public information repository, copies of the PA/SI and Proposed Plan are available in the Administrative Record (AR) file for Fort Gregg-Adams or by contacting Mr. Craig Norris in Fort Gregg-Adams's Environmental Management Office.

## GLOSSARY OF TERMS

**Administrative Record:** The official records containing all public information regarding the site. A copy of the Administrative Record is maintained at the Fort Gregg-Adams Environmental Management Office.

**Applicable or Relevant and Appropriate Requirements (ARARs):** The regulatory requirements set forth by federal and state environmental rules, regulations, and standards, which must be reached during the implementation of the remedial action.

**Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):** The federal law initially passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The law establishes the program commonly known as Superfund, and regulated by the United States Environmental Protection Agency, to investigate and remediate uncontrolled or abandoned hazardous waste sites.

**Decision Document (DD):** A legal public document that describes the cleanup action or remedy selected for a CERCLA site, the basis for the choice of that remedy, and public comments on alternative remedies. The DD is based on information and technical analysis generated during the RI/FS.

**Interim Removal Action (IRA):** A type of removal action taken to mitigate threats to human health and the environment. Removals include physical removal of wastes, implementing source controls, preventing migration of the release, or installing measures to control exposure to the release.

**Human Health Risk Assessment (HHRA):** process to determine if contaminants detected at a site are of concern to human health and the environment.

**Land Use Control (LUC):** Institutional or engineering controls that are used to provide protection from exposure to contaminants that exist or remain on a site. Sites that use LUCs as part of the overall remediation plan rely on their effectiveness to successfully protect human health and the environment over the long term.

**Maximum Contaminant Levels (MCLs):** MCLs were developed by the EPA, in accordance with the Safe Drinking Water Act. MCLs are legally enforceable for drinking water supplies and represent the allowable concentration for a given constituent in drinking water.

**Long Term Monitoring (LTM):** Monitoring of groundwater to confirm continued degradation of constituents at a sufficient rate to ensure that the wider environment is unaffected and that remedial objectives will be achieved within a reasonable timescale.

**National Oil and Hazardous Substances Pollution Contingency Plan (NCP):** The, NCP, more commonly called the National Contingency Plan, is the federal government's blueprint for responding to both oil spills and releases of hazardous substances, pollutants, or contaminants. This national response capability plan promotes the overall coordination among a hierarchy of responders and contingency plans.

**Preliminary Assessment/Site Investigation (PA/SI):** Under the scope of CERCLA, the combined PA/SI assessment integrates activities typically performed during the PA (information gathering, site reconnaissance) with activities typically performed during the SI (review of data, development of field work plans, field sampling, filling data gaps) to achieve one continuous site investigation.

**Proposed Plan:** A document that presents a proposed cleanup alternative, rationale for the preference, and requests public input regarding the proposed alternative.

## GLOSSARY OF TERMS (con.)

**Regional Screening Levels (RSLs):** Regional Screening Levels means risk-based chemical concentrations derived from standardized equations combining exposure assumptions with US EPA chemical-specific toxicity values and target risk levels that are used for site screening and initial cleanup goals.

**Remedial Action Objective (RAO):** RAOs are site-specific, initial clean-up objectives that are established on the basis of the nature and extent of contamination, the resources that are currently and potentially threatened, and the potential for human and environmental exposure.

**Remedial Investigation (RI):** serves as the mechanism for collecting data to characterize site conditions, determine the nature of the waste, assess risk to human health and the environment, and to evaluate the potential performance and cost of the treatment technologies that are being considered.

**Semi-Volatile Organic Compound (SVOC):** A class of chemicals, generally man-made, that is considered volatile under normal atmospheric conditions.

**Volatile Organic Compound (VOC):** See semi-volatile organic compound

**Virginia Department of Environmental Quality (VDEQ):** DEQ administers state and federal laws and regulations for air quality, water quality, water supply and waste management. In addition, other programs cover a variety of environmental activities. The mission of the Department of Environmental Quality is to protect and improve the environment and the well being of all Virginians.

**FROM:**

Name  
Address  
Affiliation  
Phone ( )

Place USPS  
Stamp Here

TO:  
Department of the Army  
Directorate of Public Works and Logistics  
Environmental Management Office  
1816 Shop Road  
Fort Gregg-Adams, Virginia 23801  
**Attn: Mr. Hank Hennigar**  
Installation Restoration Program Project Manager

Please print or type comments here:

Multiple horizontal lines for writing comments.

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