PRELIMINARY ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES AT FORT MCCLELLAN, ANNISTON, ALABAMA

Prepared for:

ODCS, G-9, ISE BRAC

U.S. ARMY

Final
October 2023

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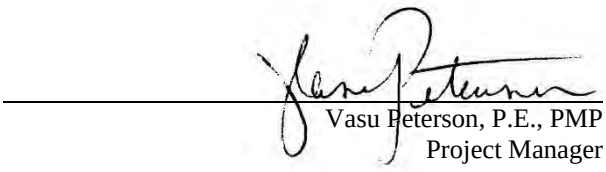

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LIST OF ACRONYMS AND ABBREVIATIONS

ADEM	Alabama Department of Environmental Management
AFFF	Aqueous Film-Forming Foam
ALARNG	Alabama Army National Guard
ALDOT	Alabama Department of Transportation
amsl	Above Mean Sea Level
AOPI	Area of Potential Interest
Army	U.S. Army
ARNG	Army National Guard
ATSDR	Agency for Toxic Substances and Disease Registry
AWWSB	Anniston Water Works and Sewer Board
bgs	Below Ground Surface
BRAC	Base Realignment and Closure
CDTF	Chemical Defense Training Facility
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
COI	Constituent of Interest
CSM	Conceptual Site Model
CWM	Chemical Warfare Material
DEH	Directorate of Engineering and Housing
DERP	Defense Environmental Restoration Program
DoD	U.S. Department of Defense
EBS	Environmental Baseline Survey
EDC	Economic Development Conveyance
EDR	Environmental Data Resources, Inc.
EE/CA	Engineering Evaluation/Cost Analysis
EOD	Explosives Ordnance Disposal
ESCA	Environmental Service Cooperative Agreement
FAA	Federal Aviation Administration
Fed-to-Fed	Federal to Federal
FEMA	Federal Emergency Management Agency
FM-ARNGTC	Fort McClellan-Army National Guard Training Center
FOST	Finding of Suitability to Transfer
FTA	Fire Training Area
GIS	Geographic Information System
HA	Health Advisory
HFPO-DA	Hexafluoropropylene Oxide Dimer Acid (aka GenX)
HQ	Hazard Quotient
HTRW	Hazardous, Toxic, and Radioactive Waste
IT	IT Corporation
LHA	Lifetime Health Advisory
LUC	Land Use Control
LRA	Local Redevelopment Authority
Matrix	Matrix Environmental, Inc.
MDA	McClellan Development Authority
MEC	Munitions and Explosives of Concern
MGD	Millions of Gallons per Day
MLP	Mountain Longleaf Pine
NCP	National Oil and Hazardous Substances Pollution Contingency Plan

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

NFA	No Further Action
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OE	Ordnance and Explosives
OSD	Office of the Secretary of Defense
OWS	Oil/Water Separator
PA	Preliminary Assessment
PAL	Project Action Limit
PBC	Public Benefit Conveyance
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethylene
PFAS	Per- and Polyfluoroalkyl Substances
PFBA	Perfluorobutanoic Acid
PFBS	Perfluorobutane Sulfonate
PFHpA	Perfluoroheptanoic Acid
PFHxA	Perfluorohexanoic Acid
PFHxS	Perfluorohexane Sulfonate
PFNA	Perfluorononanoic Acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
POL	Petroleum, Oil, and Lubricants
ppb	Parts per Billion
ppt	Parts per Trillion
PWS	Public Water Supply
RCRA	Resource Conservation and Recovery Act
RfD	Reference Dose
RI	Remedial Investigation
RSL	Regional Screening Level
SDWA	Safe Drinking Water Act
SI	Site Inspection
STB	Super Tropical Bleach
SVOC	Semivolatile Organic Compound
T&E	Threatened and Endangered
TCE	Trichloroethene
U.S.C.	United States Code
UCMR3	Third Unregulated Contaminant Monitoring Rule
UCMR5	Fifth Unregulated Contaminant Monitoring Rule
USACE	U.S. Army Corps of Engineers
USACMLS	U.S. Army Chemical School
USAEHA	U.S. Army Environmental Hygiene Agency
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WWI	World War I
WWTP	Wastewater Treatment Plant

EXECUTIVE SUMMARY

The objective of a Preliminary Assessment (PA) is to identify areas of potential interest (AOPIs) based on whether use, storage, or disposal of potential per- and polyfluoroalkyl substances (PFAS)-containing materials, including aqueous film-forming foam (AFFF), occurred in accordance with the 2018 U.S. Army (Army) Guidance for Addressing Releases of Per- and Polyfluoroalkyl Substances (U.S. Army 2018). A PA for PFAS-containing materials with a focus on perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), perfluorobutanoic acid (PFBA), perfluorobutane sulfonate (PFBS), perfluorononanoic acid (PFNA), perfluorohexanoic acid (PFHxA), perfluorohexane sulfonate (PFHxS), and hexafluoropropylene oxide dimer acid (HFPO-DA) and its ammonium salt ("GenX" chemicals) was completed for the Base Realignment and Closure (BRAC) property at the former Fort McClellan to assess potential PFAS release areas and exposure pathways. The entire former Fort McClellan, which is in Calhoun County, Alabama, was selected for closure under BRAC. The completion of this PA included the execution of the following tasks:

- Conducted a kickoff meeting with the BRAC Office and U.S. Army Corps of Engineers (USACE) on June 1, 2021, to present all parties' preliminary knowledge of the former Fort McClellan to provide information to guide the PA and site visit.
- Reviewed available records (e.g., aerial photography, historical maps, technical reports, previous studies, investigations) from online sources (i.e., Internet-based searches), environmental investigations and/or regulatory programs (e.g., the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA]), and internal Army documents from the Administrative Record. In addition, an Environmental Data Resources, Inc. (EDR) Report was generated for the former Fort McClellan and included any listed sites within and up to a 2-mile search distance.
- Conducted a 3-day site visit from March 8 to March 10, 2022, to identify potential sources of PFAS and gather information for developing conceptual site models (CSMs) at AOPIs.
- Interviewed individuals with historical and present-day knowledge of operations on the BRAC property.
- Identified AOPIs and developed preliminary CSMs for pathways of potential PFAS in soil, groundwater, surface water, and sediment.

In conducting the PA of the BRAC property at the former Fort McClellan, six AOPIs were identified where a potential for release of PFAS exists resulting from site operational history. AOPIs were identified at potential PFAS release locations on the BRAC property only.

Based on the potential PFAS releases at the AOPIs, the potential for exposure to PFAS contamination in soil and groundwater exists. In addition, the potential for off-post exposure in groundwater exists, as on-post groundwater could influence downgradient drinking water sources. Given the findings of this PA, the AOPIs presented warrant further evaluation in a Site Inspection (SI).

1. INTRODUCTION

The U.S. Army (Army) conducted this Preliminary Assessment (PA) to investigate the potential presence of per- and polyfluoroalkyl substances (PFAS) at the former Fort McClellan, Anniston, Alabama, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, 42 United States Code [U.S.C.] §9601 et seq.); the Defense Environmental Restoration Program (DERP, 10 U.S.C. §2701 et seq.); the National Oil and Hazardous Substances Pollution Contingency Plan (NCP, 40 Code of Federal Regulations [CFR] Part 300); and guidance documents developed by the U.S. Environmental Protection Agency (USEPA) and the Department of the Army. The former Fort McClellan is not on the National Priorities List (NPL), and the Army is responsible for compliance with CERCLA in accordance with Executive Order 12580, as amended.

The purpose of this PFAS PA is to identify locations that are areas of potential interest (AOPIs) on the former Fort McClellan based on the use, storage, and/or disposal of potential PFAS-containing materials, in accordance with the *Army Guidance for Addressing Releases of Per- and Polyfluoroalkyl Substances* (U.S. Army 2018). The PA was conducted in general accordance with 40 CFR §300.420(b), the USEPA *Guidance for Performing Preliminary Assessments Under CERCLA* (USEPA 1991) and the *Army Guidance for Addressing Releases of Per- and Polyfluoroalkyl Substances* (U.S. Army 2018). This report presents findings from research conducted to assess past use of PFAS-containing materials and identify areas where these materials were stored, handled, used, or disposed of at the former Fort McClellan.

The entirety of the former Fort McClellan was selected for closure under BRAC. Prior to closure, the former Fort McClellan property consisted of three areas: the Pelham Range, the Main Post, and the Choccolocco Corridor. Following closure, the Army retained approximately 300 acres on the Main Post and the entire Pelham Range for an Alabama Army National Guard (ALARNG) enclave. The entire former Fort McClellan property except for the ALARNG enclave was evaluated for this PA, including Army-owned property as well as property that has been previously transferred. The ALARNG enclave property was evaluated previously during the PFAS PAs the Army National Guard (ARNG) performed at the Fort McClellan-Army National Guard Training Center (FM-ARNGTC) and the Pelham Range (AECOM 2020a, AECOM 2020b); therefore, this property will not be evaluated as part of the current PA. The entire former Fort McClellan property, including Army-owned property as well as property that has been previously transferred, will be herein referred to as "Fort McClellan." Fort McClellan is located in Anniston, Calhoun County, Alabama, as shown in Figure 1-1.

1.1 PFAS BACKGROUND INFORMATION

PFAS are a group of synthetic compounds that have been manufactured and used extensively worldwide since the 1950s for a variety of purposes. PFAS are stable, man-made fluorinated organic chemicals that repel oil, grease, and water. Common industrial uses of PFAS include paints, varnishes, sealants, hydraulic fluid, surfactants, and firefighting foams. PFAS include both per- and polyfluorinated compounds. Perfluorinated compounds, such as perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), perfluorobutanoic acid (PFBA), perfluorobutanesulfonic acid (PFBS), perfluorononanoic acid (PFNA), perfluorohexanoic acid (PFHxA), perfluorohexane sulfonate (PFHxS), and hexafluoropropylene oxide dimer acid (HFPO-DA or Gen X) are a subset of PFAS with completely fluorinated carbon chains, while polyfluorinated compounds have at least one carbon chain atom that is not fully fluorinated. These eight PFAS together, and for the purposes of this PA, are referred to in this report as "Target PFAS."

The former Fort McClellan was evaluated for all potential use, storage, and/or disposal of PFAS-containing materials. A variety of PFAS-containing materials are used in relation to current and historical Army operations. However, the use, storage, and/or disposal of aqueous film-forming foam (AFFF) is the most common potential source of PFAS at U.S. Department of Defense (DoD) facilities. As such, this section is

organized to summarize the AFFF-related sources first followed by all of the remaining potential PFAS-containing materials. AFFF is used as a firefighting agent to suppress petroleum hydrocarbon fires and vapors. Firefighting foams like AFFF were developed in the 1960s (ITRC 2020a), but AFFF did not see widespread DoD use until the early 1970s. Older fire training facilities often were unlined and not constructed to prevent infiltration of firefighting foams and combustion products leaching into the subsurface. Large quantities of AFFF may have been released into the environment as a result of fire training exercises, fire responses, fire suppression system activations, and tank and pipeline leaks/spills.

Other potential PFAS sources considered include installation storage warehouses, some pesticide use, automobile maintenance shops, photographic processing facilities, laundry/waterproofing facilities, car washes, stormwater or sanitary sewer components, and biosolid application areas.

Many PFAS are highly soluble in water and have low volatility due to their ionic nature. The specific gravity/relative density for PFOS and PFOA is 1.8 (ITRC 2020c). Long-chain perfluorinated compounds have low vapor pressure and are expected to persist in aquatic environments. These compounds do not readily degrade by most natural processes. They are thermally, chemically, and biologically stable, and are resistant to biodegradation, atmospheric photooxidation, direct photolysis, and hydrolysis. The structure of these compounds increases their resistance to degradation; the carbon-fluorine bond is one of the strongest in nature, and the fluorine atoms shield the carbon backbone.

When PFAS are released to the environment, they can readily migrate into soil, groundwater, surface water, and sediment. Once in the environment, the compounds are persistent and may continue to migrate through airborne transport, surface water, groundwater, and/or biologic uptake. The amount of PFAS entering the environment depends on the type and amount of the PFAS material that may have been released, where and when it was used, the type of soil, and other factors. If private or public wells are located nearby, they potentially could be affected by PFAS. Similarly, surface water features may be impacted and may convey PFAS to downgradient receptors.

Of the thousands of PFAS, some are considered precursor compounds (typically polyfluoroalkyl substances). Precursor compounds can abiotically or biotically transform into PFOS and PFOA. PFOS and PFOA are referred to as terminal PFAS, meaning no further degradation products will form from them (ITRC 2020b).

1.2 PURPOSE AND OBJECTIVES

The purpose of a PA under the NCP is to 1) eliminate from further consideration those sites that pose no threat to public health or the environment; 2) determine if any potential need for removal action exists; 3) set priorities for Site Inspections (SIs); and 4) gather existing data to facilitate evaluation for the release pursuant to the Hazard Ranking System, if warranted (40 CFR §300.420(b)(1)(i) to (iv)).

The primary objective of the PA is to identify locations at Fort McClellan where PFAS-containing materials were used, stored, or disposed of, resulting in a potential release of PFAS to the environment, and conduct an initial assessment of possible migration pathways of potential contamination. This PA also includes development of a preliminary conceptual site model (CSM) for AOPIs related to PFAS.

1.3 PFAS REGULATORY OVERVIEW AND SCREENING CRITERIA

In May 2016, USEPA issued lifetime health advisories (LHAs) for PFOA and PFOS under the Safe Drinking Water Act (SDWA). To provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOS and PFOA in drinking water, USEPA established a health advisory (HA) level for PFOS and PFOA (individually or combined) of 70 ng/L (USEPA 2016).

In October 2019, the Office of the Secretary of Defense (OSD) issued guidance on investigating PFOS, PFOA, and PFBS at DoD restoration sites. The OSD guidance provided risk screening levels for PFOS,

PFOA, and PFBS in groundwater, tap water, and soil, based on the USEPA regional screening level (RSL) calculator for residential and industrial reuse and using the oral reference dose of 2E-05 mg/kg-day. These screening levels are used during an SI to determine if further investigation in a Remedial Investigation (RI) is warranted.

In April 2021, USEPA issued an updated toxicity assessment for PFBS. USEPA developed chronic (0.0003 mg/kg-day) and subchronic (0.001 mg/kg-day) oral reference doses (RfDs) for PFBS as part of USEPA's toxicity assessment. The RSL for PFBS was previously calculated using the RfD of 0.02 mg/kg-day. New toxicity values resulted in revisions to the RSLs for PFBS in May 2021 (USEPA 2021).

In September 2021, OSD issued a revision to *Investigating Per- and Polyfluoroalkyl Substances within the Department of Defense Cleanup Program* (DoD 2021). The revised memorandum accounts for the updated PFBS screening levels attributable to USEPA's reassessment of PFBS toxicity in 2021. Based on USEPA research, the RSLs for PFOS and PFOA are calculated using an RfD of 2E-05 mg/kg-day. The RSL for PFBS is calculated using an RfD of 3E-04 mg/kg-day. When multiple PFAS are encountered at a site, a 0.1 factor is applied to the screening level when it is based on noncarcinogenic endpoints.

In May 2022, based on continued evaluation of Target PFAS by the Agency for Toxic Substances and Disease Registry (ATSDR) and the USEPA Office of Water, USEPA provided new screening levels for PFOA, PFOS, PFNA, PFHxS, and HFPO-DA.

In July 2022, OSD issued a policy memorandum adopting these new screening levels to be used during the SI phase to determine whether further investigation in an RI is warranted. This revised guidance was in effect as of July 2022 and was applicable to investigating PFOS, PFOA, PFBS, PFNA, PFHxS, and HFPO-DA at DoD restoration sites, including Base Realignment and Closure (BRAC) sites (DoD 2022). In August 2023, OSD issued a memorandum to account for the May 2023 USEPA RSLs for PFBA and PFHxA in addition to the RSLs for the other six PFAS (DoD 2023). The screening levels for Target PFAS are listed in Table 1-1. Currently, no legally enforceable Federal standards exist for PFAS in groundwater, surface water, soil, or sediment.

Table 1-1. Screening Levels from the 2023 OSD Memorandum

Chemical	Residential Tap Water HQ = 0.1 (ng/L or ppt)	Residential Soil HQ = 0.1 (µg/kg or ppb)
HFPO-DA (GenX)	6	23
PFBA	1,800	7,800
PFBS	600	1,900
PFHxA	990	3,200
PFHxS	39	130
PFNA	5.9	19
PFOA	6	19
PFOS	4	13

Note: The Residential Tap Water Screening Levels are used to evaluate groundwater and surface water data. The Residential Soil Screening Levels are used to evaluate soil and sediment data.

The Army's strategy is to continue to assess and investigate potential releases and implement necessary response actions in accordance with CERCLA to ensure that no human health-based exposures are above the CERCLA risk-based values in drinking water. Therefore, sites where human exposure to contaminated drinking water exists will be addressed first and as quickly as possible to eliminate the exposure, and then other sites will be subsequently prioritized and sequenced to conduct the investigations and response actions necessary to characterize and, if necessary, remediate the source of PFAS contamination (U.S. Army 2018).

1.4 PA METHODOLOGY

The PA for Fort McClellan included a site visit, aerial photographic analysis, records review, and interviews that were conducted in accordance with the methods detailed in the Programmatic PA Work Plan (Leidos 2021). The Programmatic PA Work Plan outlines the approach and methodology for conducting the PFAS PA. As detailed in the Programmatic PA Work Plan, the PA activities focused on ascertaining and documenting the following information regarding PFAS history and use, storage, or disposal at Fort McClellan:

- On-post fire training activities
- Use of PFAS-based AFFF in fire suppression systems or other systems
- AFFF stored, used, and/or disposed of at buildings and crash sites
- Activities or use of materials that are likely to contain PFAS, such as metal plating operations
- Wastewater treatment plants (WWTPs) and landfills that may have received PFAS-containing materials
- Studies conducted to assess environmental impacts at the facility
- Potential PFAS use at parcels post transfer
- Potential off-post sources that may impact Fort McClellan.

The data gathered during PA activities are summarized in Section 3.

1.5 REPORT ORGANIZATION

The contents of this PA Report are summarized below:

- ***Section 2. Site Background***—This section presents site-specific information related to operational history and discusses the environmental setting. Demographics, land use, topography, geology, hydrogeology, hydrology, groundwater, potable wells, ecological receptors, and climate are described.
- ***Section 3. PA Analysis***—This section provides observations and results from the PA site visit, aerial photographic analysis, records review, and interviews.
- ***Section 4. Summary of PA Data***—This section provides an overview of the data collected during the PA for the different potential PFAS sources.
- ***Section 5. Summary of PA Results***—This section synthesizes all of the data gathered from the PA activities and determines whether each area evaluated during the PA is an AOPI or was not retained as an AOPI.
- ***Section 6. Conclusions***—This section presents conclusions of the PA.
- ***Section 7. References—***This section lists the references that were used in the preparation of this report.
- ***Appendices***—Appendices A through G include data from field activities or related assessments:
  - Appendix A. Final Fort McClellan Kickoff Meeting Minutes
  - Appendix B. Documents/Sources Reviewed During PA
  - Appendix C. Aerial Photographs
  - Appendix D. Site Visit Photographs
  - Appendix E. Questionnaire Responses and Interview Notes
  - Appendix F. Environmental Baseline Survey (EBS) Hazardous Materials Storage Inventory
  - Appendix G. Environmental Data Resources, Inc. (EDR) Report.

2. SITE BACKGROUND

2.1 SITE LOCATION

Fort McClellan, presented in Figure 1-1, occupied 45,501 acres in Calhoun County, Alabama. During operation, Fort McClellan was composed of three parts: the Main Post (18,768 acres) located near Anniston, Alabama, between State Highway 21 and the Talladega National Forest; the Choccolocco Corridor (4,488 acres) located near the eastern boundary of the Main Post; and the Pelham Range (22,245 acres) located 8 miles due west of Fort McClellan's Main Post. Figure 2-1 depicts the Fort McClellan site features.

2.2 SITE OPERATIONAL HISTORY

The area occupied by Fort McClellan first attracted military interest as an area for artillery training at the time of the Spanish-American War (1898). The Main Post was purchased by the Federal Government in 1917 followed by the Pelham Range in 1940. The Choccolocco Corridor was leased from the State of Alabama in 1941 to provide an access corridor from the Main Post to Talladega National Forest, expanding training areas for military personnel (Weston 1990).

The Main Post was initially purchased for use as an artillery range and was used to train troops for World War I (WWI), serving in that capacity until the armistice. The area was then designated as a demobilization center (SAIC 1993). By February 1919, 1,660 buildings had been constructed and a railway spur from the nearby Southern Railway tracks was completed. The initial construction at the Main Post was concentrated in the northwestern area where the land was level with an abundance of water. Pistol and rifle ranges were established north of the camp, automatic rifle and machine gun ranges were established southwest of the camp, and artillery firing ranges were established southeast of the camp toward the Choccolocco Mountains (ESE 1998).

Between 1919 and 1929, the facility was known as Camp McClellan and used as a training area for active Army units and other civilian elements. Camp McClellan was designated Fort McClellan in 1929 and continued to serve as a training area. The Federal Government acquired the Pelham Range and leased the Choccolocco Corridor from the Alabama Legislature in the early 1940s. In 1947, Fort McClellan was placed on inactive status.

In 1951, the Army reactivated Fort McClellan for operation of the Chemical Corps School. This school offered advanced training in all phases of chemical, biological, and radiological warfare to students from all branches of the military service until the school was deactivated in 1973. In addition, the Army Combat Development Command/Biological Radiological Agency performed its mission at Fort McClellan from 1962 to 1973. In the mid- to late-1970s, the U.S. Army Military Police School and the U.S. Army Chemical School were moved to Fort McClellan (SAIC 1993).

Fort McClellan was recommended for closure by the 1995 BRAC Commission, and the installation closed on September 30, 1999. The entire installation, except for one transfer parcel consisting of 10.88 acres of remaining excess property located on the Main Post, has transferred to various Federal, state, and local entities (U.S. Army 2021).

2.3 DEMOGRAPHICS, PROPERTY TRANSFER, AND LAND USE

Fort McClellan currently offers real estate opportunities for residential, commercial, industrial, retail, education, research, and technology development. Current land use in the western portion of the Main Post is primarily commercial, industrial, and residential, with approximately 137 acres that are zoned for recreational use (MDA 2021). The eastern portion of the Main Post is occupied by the Mountain Longleaf Wildlife Refuge, consisting of 9,016 acres of which two thirds is closed to the public (USFWS 2022). The Choccolocco Corridor is currently part of the Choccolocco Wildlife Management Area, managed by the

Alabama Forestry Commission in cooperation with the Alabama Department of Conservation and Natural Resources, the U.S. Forest Service, and the U.S. Fish and Wildlife Service (USFWS). The general public uses the wildlife management area for hunting, fishing, hiking, mountain biking, and other recreational activities (Shaw 2013). The 2020 U.S. census reported a population of 21,564 for Anniston, Alabama (U.S. Census Bureau 2022).

The Choccolocco Corridor lease was terminated in May 1998, and the land is currently managed by the Alabama Forestry Commission (Shaw 2013). The Main Post was closed in 1999 under the 1995 BRAC Commission (U.S. Army 2020). The command and control of the entire Pelham Range and approximately 300 acres within the Main Post transferred to ARNG in 2005 (AECOM 2020a). The only remaining property that belongs to the Army consists of the Highway 21 parcel (10.88 acres), which is planned to be transferred to the Alabama Department of Transportation (ALDOT). Table 2-1 summarizes property transfers, including property recipients and acreage, for conveyances that have been completed by the Army at the Main Post. Figure 2-2 presents the property transfers that have been completed by the Army at Fort McClellan.

Table 2-1. Summary of Property Transfers, Fort McClellan, Alabama

Parcel Recipient	Acres	Conveyance Authority
Joint Powers Authority (original LRA) and MDA (current LRA)	9,740.93	EDC
Fort McClellan Credit Union	1.0	EDC
ALDOT	710.35	EDC and PBC
USFWS	7,758.7	Fed-to-Fed
U.S. Department of Justice	64.3	Fed-to-Fed
U.S. Department of Health and Human Services	20.98	Fed-to-Fed
City of Anniston	138.0	PBC

Source: U.S. Army. 2021. *Notification and Authorization Pursuant to Releases of Per- and Polyfluoroalkyl Substances (PFAS) on Base Realignment and Closure (BRAC) Property at Former Fort McClellan Transferred Property.* February.

Note: Subsequent property transfers completed by the LRA/MDA following Army involvement are not defined.

Multiple land use controls (LUCs) and interim LUCs are in place at Fort McClellan restricting a variety of uses, including digging and disturbance of soil; residential use; installation of wells and groundwater use (except for monitoring purposes); intrusive activity without explosives ordnance disposal (EOD) or unexploded ordnance (UXO) clearance; and public access. The interim LUCs are dependent on the completion of site characterization and/or response actions. In addition, many of the sites have requirements for maintaining monuments and signs. The McClellan Development Authority (MDA) is responsible for LUC enforcement at 28 sites under Cleanup Agreement AL4 210 020 562 and the Environmental Service Cooperative Agreement (ESCA) between the Army and MDA. Therefore, MDA has implemented site-wide security patrols and maintains gates and fences at multiple sites on the Main Post (Matrix 2021a). In addition, multiple LUCs are in place for properties in the Mountain Longleaf National Wildlife Refuge and the Choccolocco Wildlife Management Area, and USFWS and the Alabama Forestry Commission, respectively, are responsible for monitoring, maintaining, and enforcing the LUCs.

The Army conducts 5-year reviews at 11 munitions and explosives of concern (MEC) sites and 7 hazardous, toxic, and radioactive waste (HTRW) sites at Fort McClellan. The purpose of the 5-year review is to determine whether the remedy at a site continues to be protective of human health and the environment. No issues that affect protectiveness were identified during the third 5-year review, which was conducted in 2015 (Zapata 2018).

2.4 TOPOGRAPHY

Fort McClellan is situated in the eastern portion of the Valley and Ridge physiographic province. The terrain of the installation is mountainous, with elevations ranging from 700 to 2,060 feet above mean sea level (amsl), as presented in Figure 2-1.

The majority of the Main Post lies in a valley, which is spotted with rolling hills of approximately 100 feet in height through which small creeks, fed by springs from underlying limestone units, flow throughout the year. The lower elevations occur along Cane Creek near Baltzell Gate Road, while the maximum elevations occur in the Choccolocco Mountains. These mountains traverse the area in a north-south direction with steep eastern slopes grading abruptly into the Choccolocco Valley. The western slopes are less steep and the topography is continuous, with the southern extension maintaining up to 900 feet amsl near the western boundary of the Main Post. The central portion of the Main Post is characterized by flat to gently sloping land (SAIC 1993).

2.5 GEOLOGY

Fort McClellan lies within the Appalachian fold and thrust belt. Southeastward dipping thrust faults associated with minor folding are the predominant structural features. Geologic contacts generally strike parallel to the faults, and repetition of lithologic units is common in vertical sequences (SAIC 1993). The Choccolocco Mountains are minor splays off the Jacksonville Fault, a northeast-southwest trending thrust fault that extends through the city of Anniston to the northeastern corner of Calhoun County. Regionally, these splays have resulted in complex, plunging anticlinal structures and multiple stacking and repetition of rock units (USGS 2001).

Geologic formations in the area range in age from Precambrian to Mississippian. On the eastern boundary of Fort McClellan, Talladega Slate crops out in a narrow band between the county line and the easternmost exposure of the Paleozoic rocks. The Weisner Formation, of Cambrian age, is the basal formation of the sedimentary rock sequence. The Weisner Formation, locally composed of sandstone and quartzite with thin bedded shale, underlies a large portion of the Main Post. It is capped by the Shady Dolomite, followed in turn by the Rome Formation and the Conasauga Formation, all of Cambrian Age. The Shady Dolomite, consisting of interlayered dolomite and limestone, occurs east and south of the Main Post. The Rome Formation is composed of red and green shale with thin, interbedded sandstones and calcareous layers. The Rome Formation occurs to the northwest and southeast of the Main Post. The Conasauga Formation is the uppermost Cambrian unit and is composed of interbedded limestone, dolomite, and shale. The Conasauga Formation occurs northwest and southeast of the Main Post.

Overlying the Conasauga Formation is the Knox Group, consisting of the Copper Ridge and Chepultepec dolomites of Cambrian or Ordovician Age. The Knox Group carbonates are overlain by Ordovician limestone and shale formations, including the Newala and Longview Limestones, Lenoir Limestone, Athens Shale, Little Oak Limestone, and Chickamauga Limestone. Ordovician limestone underlies much of the developed area of the Main Post.

The most abundant soil type at Fort McClellan is the Stony Rough Land Sandstone, typically found in the Mountain Longleaf National Wildlife Refuge. The Stony Rough Land Sandstone unit is derived from sandy residuum weathered from sandstone and consists of stony sandy loam and sandy loam on top of unweathered bedrock (14 to 80 inches below ground surface [bgs]). Other common soil types at Fort McClellan are derived from colluvium from sandstone and shale, including the Anniston and Allen Gravelly Loam, Anniston and Allen Stony Loam, and Jefferson Stony Fine Sandy Loam (USDA 2022). In general, the soils at Fort McClellan are acidic to very strongly acidic with pH between 4.5 and 5.5 standard units (SAIC 1993).

2.6 HYDROGEOLOGY

Previous investigations have indicated that two hydraulically connected but distinct groundwater zones are present in the vicinity of Fort McClellan: an unconsolidated, weathered zone and a bedrock zone. The unconsolidated zone generally consists of residuum from the weathering of the underlying parent material. The shallow residuum is often a zone of low permeability, allowing water to occur under perched or water table conditions, and the permeability is typically greatest near the residuum-bedrock interface. The

residuum stores recharged water and slowly releases the water to the bedrock aquifer or springs and streams (USGS 2001).

The thrust fault zones typical of Calhoun County form large storage reservoirs for groundwater. Precipitation and subsequent infiltration provide recharge to the groundwater flow system. Points of discharge occur as springs, effluent streams, and lakes. Groundwater at Fort McClellan occurs principally in the quartzites of the Weisner Formation in the Choccolocco Mountains and locally in the Ordovician carbonates. The Weisner, in part, supplies Coldwater Spring (approximately 10 miles southwest of Fort McClellan), the water source for the city of Anniston. The remaining water source for Coldwater Spring comes from the carbonate units of the Valley and Ridge aquifer system.

Bedrock permeability may be locally enhanced by fracture zones associated with thrust faults. Groundwater abundance is dependent on the existence and inter-connectivity of fractures, which often create springs along fault lines. Several faults exist in the eastern portion of the Main Post along the western boundary of the Choccolocco Mountains. Extensive faulting also occurs in the Choccolocco Corridor east of the Choccolocco Mountains (SAIC 1993).

Groundwater flow at Fort McClellan is controlled by topography and bedrock permeability and generally flows in a west-northwesterly direction toward the Coosa River. Localized groundwater flow may vary depending on topography, distance from surface water bodies, and subsurface geology. Groundwater generally moves southward along the eastern side of the Choccolocco Mountains and then southwesterly at the southern end of the mountains, as presented in Figure 2-1. Groundwater in the northwestern section of the Main Post flows in a west-northwesterly direction toward the Coosa River (SAIC 1993).

2.7 SURFACE WATER HYDROLOGY

A northeast-southwest trending drainage divide is present along the axis of the Choccolocco Mountains in the eastern portion of the Main Post and the western portion of the Choccolocco Corridor. East of this divide, the Choccolocco Corridor extends approximately 4.5 miles through the floodplains of Choccolocco Creek to the base of Rattlesnake Mountain. The headwaters of the drainage originate in the mountains with steep gradients and flatten out as they reach the floodplain and flow into Choccolocco Creek. Choccolocco Creek and its tributaries drain the eastern portion of Fort McClellan, ultimately flowing southward to the Coosa River (U.S. Army 1977).

The Main Post is drained by three main creeks (South Branch, Cane Creek, and Cave Creek) and their many tributaries. These creek systems originate in the Choccolocco Mountains and are fed by springs originating from underlying limestone strata (U.S. Army 1980). Surface water flow is generally west-northwest and exits the installation across the northwest boundary. South Branch receives runoff from the southcentral portion of the Main Post and joins Cane Creek in the northwestern portion of the Main Post. Cane Creek receives runoff from the central and eastern potions of the Main Post. Cave Creek, the northernmost drainage pathway, drains the north-central and northeastern portions of the Main Post (U.S. Army 1977). Other surface water features at the Main Post include Lake Yahou (13.5 acres), Reilly Lake (8.5 acres), Cappington Ridge (0.3 acres), and Duck Pond (0.5 acres) (U.S. Army 1980). Reilly Lake is a spring-fed lake (U.S. Army 1977). The surface water features at Fort McClellan are shown in Figure 2-1.

The Fort McClellan stormwater management system consists of stormwater inlets, pipes, channels, waterways, and streams. The Army previously maintained two National Pollutant Discharge Elimination System (NPDES) permits associated with activities at the Main Post. Point source discharges from vehicle wash racks, cooling tower blowdown, boiler plant blowdown, swimming pool filter backwash, and overflow from the Fire Training Pit (discussed in Section 5) were covered under Permit No. AL003803. This permit is no longer maintained. Permit No. AL0055999 covered stormwater runoff via oil/water separators (OWSs) from petroleum storage and handling areas and fog oil drum storage areas

(Weston 1990). The current NPDES Permit No. AL0055999 is associated with MDA and expires on February 29, 2024 (USEPA 2022d).

2.8 WATER USAGE

The Anniston Water Works and Sewer Board (AWWSB) supplies water to Fort McClellan, the city of Anniston, and surrounding communities. The primary water source for the AWWSB public water supply (PWS) is drawn from Coldwater Spring and treated at the Paul B. Krebs Water Treatment Plant (AWWSB 2021). Coldwater Spring, located approximately 10 miles southwest of Fort McClellan at the foot of Coldwater Mountain, flows at a rate of 32 million gallons per day (U.S. Army 1977). A portion of the Main Post lies in the probable recharge area of Coldwater Spring (Weston 1990). The secondary source of water for the AWWSB PWS is drawn from Hillabee Reservoir, located approximately 10 miles to the south of the Main Post, and treated at the Earl C. Knowlton Treatment Plant (AWWSB 2021). The remainder of the residents are served by private wells, groundwater springs, or one of four smaller PWS systems (i.e., Oxford Water System and Sewer Board, Calhoun Water System, Jacksonville Treatment Facility, and Weaver City Water Supply).

According to the Geological Survey of Alabama, numerous water wells are located within 4 miles of Fort McClellan, including five public wells, three domestic wells, one industrial well, one agricultural well, and one observation monitoring well (GSA 2022). Figure 2-3 presents the water wells within a 4-mile radius of Fort McClellan. Coldwater Spring is also presented in Figure 2-3.

2.9 ECOLOGICAL PROFILE

Prior to closure, USFWS raised a variety of preliminary issues associated with the possible impacts of disposal and reuse on endangered and rare species and unique habitats. USFWS noted that the mountain longleaf pine (MLP) ecosystem, found on large parts of the Main Post, may be the best remaining example of an MLP ecosystem in the world. The quality of this system is attributed to the periodic fires (associated with military activities) and the lack of development in the area; moreover, the MLP ecosystem is important to neotropical birds and other avifauna in the area (U.S. Army 1998).

Fort McClellan has an estimated 3,424 acres of delineated wetlands. Wetland communities include Bottomland Hardwoods, Depressions, Mixed Shrub Communities, Shrub Depression, and Herbaceous Wetlands. Wetland habitats are generally located in various topographical depressions, near stream seepages, and in valleys along creek floodplains (IT 2002a). Wetland communities found on the Main Post are the Marcheta Hill Orchard Seep, Cane Creek Seep, South Branch of Cane Creek, and 200 acres west of the airstrip that comprise the tributary to Victoria Creek. In addition, wetland habitat potentially exists at or around the installation's lakes, including Lake Reilly, Lake Conteras, Lake Yahou, and Lake Willitt, and along the nearly 10 miles of creeks, including Cane Creek and Cave Creek (IT 2002a).

The USFWS Environmental Conservation Online System identifies 14 threatened and endangered (T&E) species and 1 potential T&E candidate species consisting of 3 mammals, 1 bird, 1 fish, 5 clams, 1 insect, and 4 flowering plants as potentially occurring (i.e., known or expected to be) on or near Fort McClellan (USFWS 2022). The federally listed T&E species include species such as the gray bat (*Myotis grisescens*), red-cockaded woodpecker (*Picoides borealis*), blue shiner (*Cyprinella caerulea*), finelined pocketbook clam (*Hamiota altilis*), and white fringeless orchid (*Platanthera integrilabia*) (USFWS 2022). The potential for these species to occur at or near the property does not mean they are present at Fort McClellan. For example, the red-cockaded woodpecker (*P. borealis*) historically inhabited the installation but no longer inhabits Fort McClellan. The gray bat (*M. grisescens*), blue shiner (*C. caerulea*), and white fringeless orchid (*P. integrilabia*) have been observed/documented on Fort McClellan. The Mohr's Barbara buttons (*Marshallia mohrii*) and Tennessee yellow-eyed grass (*Zyris tennesseensis*) have been documented at the nearby Pelham Range but not on the Main Post at Fort McClellan. Due to the proximity, these species are likely also present on the Main Post (UXB-Kemron 2015).

2.10 CLIMATE

The average temperature for Calhoun County is 61.1°F, which is slightly lower than the Alabama average temperature of 62.7°F and higher than the national average temperature of 54.5°F. The annual rainfall amount is 54.07 inches, with 77.11 days of 0.1 inch or more of precipitation. The annual snowfall amount is 0.76 inches, which is higher than the Alabama average of 0.57 inches. Average wind speed for the area is 10.66 miles per hour at 10 meters height (Global Wind Atlas 2022).

3. PA ANALYSIS

The primary components of the PA are records reviews, analysis of aerial photographs, a site visit, and interviews. The following sections summarize the methods used and activities conducted for the Fort McClellan PA. The reference to "on-post" refers to property that has been or still is owned by the Army, excluding the 300-acre FM-ARNGTC property and the Pelham Range under the command and control of ARNG. Any references to "off-post" refers to areas that have never been owned by the Army and/or the 300-acre FM-ARNGTC property and the Pelham Range.

3.1 RECORDS REVIEW

Prior to the records review, site visit, and interviews, a kickoff meeting was held between BRAC, USACE, and Leidos on June 1, 2021. The purpose of the kickoff meeting was to present all parties' preliminary knowledge of Fort McClellan to inform the PFAS PA and site visit. The final kickoff meeting minutes are presented in Appendix A.

Preliminary research was conducted prior to the site visit to determine the potential for use, storage, or disposal of PFAS-containing materials, including if any of the following activities were conducted at Fort McClellan:

- On-post fire training
- Use of PFAS-based AFFF in fire suppression systems or other systems
- AFFF used, stored, or disposed of at buildings and emergency response sites
- Activities or materials used that are likely to include PFAS-containing materials
- Studies conducted to assess the environmental impacts of PFAS-containing materials
- Review of potential off-post sources.

The records review included a combination of Internet-based searches and reviews of aerial photography, historical maps, technical reports, previous studies, and investigations available online. In addition, an EDR report was generated and is included in Appendix G. An EDR report includes search results from a variety of environmental, state, city, and other publicly available databases for up to 2 miles surrounding a referenced property.

The records review also evaluated available environmental investigations conducted under CERCLA and the Resource Conservation and Recovery Act (RCRA) regulatory programs. Additional information was discovered through internal Army documents, which included transfer documents, inspection reports, regulatory correspondence, Fort McClellan maps and geographic information system (GIS) data, and a Community Environmental Response Facilitation Act (CERFA) report. Table 3-1 lists the documents reviewed that are relevant to the evaluation of AOPIs in this PA. A complete list of documents reviewed is included in Appendix B.

Table 3-1. Summary of Relevant Records Reviewed

Document Title	Author	Date	Relevance
Transfer documents (i.e., FOSTs, deeds, and parcel maps)	U.S. Army	Various	Property transfer and parcel information
Installation Assessment of Fort McClellan, Alabama, Records Evaluation Report No. 110	U.S. Army	1977	Historical background and physical setting
Final Environmental Impact Statement of Ongoing Mission, Fort McClellan, AL	U.S. Army	1980	Information for evaluated areas
Final USATHAMA Task Order 11 Enhanced Preliminary Assessment, Fort McClellan, Anniston, Alabama	Weston	December 1990	Identifies multiple areas for further evaluation and AOPIs

Table 3-1. Summary of Relevant Records Reviewed (Continued)

Document Title	Author	Date	Relevance
Final Site Investigation Report for Fort McClellan, Alabama	SAIC	1993	Information for areas evaluated, site setting, and site background
Final Environmental Baseline Survey Fort McClellan, Alabama	ESE	January 1998	Identifies multiple areas for further evaluation and AOPIs
Final Environmental Impact Statement, Disposal and Reuse of Fort McClellan, Alabama	U.S. Army	August 1998	Provides site setting and supporting information for AOPIs
Hydrogeologic Characterization of the Coldwater Spring Recharge Area, Calhoun County, Alabama	USGS	2001	Geologic and hydrogeologic background for Calhoun County and Coldwater Spring
Quitclaim Deed for the Fire Station Warehouse (Building 228)	USACE	April 29, 2004	Identified the Fire Station Warehouse (Building 228)
Final Focused Feasibility Study, Former Choccolocco Corridor Ranges, Parcels 94Q, 95Q, 96Q, 97Q, 131Q-X, 144Q-X, 145Q-X, 146Q, 147Q-X, and 148Q-X, Fort McClellan, Calhoun County, Alabama	Shaw	2013	Current conditions of the Choccolocco Corridor
Final Five-Year Review Report Fort McClellan Calhoun County, Alabama	Zapata	2018	Five-year review site information
Final Monitoring Well Abandonment Report, Former Choccolocco Corridor Ranges, Environmental Remediation Services at Four Sites, Fort McClellan, Anniston, Alabama	HGL	2018	Current conditions of the Choccolocco Corridor
Environmental Condition of Property (ECP) Update Report, Fort McClellan, Alabama	U.S. Army	2020	Current property status
Final Preliminary Assessment Report, Fort McClellan Army National Guard Training Center, Anniston, Alabama Perfluorooctane-Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) Impacted Sites ARNG Installations, Nationwide	AECOM	2020	PFAS evaluation of post-transfer property
Final Preliminary Assessment Report, Pelham Range, Anniston, Alabama Perfluorooctane-Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) Impacted Sites ARNG Installations, Nationwide	AECOM	2020	PFAS evaluation of off-post property
Global Wind Atlas for the Anniston, Calhoun County, Alabama Area	Global Wind Atlas	2022	Weather/climate
Development zones	MDA	2021	Land use
Final Report: 2020 Per- and Polyfluoroalkyl Substances (PFAS) Sampling Program	ADEM	2021	PFAS data in PWSs in Alabama
Land Use Control Effectiveness Report – 2020, McClellan, Anniston, Alabama	Matrix	2021	LUC information
Memorandum: Notification and Authorization Pursuant to Releases of Per- and Polyfluoroalkyl Substances (PFAS) on Base Realignment and Closure (BRAC) Property at Former Fort McClellan Transferred Property	U.S. Army	2021	Property transfer summary
Water Quality Report for Period Ending December 2021 PWS ID Number AL0000133	AWWSB	2021	Provides water quality and potable water source information for Fort McClellan
Air Photo Archive	UA	2022	Aerial photographs

Table 3-1. Summary of Relevant Records Reviewed (Continued)

Document Title	Author	Date	Relevance
Dashboard – Anniston City, Alabama	U.S. Census Bureau	2022	Demographics
Enforcement and Compliance History Online (ECHO) Pollutant Loading Report. Anniston Ft. McClellan WWTP, Anniston, 36206	USEPA	2022	NPDES Permit information for AWWSB
GSA Groundwater WellFinder Application	GSA	2022	Wells near Fort McClellan
Mountain Longleaf National Wildlife Refuge	USFWS	2022	Mountain Longleaf National Wildlife Refuge information
Occurrence Data for the Unregulated Contaminant Monitoring Rule	USEPA	2022	UCMR3 data

Information gathered during the records reviews helped identify data gaps and enabled elimination of several areas based on their historical use. Data gaps associated with facility operations; PFAS-containing material use, storage, or disposal; and current exposure receptors at Fort McClellan contributed to a conservative approach for identifying AOPIs. However, areas with little potential to result in a PFAS release, such as residential buildings, hospitals, cafeterias, and recreational areas, were eliminated from further evaluation early in the PA process.

Areas identified to have potentially used, stored or disposed of, or had recorded the potential for a release of PFAS-containing materials, including AFFF, were further evaluated.

3.2 AERIAL PHOTOGRAPHIC ANALYSIS

The PA included review of historical aerial photographs spanning from 1949 to 2009, including nine photographs accessed through the University of Alabama's Air Photo Archive (UA 2022) and nine photographs available at https://historicaerials.com. Select aerial photographs are presented in Appendix C. The aerial photographs were analyzed to identify potential activities or developments that may suggest the potential use, storage, or disposal of PFAS-containing materials, including AFFF (e.g., evidence of fire training activities, such as fire pits or burn scars); however, no conclusions on the use, storage, or disposal of PFAS-containing materials were drawn from the aerial photograph review. The aerial photographic analysis is summarized as follows:

- **1949 –** Roads, railroads, buildings, and rail cars are visible in the northeastern portion of the Main Post. Reilly Airfield, located near the northeastern boundary of the Main Post, is established, and cleared areas and ground scars are present to the northeast of the airfield. Cleared areas are also present on the outskirts of the heavily developed portion of the Main Post.
- **1957 –** Continued development is visible in the northern portion of the Main Post. Roads are established at Landfills No. 2 and No. 3, as well as cleared areas.
- **1961 and 1969 –** Lane markings are visible on the runway of Reilly Airfield, and an "X" is painted on the helipad at Reilly Airfield. Roads surrounding the runway and Reilly Lake are established. A ground scar and driveway are present in the location of the former Fire Training Pit.
- **1972 and 1976 –** The ground scarring present at the former Fire Training Pit is larger, and a circular berm or structure appears to have been constructed around the pit.
- **1981 –** Rows of buildings west of the former Fire Training Pit were demolished, and the area is somewhat redeveloped. Much of the area between Halifax Avenue and Town Center Drive is redeveloped, with larger buildings and parking lots present. Helipads were constructed at the Noble Army Hospital and north of Building 141.

- **1998 –** The area to the north of the heavily developed portion of the Main Post, including Landfills No. 2 and No. 3, are more heavily vegetated. Building 350 (located at the former Fire Training Pit) is present. Many buildings have been demolished throughout the Main Post, and new construction is visible.
- **2006 –** Some areas throughout the Main Post that were previously maintained are now overgrown. Multiple baseball fields are present near the running track.
- **2009 –** Cleared areas are visible between Reilly Airfield and Highway 21. New buildings are present on Seaton Drive.
- **2011, 2013, 2015, and 2017 –** Continued redevelopment is visible in each aerial photograph from 2011 to 2017. Additions to buildings, demolition, new construction, roads, and clearing of vegetation are visible throughout the Main Post.

3.3 PA SITE VISIT

Prior to the site visit, the PA team corresponded with BRAC and MDA to coordinate site visit dates, gain access to secure locations on the property, and identify potential interviewees. The Fort McClellan PA site visit was conducted from March 8 to 10, 2022. The PA site visit included a site walk and visual inspection of all readily accessible areas at Fort McClellan to identify potential sources of PFAS and gather information for developing CSMs at AOPIs.

MDA facilitated access for the PA team to secure areas, such as landfills and sites with LUCs/interim LUCs. The site visit included interviews with two former Fort McClellan Fire Department firefighters and visual reconnaissance of the areas identified by the firefighters as having a potential historical use, storage, or disposal of PFAS-containing materials. In addition, the Anniston Fire Department was visited, and an interview was conducted with the Assistant Chief regarding historical fire response and fire training procedures. Appendix D contains photographs from the PA site visit.

3.4 SUMMARY OF INTERVIEWS

Prior to the site visit, the PA team developed and distributed a PFAS PA Questionnaire for gathering information related to PFAS usage at Fort McClellan from key personnel. One individual responded to the questionnaire; the questionnaire responses are presented in Appendix E. The primary goal of the interviews/questionnaire was to identify whether PFAS-containing materials and AFFF were used on-post, where they were used, how much was used, how much remains, and whether any releases may have occurred.

As part of this PA, interviews were conducted with the Anniston Fire Department, which provides emergency response for Fort McClellan. In addition, the Jacksonville Fire Department was contacted, which led to on-post interviews with former Fort McClellan Fire Department personnel during the site visit. Former Fort McClellan Fire Department personnel indicated that the Army used potentially PFAS-containing firefighting foams, including AFFF, in the past. Interviews with Anniston Fire Department personnel indicated that the city uses FireAde2000®, a firefighting agent that contains PFAS (specifically, C6 fluorosurfactants). Table 3-2 summarizes the interviews conducted and the pertinent information provided.

Table 3-2. Interviews Conducted for PA

Title (Years of Experience at Facility)	Date	Information Provided
Former Fort McClellan Fire Department Firefighters (1973 to 2003)	March 8, 2022	An interview was conducted on-post at Fort McClellan during the site visit with two former Fort McClellan Fire Department firefighters. One of the former firefighters worked at Fort McClellan from 1973 to 2003; however, he transitioned into the engineering department in 1985. The other former firefighter worked at the Fort McClellan Fire Department in the late 1990s for approximately 2 years. He currently works at the Jacksonville Fire Department. The following information was provided by the former Fort McClellan firefighters: • AFFF was stored at the Building 69 Fire Station (typically less than 50 gallons) and on trucks that were washed at the Fire Station. • Building 228 was used for storing firefighting equipment, and AFFF was stored on a pallet in the building. • Various Quonset Huts were used for temporary fire equipment storage; however, the structures were only used for 1 to 2 years at a time and the locations are uncertain. • Helicopter coddling exercises were performed semi-annually at Reilly Airfield, located in the northeastern portion of the Main Post, where Army firefighters applied approximately 10 gallons of foam (per event) to grassy areas prior to helicopter landings. The training exercises continued until the late 1970s. • Nozzle testing was performed semi-annually with AFFF in an open asphalt parking lot on the corner of Town Center Drive and Berman Road. • An Old Fire Station was used until it was demolished in the late 1970s. • The fire department stood by for crash response with trucks equipped with AFFF during operations at the helipads. • The Anniston Fire Department used the Building 69 Fire Station following the closure of Fort McClellan until 2014. Upon closure, all Army AFFF and firefighting equipment was transferred to the Anniston Fire Department.
Anniston Fire Department Assistant Chief (unspecified)	March 10, 2022	This individual did not work for the Fort McClellan Fire Department; however, he has worked for the Anniston Fire Department for several (unspecified) years. He provided the following information: • The Anniston Fire Department stored AFFF on trucks at the Building 69 Fire Department after BRAC closure. • AFFF is not currently used for fire training. Dawn® dish soap is used for fire training activities to mimic the effect of firefighting foam.
Anniston Fire Department Firefighter (2005 to present)	February 18, 2022	This individual has worked for the Anniston Fire Department since 2005. He provided the following information: • Anniston Fire Station 3 responds to emergencies on Fort McClellan. • The Anniston Fire Department has used FireAde2000 firefighting foam (not AFFF) for the past 10 years. *Note that FireAde2000 contains PFAS.* • The Anniston Fire Department currently only uses Building 69 for storage.

4. SUMMARY OF PA DATA

4.1 PREVIOUS PFAS INVESTIGATIONS

In 2012, USEPA published the Third Unregulated Contaminant Monitoring Rule (UCMR3), which required nationwide PWSs (i.e., waterworks) to sample for a list of 30 unregulated contaminants, including 6 constituents of interest (COIs) relevant to this PA (i.e., PFOS, PFOA, PFBS, PFNA, perfluoroheptanoic acid [PFHpA], and PFHxS). In 2014, as part of the USEPA UCMR3 sampling, AWWSB sampled Treatment Plants Earl C. Knowlton and Paul B. Krebs at the entry points to the water distribution system. The PFAS, PFBS, PFHpA, PFHxS, PFNA, PFOA, and PFOS were not detected in the AWWSB water supply (USEPA 2022c). USEPA published the Fifth Unregulated Contaminant Monitoring Rule (UCMR5) in 2021, which expanded the list to 29 PFAS for additional sampling between 2023 and 2025. The UCMR5 sampling includes more sensitive analytical limits for PFAS detection. As part of the UCMR5 sampling, water will be sampled by AWWSB between 2023 and 2025 (USEPA 2023).

In 2019, the Alabama Department of Environmental Management (ADEM) instructed water systems to carry out PFAS monitoring in 2020 at all sources not previously sampled during UCMR3 (ADEM 2019). In 2020, ground sources (i.e., wells) were sampled semi-annually and surface water sources were sampled quarterly for 18 PFAS. PFAS were detected above the method reporting limit at 57 PWSs. The only results above the LHA level for PFOA and PFOS were recorded at Centre Water & Sewer Board, which is located approximately 30 miles to the north of Fort McClellan in Cherokee County. PFBS, PFOS, PFOA, and PFHxS were detected in the city of Weaver water system's wells 2 and 3 and associated treatment plants, which are located approximately 2 miles northwest of and downgradient from the Main Post and are not part of the water system that provides water to Fort McClellan. Concentrations ranged from 3.8 parts per trillion (ppt) (PFBS) to 15.0 ppt (PFOS) in well 2 and from 5.6 to 14.0 ppt (PFOS) in well 3. PFAS were not detected in any other water systems in Calhoun County during the 2020 ADEM sampling (ADEM 2021). In 2021, ADEM instructed water systems that had not been sampled since the UCMR3 to sample using current methods during the period from January 1 through June 30, 2022 (ADEM 2022a). In 2022, PFAS were not detected in the AWWSB water supply (AWWSB 2023). During the 2022 sampling of groundwater sources (i.e., wells), PFBS, PFOS, PFOA, and PFHxS were detected in the city of Jacksonville well from the Big Spring Slow Sand Filter Treatment Plant, which is located approximately 6 miles north of the Main Post and is not part of the water system that provides water to Fort McClellan. During the ADEM sampling, concentrations ranged from 0.9 ppt (PFOA) to 2.8 ppt (PFOS) (ADEM 2022b). In June 2022, USEPA issued the release of interim updated LHAs for PFOA and PFOS and final health advisories for HFPO-DA and PFBS (USEPA 2022a). As the limited 2020 and 2022 sampling indicated the cities of Weaver and Jacksonville contained concentrations above the LHAs updated and issued in 2022, preliminary advisories were issued by USEPA for Weaver and Jacksonville drinking water (Evancho 2022).

In September 2020, ARNG finalized PFAS PAs for FM-ARNGTC and the Pelham Range. The FM-ARNGTC PFAS PA (AECOM 2020a) evaluated a helicopter pad, dining facilities, a weapons cleaning area, a vehicle fueling station, two maintenance shops, and a decontamination complex with a chemical laundry facility. The Pelham Range PFAS PA (AECOM 2020b) evaluated a fire station, two airstrips, a helipad, and a pesticide storage shed. The result of both PFAS PAs was a recommendation of no further action (NFA). The ARNG PFAS PAs identified several off-post (off the ARNG property) PFAS sources, including Anniston Army Depot, Calhoun County Landfill, and the Fort McClellan Fire Training Pit located on the Main Post. The Fire Training Pit was included in the sites evaluated in Section 4.2.

4.2 EVALUATED SITES

During the PA records reviews, interviews, aerial photographic analysis, and site reconnaissance, the PA team investigated available documentation and physical evidence for areas having a potential historical

PFAS release. The sites evaluated include fire stations; fire training areas (FTAs); landfills; metal plating operations; WWTPs; pesticide facilities; vehicle maintenance shops, which used car washes and engine lubricants; paint shops; and photographic processing facilities, as shown in Figure 4-1 and described in the following sections.

4.2.1 AFFF Use, Storage, and Disposal

According to a hazardous material inventory (Appendix F), AFFF was stored at Fort McClellan. Storage information, such as location and quantity, was not reported because at the time, the amount stored or used was calculated to be less than the reporting threshold quantity (ESE 1998). There is no known current AFFF use or storage at Fort McClellan. The areas identified as potential areas of historical AFFF usage, and/or storage at Fort McClellan are discussed below:

- The Fort McClellan Fire Station (Building 69) is located in the central-eastern portion of the Main Post and operated from 1936 until installation closure (U.S. Army 1999). Interviews with former Fort McClellan Fire Department personnel indicated that approximately 50 gallons of AFFF were stored in 5-gallon buckets in the Building 69 Fire Station kitchen at any given time. In addition, fire trucks equipped with AFFF were washed in the driveway on the eastern side of the building and near the bay doors on the northern side of the building. During the site visit, storm drains were observed in the driveways of the Fire Station; however, sanitary drains were not observed.
- According to Fort McClellan Fire Department personnel interviews, the Army used an old fire station. The personnel indicated that based on their recollection, the building was demolished in the late 1970s. Aerial photography indicates the building was still present in 1981 (UA 2022) but not present in 1998 (Historic Aerials 2022).
- The Fire Station Warehouse (Building 228) was used by Fort McClellan for emergency response management services, including fire and rescue services (USACE 2004). According to personnel interviews, an unknown quantity of AFFF was stored in 5-gallon buckets on a pallet in Building 228 prior to transfer to the city of Anniston. In addition, the Army stored various firefighting equipment in Building 228.
- A former Fire Training Pit was located in the northeastern portion of the Main Post and was reportedly used approximately once a year to train firefighters using fire retardant foams (Weston 1990). Waste oil and other fluids that were stored across the street in a fenced compound were placed in the pit, ignited, and then extinguished during the training. The dates of operation are unknown; however, a ground scar is visible in an aerial photograph dated 1961 (UA 2022), and fire training activities were discontinued prior to 1986 (ESE 1998). According to Fort McClellan Fire Department personnel, AFFF and/or other firefighting foams were used during fire training exercises at the Fire Training Pit.
- According to Fort McClellan Fire Department personnel interviews, the Fort McClellan Fire Department performed nozzle testing using 50 to 400 gallons of diluted foam (i.e., AFFF and/or other firefighting foams in water solution) per exercise in the open asphalt lot on the corner of Berman Road and Town Centre Drive.
- Reilly Airfield was used for fixed- and rotary-winged aircraft operations. According to Fort McClellan Fire Department personnel interviews, aircraft coddling training was conducted semi-annually at Reilly Airfield. During each exercise, a blanket of foam consisting of approximately 10 gallons of diluted foam (i.e., AFFF and/or other firefighting foams in water solution) were applied to the grassy areas at the airfield to prevent sparking associated with landing gear failure. The aircraft coddling exercises were discontinued by the mid-1970s.
- Interviews with former Fort McClellan Fire Department personnel indicated that the Army Fire Department performed standby oversight for emergency response during flight operations at

the helipads. The fire trucks were parked nearby and equipped with AFFF and/or other firefighting foams that may contain PFAS. Coddling exercises like those discussed above for Reilly Airfield may have been conducted by the Fort McClellan Fire Department at the helipads during flight operations as a precaution, although Fort McClellan Fire Department personnel who were interviewed did not recall such occurrences. The three helipads were located on the Main Post: Building 141 Helipad (IT 2001e), Building 61 Helipad (USFWS 2006), and Noble Army Hospital Helipad (U.S. Army 2000).

- According to Fort McClellan Fire Department personnel interviews, Quonset Huts temporarily stored firefighting equipment, which may have included AFFF and/or other firefighting foams that may contain PFAS. The general area of two of the Quonset Huts is near Buildings 2041 and 500. The Quonset Huts were used for storage for the fire department and changed locations frequently, often with active operational periods of 1 to 2 years at a time.
- In February 1984, the McClellan Fire Department used 400 gallons of water and 10 gallons of "foam" to wash down the area of a fuel spill at Building 44, which was used for fuel storage (ESE 1998). The type of firefighting foam is unknown, and the location of Building 44 was not identified through records reviews, interviews, or site reconnaissance.

4.2.2 Metal Plating Operations

No current or historical metal plating operations were identified at Fort McClellan.

4.2.3 Wastewater Treatment Plants

Wastewater generated at the installation is treated at the Fort McClellan WWTP and discharged into Cane Creek. The WWTP is located west of Fort McClellan along Highway 21. The plant serves all of Fort McClellan as well as residents bordering the site boundary. The WWTP began operations in 1918 and was leased to AWWSB by the Army in 1974 (ESE 1998). Concern involving the degradation of Cane Creek due to the age and capacity of the WWTP, as well as violations to the permit conditions, led ADEM to enter into a Consent Order (No. 90-039-WP) with AWWSB. Various solutions to the treatment system overload were considered, and because Fort McClellan activities accounted for most of the influent to the plant, Fort McClellan completed upgrades to the facility (SAIC 1993).

As of 1998, the capacity of the WWTP was 2.2 million gallons per day (MGD) and the wastewater management system at Fort McClellan consisted of approximately 338,000 linear feet of sanitary sewer pipe and 300 linear feet of industrial waste pipe (U.S. Army 1998). The WWTP was transferred to the city of Anniston in February 2000 and is managed under an NPDES Permit (No. AL0024520) maintained by AWWSB. The average facility flow for the plant is 0.92 MGD (USEPA 2022b).

4.2.4 Landfills

Four landfills (Landfill No. 1, Landfill No. 2, Landfill No. 3, and Landfill No. 4) and multiple dumps were located at Fort McClellan, as described below:

- ***Landfill No. 1*** operated as the post sanitary landfill between 1945 and 1947. The landfill consisted of approximately 6.3 acres located between 16th Avenue and Avery Drive. No information exists concerning the operation of the landfill, and no evidence that the landfill is lined was found (Weston 1990). Exploratory trenches contained materials such as a potential grenade, glass bottles, broken plates, wood pieces, scrap metal, pieces of coal, medical debris, glass bottles and jars, metal food containers, jar lids, medical bottles, black to gray ash, newspaper, leather boots, bricks, pieces of steel cable, sheet metal, and glass syringes (Matrix 2004).

- ***Landfill No. 2*** was used as a sanitary landfill until 1947. This landfill occupies approximately 1.5 acres in the northeastern portion of the Main Post. Although it is not known when this landfill opened, an incinerator was built northeast of this location in 1927. This suggests that former Landfill No. 2 may have been operating at least as early as 1927. The operational dates of this incinerator are unknown, and the building is no longer present. A crescent shaped area marked as a "Refuse Dump" appears at this same location on a 1937 map. Aerial photographs dated 1944 through 1969 indicate that portions of the area were cleared for possible trench and fill operations. Reportedly, Landfill No. 2 was used to dispose of construction debris (ESE 1998). Rusted drums, metal, small containers, building materials, and machinery parts were observed at the site in 1991 (SAIC 1993). Exploratory trenches contained materials such as piping, sheet metal, cable, miscellaneous metal pieces, ash, glass, brick, a 100-pound bomb steel casing, burned wood, concrete, coal, broken plates, stone tile pieces, tin roofing, and rounded chert cobbles. The presence of ash and construction-type materials in many of the trenches is consistent with historical usage of the site as both an incinerator location and later as a construction debris landfill (Matrix 2004).
- ***Landfill No. 3*** was operated using the trench and fill method from 1946 to 1967. The landfill consists of 22 acres located east of State Route 21 and north of Cave Creek. The U.S. Army Environmental Hygiene Agency (USAEHA) began groundwater monitoring in 1986. Reports indicate that landfill received residential/municipal refuse, industrial wastes (i.e., empty pesticide containers, paint containers, waste oil), and construction debris (Matrix 2018). Initial groundwater sampling results indicated that metals were detected above USEPA drinking water maximum contaminant levels, and multiple pesticide-related compounds, chlorinated compounds, and organics were detected (ESE 1998).
- ***Landfill No. 4*** was operated using the trench method from 1967 to 1994 (ESE 1998). This unlined landfill consists of approximately 53 acres located southeast of Landfill No. 3 and southwest of the Reilly Airfield. Landfill No. 4 was used for residential refuse; however, it also received decontaminated materials and dead animals from agent training exercises. Trichloroethene (TCE) sludge and petroleum, oil, and lubricants (POL) products were reportedly disposed of in the landfill. The area was used for open burning in approximately 1974, and a burn pit was used for a firefighting exercise. Groundwater monitoring began at this landfill in 1978. Metals concentrations routinely exceeded drinking water standards. Additional wells were installed in 1982, and these wells were sampled and analyzed for metals and volatile organic compounds (VOCs). Toluene, chloride, and magnesium were detected at concentrations above background levels (Weston 1990). Details regarding the single reported fire training exercise, including the precise location and materials used, were not identified during an interview with a former firefighter who worked at the Fort McClellan Fire Department in 1974 and had no recollection of the occurrence.
- ***The Industrial Landfill*** is located on a 12.6-acre section of Landfill No. 4. Fort McClellan received a temporary permit in 1993 to dispose of industrial and construction debris at this location, and a permanent industrial landfill permit was issued in October 1995. This landfill accepted industrial wastes, including construction/demolition waste and/or rubbish. Construction debris includes, but is not limited to, masonry materials, sheet rock, roofing waste, insulation, rebar, scrap metal, paving materials, and wood products. In addition, an area was designated for asbestos disposal. Sludge from the OWSs from the Main Post was also spread in one area of the landfill (ESE 1998).
- ***The Stump Dump*** is located in the central portion of the Main Post. The area was intended to receive storm debris; however, unauthorized dumping of items such as construction debris,

batteries, tires, paint cans, refrigerators, and landscaping trash occurred in the area. The Stump Dump was active prior to 1985 until approximately 1988 (ESE 1998).

- ***Other Disposal Sites and Trenches*** have been identified during previous investigations at Fort McClellan, for which complete documented detailed operational histories are not available (ESE 1998). The ESE 1998 report identified 15 potential disposal sites; however, during follow-on investigations, five sites were determined to have no evidence of disposal activities and only the following remained as known or likely fill areas and trenches:
  - **Potential Disposal Sites at Reilly Air Field [227(7)HR(P), 126(7), 229(7)HR(P)]**
    - **Fill Area East of Reilly Airfield [227(7)HR(P)]** is located at the northeastern part of Reilly Airfield and is currently a vacant parcel. Two ground scars with the label "Fill Area" were noted on an aerial photograph composite dated 1949 (USEPA 1990). One site was labeled "Pit" and another site was labeled "Trench" in a 1961 aerial photograph composite (USEPA 1990). All four of these sites identified in the aerial photointerpretation report are part of the potential disposal sites at Reilly Airfield (USEPA 1990). An additional area of disturbed ground was identified during the EBS as possibly containing mounded material (ESE 1998). During the SI, the average depth of fill material estimated from the trench and boring log data measured 8 feet over approximately 4 acres (IT 2002b).
    - **Former Post Garbage Dump [126(7)]** is located southeast of East Reilly Lake, east of Reilly Lake and immediately north of the Fill Area East of Reilly Airfield, and is currently a vacant parcel. An electrical utilities map for the Master Plan from December 1946 identified a "Post Garbage Dump" north of the airfield and east of Reilly Lake. Exact dates of operation are unknown. During the EBS, one brick and a portion of a metal stove pipe were observed (ESE 1998). During the SI, the average depth of fill material estimated from the trench and boring log data measured 3 feet over approximately 2.5 acres (IT 2002b).
    - **Fill Area Northwest of Reilly Airfield [229(7)HR(P)]** is approximately 8 acres and is located in the northwestern corner of Fort McClellan, adjacent to the former Reilly Airfield and west-southwest of Reilly Lake. The site was first identified from an aerial photograph taken in 1954 (USEPA 1990). Disposal practices at the area are unknown. Wastes reportedly observed in the area include paint containers, fluorescent bulbs and ballasts, waste oils, and construction debris. The maximum waste depth encountered during field investigation activities was 15 feet bgs. The fill area was operated by the Army and closed prior to the existence of any Federal or state environmental regulations governing landfills and was not closed with an engineered cap or cover system (Matrix 2019). An engineered low-permeability soil cover was constructed to minimize future direct contact exposure to wastes, promote drainage while controlling erosion, minimize leaching of contaminants to groundwater, and function with low maintenance requirements (MES 2008).
  - **Fill Area at Range 30 [231(7)HR(P)]** is located in the northern-central portion of the Fort McClellan Main Post. The fill area was identified on aerial photographs as a "probable fill area" within the area formerly occupied by Range 30. The exact dates of operation or information regarding disposal practices could not be determined, although the area is visible on aerial photographs from 1949 until the area was deactivated sometime between 1983 and 1989 (U.S. Army 2006). Large linear mounds were observed on the photographs in the central portion of the site; smaller mounds may have been present elsewhere within the parcel (ESE 1998).
  - **Fill Area North of Landfill No. 2 [230(7)HR(P)]** is located in the north-central portion of Fort McClellan, northeast of Landfill 2, and encompasses approximately 2.4 acres. The fill area was historically located in a restricted area that is partially within munitions response Site 13

(MRS-13). The fill area was identified from a ground scar on the 1961 aerial photograph composite (ESE 1998); the exact dates of operation are unknown. Fill materials observed in exploratory excavations performed by IT Corporation (IT 2002b) included metal bars/pipes, wiring, glass bottles/jars, red bricks, light gray sand and clay, orange/red sand and clay, black clay pipe, pieces of a 100-pound concrete bomb, ceramic pieces, cement blocks, metal u-rings, pieces of a 55-gallon metal drum, gravel, asphalt, an empty shotgun shell, burned wood, burned newspaper, burned roots, and tin foil. It appeared that materials were dumped down the slope, to the east, toward Cave Creek from the unimproved road (Matrix 2012).

- **Fill Area West of Range 19 [233(7)HR(P)]** is an elliptical 1.3-acre area located in the west-central portion of the Main Post. The site was identified through a 1949 aerial photograph composite as "fill area" (ESE 1998). Information was not available regarding the type of material placed at this location. An area near Parcel 233(7) was identified in the archive search report (USACE 2001) as the former Combat Range No. 2. The fill area west of Range 19 falls within the possible explosive ordnance impact area (USACE 2001). Operational dates for the fill area could not be determined from the review of available reports. Rocks, metal debris, dirt mounds, and partially exposed crushed drums were observed during a previous site visit. The drums were removed as part of the Anniston Eastern Bypass construction activities during the summer of 2001 (Shaw 2005a). Exploratory trenches did not indicate the presence of fill material below ground surface (Shaw 2005a).
- **Trenches near Range 20 Firing Line [239(7)HR(P), 240(7)HR(P)]** are each 1-acre parcels located near Bains Gap Road in the central part of the Main Post. The site was identified through a 1954 aerial photograph composite as potentially being excavations used in training activities or possibly for disposal activities (ESE 1998). Parcel 239(7) is located south of Bains Gap Road, approximately 80 feet west of the Range 20 firing line, and is approximately 200 feet long and 100 feet wide. Parcel 240(7) is located approximately 200 feet northeast of the Range 20 firing line, adjacent to a dirt access road. Parcel 240(7) is approximately 300 feet long and 200 feet wide (IT 2000a). As part of the SI, geophysical surveys were conducted at the parcels to identify anomalies representing suspected trenches. The geophysical data did not indicate the presence of trenches; however, one geophysical anomaly identified in the Parcel 239(7) data was interpreted to be a pit containing a low concentration of buried metal.
- **Old Burn Pit [514(7)]** is an 0.15-acre area located in the woods behind Motor Pool 3100. This site was identified for consideration during the field visit to collect information for the archive search report (USACE 2021). Although nothing was known about the site and the area was not specifically listed as hosting chemical training, it appeared to be a burn pit; therefore, it was selected for further sampling to ensure that chemical warfare material (CWM) was not present. The aerial photograph analysis showed a well-defined cleared area in the 1961 aerial photograph that coincided with the location of the burn pit (Parsons 2002). A site visit conducted in February 1999 revealed the area behind the Motor Pool to be wooded, but the remains of the pit were still visible. At the time of the site visit, the pit was covered over with a wire mesh and contained some remnant metallic objects (Parsons 2002). During a CWM Engineering Evaluation/Cost Analysis (EE/CA) investigation of three depressions near that Old Burn Pit, multiple inert and practice ordnance and explosive (OE) items, in addition to metallic debris, a steel box with cans, wire-wrapped cans, plate glass, a dummy grenade, rust, and jar lids were found from an intrusive investigation (Shaw 2005b). No evidence was encountered to suggest these pits were ever used for burning (Parsons 2002).
- **Ground Scar with Trenches at Driving Course [200(7)]** is a 1.5-acre rectangular parcel in the southwestern corner of the intersection of 22nd Street and Rocky Hollow Road. The ground scar was visible on aerial photographs taken in 1941, 1949, 1954, 1961, 1969, and 1972. On the 1954 aerial photograph, the scar appeared to contain five trenches oriented northeast-

southwest. The ground scar and trenches were not visible on aerial photographs taken after 1982 (IT 2001a). It was unknown if the trenches were used in training activities or for disposal activities. No documentation of operations at this location were available; however, interviews during the EBS suggest that the trenches identified in the aerial photographs may have been used to dispose of excess super tropical bleach (STB). STB was sometimes discarded into trenches after decontamination exercises (ESE 1998).

- **Trenches West of Iron Mountain Road [500(7)]** is located in the west-central area of the Main Post. The system of trenches extends over an area approximately 200 feet long and 50 feet wide. ADEM discovered the trenches. Information regarding the activities conducted at this site was not available (IT 2001b). No fill material was identified in the trenches. Low concentrations of metals, VOCs, and semivolatile organic compounds (SVOCs) in the site media did not pose unacceptable risk to human health and the environment (IT 2001b).
- **Ground Scar with Trenches at Littlebrandt Drive [154(7)]** is a roughly rectangular 4-acre parcel located in the west-central portion of the Main Post immediately south of Littlebrant Drive (IT 2002c). The ground scar was identified on aerial photographs taken in 1961 and 1964 (ESE 1998). During the EBS site visit, 11 sets of 2 trenches arranged end-to-end with a path between them were observed. Each trench was uniformly shaped and measured approximately 3 feet wide by 12 feet long by 1 foot deep. Two 55-gallon drums, each standing upright and partially buried, were located within the trench area. The southern drum was equipped with an upright pipe that would discharge liquid into the other drum. The EBS field team speculated that this was a trench warfare training area; however, this has not been confirmed. A concrete slab is located approximately 80 feet west of the trenches and approximately 50 feet from Littlebrant Drive. No other information is available regarding operations at this site (ESE 1998). Low concentrations of metals, VOCs, SVOCs, pesticides, and explosives in the site media did not pose unacceptable risk to human health and the environment (IT 2002c).
- **Munitions Disposal Areas –** Area T-24A was used from the 1960s to 1973 for chemical munitions disposal training with phosgene, agent BZ, sarin, and distilled mustard. Two burning pits were used for chemical munitions and disposal training (Shaw 2014). Area T-38 was used from 1961 to 1972 for disposal of decontaminants from chemical munitions training and other hazardous wastes (Matrix 2007). Chemical munitions training aids (e.g., structures) and a building from Area T-4 were burned twice and buried in a pit at the Detection and Identification Area between the 1950s and 1973 (Shaw 2005c).

4.2.5 Other Potential Sources of PFAS

In addition to AFFF-related PFAS sources, other potential sources of PFAS may be associated with the use of some types of pesticides, car washes, engine lubricants, paint shops, laundry or waterproofing facilities, and photographic processing facilities. Document research, site visit, and interviews resulted in identification of other potential PFAS sources at Fort McClellan. Potential non-AFFF PFAS sources at Fort McClellan are noted in Figure 4-1 and discussed below:

- **Maintenance Activities** – Fort McClellan facilities have included motor pools since at least 1941. Activities at motor pools range from vehicle storage with no other activity to various types of vehicle maintenance. Activities may have varied over time at individual motor pools. Wastes typically generated from maintenance activities include used motor oil and gear oil, transmission fluid, brake fluid, asbestos brake shoes, antifreeze, used tires, batteries, and oily shop rags. Materials typically stored at the motor pools included STB, coatings powder, bleach, paint, antifreeze, fuel additive detergent, engine oil, lubrication oil, and brake fluid (ESE 1998). Three Lead-Acid Battery Maintenance Shops were located on the Main Post. A Small Weapons Repair Shop was originally located in Building 237 and was subsequently moved to Building 335

and later Building 350 (ESE 1998). Twenty-three vehicle maintenance buildings, motor pools, and former motor pool areas were identified during the EBS (ESE 1998). Many of these motor pools also contained wash racks for vehicles/equipment (e.g., Area 800 Motor Pool, Area 1600 Motor Pool, and Former Motor Pools at Areas 1900).

- **Wash Racks –** Multiple wash racks, generally associated with motor pools, were located on the Main Post. Twelve wash racks and five former wash racks were identified during the EBS (ESE 1998). Many of the wash racks were equipped with OWSs. Sludge from OWSs was reportedly disposed of by spreading a thin layer on the surface of the Industrial Landfill, located at Landfill No. 4.

  Although a complete list of products used for wash rack operations is not available, it is understood that common products used in vehicle washing may have contained minor amounts of PFAS-containing materials and would not be considered a significant source of PFAS contamination. In addition, the activities adjacent to the wash racks were not tied to any other known areas where PFAS-containing materials were used, stored, or disposed of. As a result, the potential PFAS impacts were determined to be unlikely. Significant PFAS impacts would have been more likely from emergency vehicles being serviced at the wash racks. However, no wash racks were located at the fire station, and interviewee accounts indicated fire trucks were likely washed in the southern or northern driveways of the fire station or inside the fire station during cold weather.

- **Chemical Storage Areas –** Building 348 was used for storage of all hazardous wastes generated at Fort McClellan. In addition, six flammable storage buildings, such as paint lockers and small storage areas, which were kept locked, were located at the Main Post. No spills or releases were reported at the chemical storage areas (U.S. Army 1998). A polychlorinated biphenyl (PCB) storage facility was used for temporary storage of PCB and PCB-contaminated transformers, as well as small-quantity storage of laboratory chemicals from the Chemical School Laboratory, pesticides, formic acid/water mixture, paint remover, and a non-PCB salvage drum (Weston 1990). Empty sulfuric acid cans and 55-gallon drums, old appliances, brass recycling bins, and old jeeps were stored at a Defense Reutilization and Marketing Office Storage Facility. Prior to 1990, hazardous waste/hazardous materials were temporarily stored, and batteries and transformers were stored at the facility (Weston 1990). A Contractor Laydown Area was used to store contractor materials and equipment. During the 1990 Enhanced PA, paint-related materials; mineral spirits; more than 200 empty, 55-gallon fog oil drums; several full drums of motor oil, gear oil, and degreaser; five old underground storage tanks (USTs); and a POL Landfarming Area were observed (Weston 1990).

- **Laundry** – Fort McClellan had two areas with laundry services that included impregnation. A collection sump in the Chemical Defense Training Facility (CDTF) received rinse water from chemical agent training bays and laundry facilities (USACE 2000). The former Area 1400/1500 Motor Pool was used to house the 111th Garment Impregnation Plant and the 317th Garment Impregnation Plant estimated as beginning in 1951 when the U.S. Army Chemical School (USACMLS) arrived at Fort McClellan until approximately the mid-1960s when butyl rubber protective garments began to be issued. The garment impregnation facilities reportedly laundered garments to neutralize CWM. The garments were also treated to render them relatively impermeable to CWM. The impregnation plants reportedly used large volumes of toluene or ethyl alcohol, and possibly wax and "chlorinated oil." The buildings have been demolished with concrete slab foundations, concrete sumps or grease pits, and asphalt pavement remaining at the site. Remediation (LUCs with monitored natural attenuation) is being conducted at the site to address VOCs in groundwater (Matrix 2021b). No evidence was found that indicates the washing of PFAS-containing materials occurred at this facility.

Buildings 1271 and 1272 [93(7)] were part of the Former Decontamination Complex and housed the 61st Chemical Company from 1961 to 1973 with a mission of chemical laundry operations and the Main Post bakery. The chemical laundry facilities reportedly reimpregnated laundry using wax, chlorinated oils, toluene, and ethanol alcohol (ESE 1998). Waste from the operations was discharged into the sanitary sewer system. An SI was conducted that concluded that with one exception, low concentrations of metals, VOCs, SVOCs, pesticides, explosives, and PCBs in the site media did not pose unacceptable risk to human health and the environment. Acetone in the groundwater may require further evaluation (U.S. Army 2005). No evidence was found that indicates the washing of PFAS-containing materials occurred at this facility.

Although a complete list of products used for laundry operations is not available, it is understood that common products used in wet and dry laundry facilities may have contained low concentrations of PFAS-containing materials and would not be considered a significant source of PFAS contamination. In addition, the activities associated with the post laundry were not tied to any other known areas where PFAS-containing materials were used, stored, or disposed of. As a result, the potential PFAS impacts were determined to be unlikely. Significant PFAS impacts would have been more likely from fire protective clothing and turnout gear being laundered at the facilities.

- **Photographic Processing** – Photographic processing was conducted in Building 143 (unknown until 1969), Building 144 (1969 to 1974), Building 1060 (unknown until 1973), Building 2051 (1974 to 1975), Building 3183 (1955 to closure), the Noble Army Hospital (dates unknown), and Building 245 (the Former Multi-Craft Shop) [Parcel 111(7)] (1960s to 1993). Printing operations were historically conducted at four locations at Fort McClellan, including Building 1060 (IT 2001c), Building 2051 (IT 2001d), the first floor of Building 144 (IT 2000b), and the basement of Building 143 (IT 2000c). Prior to 1994, printing facilities generally used and stored solvents, petroleum hydrocarbons, and inks. These substances included Blankola, which contains tetrachloroethylene (PCE) and petroleum naphtha; Multilith Cylinder Cleaner, which contains 3 percent nitric acid; and Multilith Electrostatic solution, which contains potassium ferrocyanide (Weston 1990). Materials used in the Multi-Craft Shop included 2 gallons of Photograph-Flo 600, 1 gallon of Poly toner, pumice, Al2O3:4SiO2, kiln wash, cornwall stone, alumina oxide calcined, soda ash, desert talc, gerstley borate, titanium oxide, barium carbonate, Albany slip, zinc oxide, Zicropax, gum arabic, nepheline syenite, and dolomite. Materials were stored and used in small quantities and may have been disposed of down a sink that drained to the sanitary sewer. Photographic fluids (including fluids from the hospital, the two dental clinics, and the troop medical clinic) were processed through two silver recovery units at the Noble Army Hospital, and effluent was discharged to the sanitary sewer (ESE 1998). A complete list of photographic processing chemicals used, stored, or disposed of at Fort McClellan is not available; however, the use of PFAS-containing materials did not become prevalent in the photography industry until approximately the mid-1990s (Kodak 2002). Given the operational period of Fort McClellan, the likelihood of PFAS impacts due to the use, storage, or disposal of photographic processing chemicals is assumed to be low.

- **Pesticides** – Pesticides were used at Fort McClellan. As of 1977, the mixing of pesticides was performed on a concrete pad that drained to the sanitary sewer. Pesticide containers were triple rinsed and disposed of in the sanitary landfill. From 1974 to 1976, the following quantities of pesticides and herbicides were used at Fort McClellan: diazinon (6,523 gallons), baygon (1,338 gallons), 95% and 3% malathion (166 and 36 gallons, respectively), chlordane (5,691 gallons), pyrethrum (8 gallons), baygon bait (32 pounds), lindane dust (46 pounds), dibrome/naled (2,558 gallons), mirex/kepone (193 pounds), anticoagulant/rat bait (775 pounds), silvex (67,940 gallons), 24D (18,000 gallons), 245T (11,800 gallons), OIN DMA (16,000 gallons), pichloram (4,000 gallons), arsenicorg (14,400 gallons), OPH/tordon 101 (20,300 gallons), and OPN/FORE (1,200 gallons) (U.S. Army 1977).

Three pesticide/herbicide mixing and storage facilities were located on the Main Post of Fort McClellan: Pesticide Mixing and Storage Facility (Building 211 in the Directorate of Engineering and Housing [DEH] Compound), Golf Course Pesticide Mixing and Storage Facility (Building S-2252), and Pesticide/Herbicide Storage Facility (Building 208 in the DEH Compound). Limited storage for household application was conducted in Building T-222 (previous self-help/you do it facility; operation moved to current storage area in Building 3214 in 1995 after B-233 was demolished). There were no reported releases at these pesticide storage areas.

Although a complete list of pesticides used, stored, or disposed of for the entire period of the Army's operations at Fort McClellan is not available, the use of fluorinated pesticides was infrequent until about the early 2000s (Alexandrino et al. 2022). Given the operational period of Fort McClellan, the likelihood of PFAS impacts due to pesticide use, storage, or disposal is assumed to be low. During the document research and site visit, no additional potential PFAS-containing material use, storage, or disposal were identified.

4.3 POTENTIAL OFF-POST AND POST TRANSFER PFAS SOURCES

The search to identify potential off-post PFAS sources (i.e., not related to Army operations at Fort McClellan), although not exhaustive, included review of significant potential contributors (e.g., airports, landfills, WWTPs) within a 5-mile radius. In addition, EDR conducted a search of state and Federal environmental databases for the Fort McClellan property and adjacent properties (EDR 2021). The PAs ARNG conducted at FM-ARNGTC and the Pelham Range recommended NFA for both facilities due to the absence of releases of PFAS-containing materials resulting from ARNG activities (AECOM 2020a, AECOM 2020b). Therefore, post transfer/off-post PFAS sources are not suspected at either FM-ARNGTC or the Pelham Range.

In 1999, following Fort McClellan's closure under BRAC, the Fire Station (Building 69) was transferred to the city of Anniston. The Anniston Fire Department used the Fire Station until approximately 2014. Personnel interviews with Anniston Fire Department personnel indicate that AFFF was used approximately 10 years ago, and the Anniston Fire Department currently uses PFAS-containing firefighting foam (i.e., FireAde2000). No known PFAS releases have occurred post transfer on Fort McClellan property; however, the Anniston Fire Department possibly used, stored, or disposed of AFFF and/or PFAS-containing materials at the Fire Station (Building 69).

Most of the surrounding area consists of the city of Anniston and the Mountain Longleaf National Wildlife Refuge. The adjacent property to the north consists of residential housing. Figure 4-2 shows the fire stations, airports, helipads, WWTPs, dry cleaners, and landfills located within a 5-mile radius from Fort McClellan.

5. SUMMARY OF PA RESULTS

The areas evaluated for potential PFAS use and/or storage at Fort McClellan were further refined during the PA process and categorized as an AOPI or not retained. Areas not retained as AOPIs are discussed in Section 5.1. AOPIs are discussed in Section 5.2.

5.1 AREAS NOT RETAINED AS AOPIs

Based on analysis of information obtained during this PA, the areas described below were not retained as AOPIs. These areas were previously identified as potential PFAS sources (e.g., AFFF storage, car washes, automobile maintenance, paint shops, photographic processing, pesticide use or storage, WWTPs, landfills) at Fort McClellan. However, PA research does not indicate that PFAS-containing material was used, stored, or disposed of at these areas. A brief site history and the rationale for eliminating the areas as AOPIs are presented in Table 5-1.

Table 5-1. Summary of Areas Not Retained as AOPIs at Fort McClellan

Area Description	Dates of Operation	Relevant Site History	Rationale
Fort McClellan WWTP	1918 to present (Army use until transfer in 2000)	Wastewater from Fort McClellan was treated at the WWTP, which was owned by the Army, leased to AWWSB in 1974 (ESE 1998), and transferred to the city of Anniston in 2000 (USEPA 2022b).	No evidence that PFAS-containing materials were used, stored, or disposed of at the WWTP. However, if SI groundwater sampling indicates PFAS is present at the facility, the WWTP may be reconsidered as an AOPI for future investigations.
Chemical Defense Training Facility Wastewater	1987 to unknown (Army use until closure)	The liquid wastewater collection sump that received rinse water from chemical agent training bays and laundry facilities (USACE 2000).	No evidence that PFAS-containing materials were used, stored, or disposed of.
Hazardous Storage Facility (Building 348)	1989 to unknown	Used for storage of all hazardous wastes generated at Fort McClellan. No spills or releases were documented at the facility (U.S. Army 1998).	No evidence that PFAS-containing materials were used, stored, or disposed of.
Flammable Storage Areas (Buildings 207, 681, 1830, 2117, 3141, and 8417)	Various	Six flammable storage buildings, such as paint lockers and small storage areas, which were kept locked, were located at the Main Post. No spills or releases were reported at the sites (U.S. Army 1998). Fort McClellan Fire Department personnel interviews indicated that no fire suppression systems contained AFFF at Fort McClellan.	No evidence that PFAS-containing materials were used, stored, or disposed of. No evidence that an AFFF-based fire suppression system was installed at any of these facilities.
Area T-24A	Unknown date in the 1960s to 1973	Site used for chemical munitions disposal training with phosgene, agent BZ, sarin, and distilled mustard. Two burning pits were used for chemical munitions and disposal training (Shaw 2014).	No evidence that PFAS-containing materials were used, stored, or disposed of. Standard practice for munitions disposal was to allow it to burn until destroyed; therefore, the use of AFFF for fire suppression is unlikely.

Table 5-1. Summary of Areas Not Retained as AOPIs at Fort McClellan (Continued)

Area Description	Dates of Operation	Relevant Site History	Rationale
Area T-38	1961 to 1972	A disposal pit was used for disposal of decontaminants from chemical munitions training and other hazardous wastes (Matrix 2007).	Dates of operation for the Area T-38 disposal pit precede the wide use of PFAS-containing materials; therefore, it is unlikely PFAS-containing materials were used, stored, or disposed of.
Detection and Identification Area	1950s to 1973	Chemical munitions training aids (e.g., structures) and a building from Area T-4 were burned twice and buried in a pit (Shaw 2005c).	No evidence that PFAS-containing materials were used, stored, or disposed of. Standard practice for munitions disposal was to allow it to burn until destroyed; therefore, the use of AFFF for fire suppression is unlikely.
Vehicle Maintenance Buildings (B202, 211, 215, 1800, and 339)	1930 to unknown (Building 211) 1976 to unknown (Building 1800) 1943 to unknown (Building 339)	Vehicle maintenance activities were conducted and required the use of degreasers, engine oils, fuels, lubricants, antifreeze, mineral spirits, and cleaning solvents. Waste oil USTs and drum storage areas were also present at some of the buildings (ESE 1998).	No evidence that PFAS-containing materials were used, stored, or disposed of. Exact dates of operation as vehicle maintenance facilities are unknown. No evidence that fire trucks with PFAS-containing AFFF were maintained at these facilities.
Small Weapons Repair Shop	Prior to 1941 (Building 237) 1941 to approximately 1991 (Building 335) After 1991 (Building 350)	Originally in Building 237 and was subsequently moved to Building 335 and later Building 350 (ESE 1998). Degreasers and caustics were used for weapons cleaning. Phosphoric acid, chromic acid, preservative oils, alkaline solutions, black oxide, and rinse waters may have been discharged to the storm sewer drain (Weston 1990).	No evidence that PFAS-containing materials were used, stored, or disposed of. Dates of operation of Building 237 precede the wide use of PFAS-containing materials.
Motor Pools/ Wash Racks and OWS	Various (generally 1940s/1950s to unknown date) (Motor Pools)	Seventeen motor pools were located at the Main Post (Building 265 and Areas 800, 1300 [2], 1600, 1800, 3100, and 3200, 500, 600, 1400/1500, 1000, 1200, 1900, 2000, and 2100). Fire Department logs recorded several responses to minor spills at some of the motor pools; however, the use of firefighting foam was not reported (ESE 1998).	No evidence that PFAS-containing materials were used, stored, or disposed of. No evidence that fire trucks with PFAS-containing AFFF were washed or otherwise maintained at these facilities.

Table 5-1. Summary of Areas Not Retained as AOPIs at Fort McClellan (Continued)

Area Description	Dates of Operation	Relevant Site History	Rationale
Motor Pools/ Wash Racks and OWS	Various (generally 1941 to after 1991) (Wash Racks)	Seventeen wash racks were located at the Main Post (Buildings 214, 253, 340, 351, 866, 1224, 1298, 1643, 1831, 3142, 3146/3147, 3262/3263, Former Incinerators, 1740, Neilson Street, T-222, and Defense Property Disposal Office). Wash racks discharged to the sanitary sewer, storm sewer, or Cane Creek. Wash racks and OWSs were often associated with activities at the motor pools. Sludge from the OWSs was also spread in one area of the Industrial Landfill (ESE 1998).	
Battery Maintenance Areas (Buildings 234, 338, and 350)	Unknown date until 1981 (Building 234) Unknown date until 1990 (Building 338) 1990 to unknown date (Building 350)	Three Lead-Acid Battery Maintenance Shops were located on the Main Post: Building 234 – Approximately 300 batteries per year were drained, the electrolyte neutralized, and flushed to a floor drain that ultimately discharged to Cane Creek (Weston 1990). The building was later used for vehicle maintenance (ESE 1998). Building 338 – Neutralization of battery acid and possibly discharge to floor drain may have occurred. Building 350 – Located at the former Fire Training Pit and constructed in approximately 1990. Building used for battery maintenance.	No evidence that PFAS-containing materials were used, stored, or disposed of. No evidence that fire trucks with PFAS-containing AFFF were maintained at Building 234.
Former Landfill No. 1	1945 to 1947	Operated as the installation sanitary landfill. No information exists concerning the operation of the landfill (Weston 1990). Trenching indicated materials such as glass bottles, pieces of coal, ash, metal, and glass syringes were buried in the landfill.	Dates of landfill operation precede the use of PFAS-containing materials; therefore, it is unlikely PFAS-containing materials were used, stored, or disposed of.
Former Landfill No. 2	Approximately 1927 to 1947	Reportedly used for disposal of construction debris (ESE 1998). Drums, containers, and assorted building materials were observed in 1990 (Weston 1990). Trenching indicated use of the location for the incineration and trenching of construction debris (e.g., piping, ash, glass, steel bomb casing, coal), which were buried in Former Landfill No. 2 (Matrix 2004).	Dates of landfill operation precede the use of PFAS-containing materials; therefore, it is unlikely PFAS-containing materials were used, stored, or disposed of.

Table 5-1. Summary of Areas Not Retained as AOPIs at Fort McClellan (Continued)

Area Description	Dates of Operation	Relevant Site History	Rationale
Former Landfill No. 3	1946 to 1967	Landfill received TCE sludge, waste POL, and decontaminated materials (ESE 1983). Reports indicate that Former Landfill No. 3 also received residential/municipal refuse, industrial wastes (i.e., empty pesticide containers, paint containers, waste oil), and construction debris.	No evidence that PFAS-containing materials were used, stored, or disposed of. Dates of landfill operation precede the wide use of PFAS-containing materials; therefore, it is unlikely PFAS-containing materials were used, stored, or disposed of.
Sanitary Landfill No. 4/FTA	1967 to 1994	Landfill received general trash, residential refuse, waste POL, TCE sludge, and dead animals from agent training exercises. In approximately 1974, the area was used for open burning, and a burn pit was used for a fire training exercise (Weston 1990). Details of the single fire training exercise, such as materials used and the precise location, could not be obtained through interviews or records and aerial photograph reviews.	No evidence that PFAS-containing materials were used, stored, or disposed of. Uncertainty involving the materials used and precise location of the 1974 fire training exercise.
Industrial Landfill	1993 to Unknown	Landfill used to dispose of construction debris, asbestos, and sludge from the OWSs (ESE 1998).	No evidence that PFAS-containing materials were used, stored, or disposed of.
Stump Dump	Approximately 1985 to 1988	Landfill intended to receive storm debris; however, unauthorized dumping of items such as construction debris, batteries, tires, paint cans, refrigerators, and landscaping trash occurred in the area (ESE 1998).	No evidence that PFAS-containing materials were used, stored, or disposed of.
Pesticide/ Herbicide Facilities	Various (generally prior to 1985 to after 1990)	Three pesticide/herbicide mixing and storage facilities were located on the Main Post. Containers were triple-rinsed and disposed of in Sanitary Landfill No. 4, and no spills were reported (Weston 1990). The types of containers used to store pesticides/herbicides are unknown.	No evidence that PFAS-containing materials were used, stored, or disposed of. Based on the period of operation for Fort McClellan, the dates of pesticide use at the facility pre-date the use of fluorinated pesticides.
PCB Storage Facility	Unknown (active in 1990)	Temporary storage of PCB and PCB-contaminated transformers, as well as small quantity storage of laboratory chemicals from the Chemical School Laboratory, pesticides, formic acid/water mixture, paint remover, and a non-PCB salvage drum (Weston 1990).	No evidence that PFAS-containing materials were used, stored, or disposed of. Based on the period of operation for Fort McClellan, the dates of pesticide use at the facility pre-date the use of fluorinated pesticides.

Table 5-1. Summary of Areas Not Retained as AOPIs at Fort McClellan (Continued)

Area Description	Dates of Operation	Relevant Site History	Rationale
Defense Reutilization and Marketing Office Storage Facility	Prior to 1985 to unknown	Empty sulfuric acid cans and 55-gallon drums, old appliances, brass recycling bins, and old jeeps were stored. Prior to 1990, hazardous waste/hazardous materials were temporarily stored, and batteries and transformers were stored at the facility (Weston 1990).	No evidence that PFAS-containing materials were used, stored, or disposed of.
Contractor Laydown Area	Unknown (active in 1990)	Area used to store contractor materials and equipment. During the 1990 Enhanced PA, paint-related materials; mineral spirits; more than 200 empty 55-gallon fog oil drums; several full drums of motor oil, gear oil, and degreaser; five old USTs; and a POL Landfarming Area was observed (Weston 1990).	No evidence that PFAS-containing materials were used, stored, or disposed of.
Photographic Processing Facilities (143, 144, 245, 1060, 2051, 3183, and the Noble Army Hospital)	Various (generally 1960s to unknown date)	Operations included storing and using photographic chemicals, solvents, petroleum hydrocarbons, and inks (Weston 1990). Photographic wastes generated at the Multi-Craft Shop were potentially drained down the sink (ESE 1998).	No evidence that PFAS-containing materials were used, stored, or disposed of. Based on the period of operation for Fort McClellan, the dates of photographic processing at the facility pre-date the prevalent use of PFAS-containing chemicals in the photography industry.
Building 44	February 1984	The Fort McClellan Fire Department used 400 gallons of water and 10 gallons of “foam” to wash down the area of a fuel spill (ESE 1998). The location of Building 44 was not identified during records reviews.	Uncertainty regarding the location of the release of potential PFAS-containing material.
Other Disposal Sites and Trenches	Unknown/various; primarily identified in aerial photographs from 1949 to 1972	Potential disposal sites that have been identified during previous investigations, for which compete documented detailed operational histories are not available (ESE 1998). These disposal sites and trenches include potential disposal sites at Reilly Airfield (Fill Area East of Reilly Airfield, Former Post Garbage Dump, and Fill Area Northwest of Reilly Airfield), Fill Area at Range 30, Fill Area North of Landfill No. 2, Fill Area West of Range 19, Trenches near Range 20 Firing Line, Old Burn Pit, Ground Scar with Trenches at Driving Course, Trenches West of Iron Mountain Road, and Ground Scar with Trenches at Littlebrandt Drive.	No evidence that PFAS-containing materials were used, stored, or disposed of. Exact dates of operation as disposal sites and trenches are unknown.

Table 5-1. Summary of Areas Not Retained as AOPIs at Fort McClellan (Continued)

Area Description	Dates of Operation	Relevant Site History	Rationale
Laundry	1951 to mid-1960s (Building 1400/1500 Motor Pool) 1961 to 1973 (Building 1271/1272)	Garments laundered to neutralize CWM and to render impermeable to CWM at the 111th and 317th Garment Impregnation Plants. Laundry reimpregnated at Buildings 1271 and 1272.	No evidence that PFAS-containing materials were used, stored, or disposed of. Activities associated with laundry operations were not tied to any other known areas where PFAS-containing materials were used, stored, or disposed of. As a result, the potential PFAS impacts were determined to be unlikely. Dates of operation of Building 1400/1500 Motor Pool precede the wide use of PFAS-containing materials.
Quonset Huts	Unknown	Huts were used for temporary fire equipment storage; however, the structures were moved frequently, remaining in place for only for 1 to 2 years at a time, and the locations are uncertain.	Temporary fire equipment storage that may have included PFAS-containing firefighting foams, including AFFF. The exact locations and dates of use for these temporary structures are unknown.
Helipads	Unknown (approximately 1973 to 1985); operations ceased prior to the late 1990s	Army Fire Department, equipped with AFFF, performed standby oversight of the three Main Post helipads during flight operations.	No evidence that PFAS-containing firefighting foams, including AFFF, were used for emergency response or coddling exercises at the helipads.

5.2 AOPIs

Based on analysis of information obtained during document research, personnel interviews, and/or site reconnaissance, six areas were categorized as AOPIs and are presented in Table 5-2 and Figure 5-1. Site research conducted for this PA indicates that PFAS-containing material use, storage, or disposal is potentially suspected at these areas.

Table 5-2. Summary of AOPIs at Fort McClellan

Area Description [Parcel ID]	Dates of Operation	Relevant Site History	Rationale
Old Fire Station	Unknown to approximately late 1970s	Potential for storage of AFFF and other fluorinated firefighting foams that may have contained PFAS. Fire trucks potentially equipped with PFAS-containing firefighting foams were likely washed at the Fire Station.	Fire station with potential use, storage, and/or disposal of PFAS-containing firefighting foams, including AFFF.
Fire Station (Building 69) (Part of Parcel 161 [1])	1936 to 1999	Used for storage of AFFF and potentially other fluorinated firefighting foams that may have contained PFAS. Fire trucks equipped with PFAS-containing firefighting foams were washed at the Fire Station. During the site visit, storm drains were observed in the driveways surrounding the building. Sanitary sewer drains were not observed.	Fire station with potential use, storage, and/or disposal of PFAS-containing firefighting foams, including AFFF.

Table 5-2. Summary of AOPIs at Fort McClellan (Continued)

Area Description [Parcel ID]	Dates of Operation	Relevant Site History	Rationale
Fire Training Pit [FTMC-22/ Parcel 77(7)]	At least 1961 and prior to 1986	Fire training conducted annually using AFFF and potentially other fluorinated firefighting foams that may have contained PFAS. The Consolidated Maintenance Facility (Building 350) is currently located where the former fire training pit used to be. The pad and soil were excavated for the construction of Building 350 as the facility required a separate drainage system (ESE 1998).	Fire training activities with potential use, storage, and/or disposal of PFAS-containing firefighting foams, including AFFF.
Fire Station Warehouse (Building 228)	Unknown to prior to 2004	Firefighting equipment storage area where an unknown quantity of AFFF was stored on a pallet. Firefighting equipment and AFFF were transferred to the city of Anniston upon installation closure. A LUC is in place for groundwater and commercial/industrial use.	Fire equipment storage with potential use, storage, and/or disposal of PFAS-containing firefighting foams, including AFFF.
Nozzle Testing Area	Unknown (approximately 1973 to 1985); operations ceased prior to the late 1990s	Nozzle testing with firefighting foam was performed twice a year. Approximately 50 gallons of solution were used during each episode; however, at times when the foam concentrate was near expiration, approximately 300 to 400 gallons of solution were released.	Nozzle testing activities with potential use, storage, and/or disposal of PFAS-containing firefighting foams, including AFFF.
Reilly Airfield	Unknown to mid-1970s	Aircraft coddling training was conducted semi-annually at Reilly Airfield, where a blanket of foam (approximately 10 gallons) was applied to the grassy areas at the airfield.	Fire training activities with potential use, storage, and/or disposal of PFAS-containing firefighting foams, including AFFF.

The preliminary CSM is summarized in Section 5.2.1. AOPI overviews and CSM summaries for each AOPI are presented in Sections 5.2.2 through 5.2.7.

5.2.1 Preliminary CSM

A preliminary CSM was prepared for each of the installation's AOPIs in accordance with the *USACE Engineer Manual on Conceptual Site Models, EM 200-1-12* (USACE 2012) and USEPA guidance. The preliminary CSMs identified potential human receptors and chemical exposure pathways based on current and/or reasonably anticipated future land uses. The preliminary CSMs identified soil, groundwater, surface water, and sediment pathways as potentially complete.

Based on the documented or potential historical use, storage, or disposal of PFAS-containing materials at Fort McClellan, affected media are likely to consist of soil, groundwater, surface water, and sediment. Release and transport mechanisms include dissolution/desorption from soil to groundwater, runoff/dissolution/adsorption with surface water or stormwater, and recharge to groundwater from surface water. While other potential exposure media (i.e., soil and sediment) besides drinking water sources (i.e., groundwater and/or surface water) may be impacted by PFAS, direct ingestion via drinking water is the most likely exposure route, and thus the Army's primary concern for human exposure. Therefore, the focus of the Army's PA program is on potential human exposures via drinking water ingestion. The potential for human exposures to PFAS through non-drinking water pathways has not yet been established

and may be evaluated in the future if it is determined that those pathways warrant further consideration. The CSMs presented in this report focus on drinking water pathways via groundwater and surface water that are known to be used as a source of potable water.

Drinking water at Fort McClellan is supplied by AWWSB. The water supply provided by AWWSB is drawn from Coldwater Spring and Hillabee Reservoir, each located approximately 10 miles south/southwest of Fort McClellan. As discussed in Section 2.8 and presented in Figure 2-3, multiple water supply wells are located in the vicinity of Fort McClellan, including the city of Weaver Water System's wells located downgradient from the Main Post, and may be used as drinking water sources.

A groundwater exposure pathway is considered potentially complete where COIs could migrate from the AOPI source area to groundwater that is used for drinking water. Otherwise, the groundwater exposure pathway is considered incomplete. The following parameters are used to determine if an AOPI source area had a potentially complete groundwater exposure pathway:

- AOPIs located upgradient or in the vicinity of drinking water sources and that have the potential to influence groundwater associated with these potable sources are a potentially complete groundwater exposure pathway for drinking water receptors.
- AOPIs located outside the vicinity or downgradient from potable sources (drinking water wells) are considered to have an incomplete groundwater exposure pathway.

The soil exposure pathway is considered potentially complete where COIs could be present in soil. A surface water exposure pathway is considered potentially complete where COIs could be present in a surface water body (e.g., a reservoir or large river) that serves as a potable water source. No on-post surface water features are used as a drinking water source nor is surface water migration a potential exposure medium for off-post drinking water receptors. Surface water at Fort McClellan includes South Branch, Cane Creek, Cave Creek, Yahou Lake, and Reilly Lake.

Figure 5-1 presents the locations of the AOPIs. AOPI-specific CSM summaries are provided in Tables 5-3 through 5-8.

5.2.2 Old Fire Station AOPI Rationale and CSM

The Old Fire Station AOPI is located on property that was transferred to MDA and subsequently to the Calhoun County Economic Development Council. Interviews with former Fort McClellan Fire Department personnel indicated that the Old Fire Station was located on Freemont Road, where Freemont Road curved toward Pappy Dunn Drive to the north. The Old Fire Station was apparently demolished after 1981 (UA 2022) but was not present in 1998 (Historic Aerials 2022). Freemont Road no longer exists near the former building. Aerial photographs suggest that the road was demolished sometime between 2015 and 2019. Based on the operational time frame of the former fire station and because AFFF and/or other fluorinated firefighting foams that may contain PFAS were stored at Fort McClellan, PFAS-containing materials may have been used, stored, and/or released at the Old Fire Station AOPI.

Table 5-3. AOPI CSM Information Profile – Old Fire Station

Profile Type	Information Needs	Preliminary Assessment Findings
Site Profile	AOPI site structures/description	The Old Fire Station is located in a grassy field with no structures present.
	Latitude, longitude	1171333.8, 515490.4
	Size	0.5 acres
Land Use	Current/future land use	Industrial

Table 5-3. AOPI CSM Information Profile – Old Fire Station (Continued)

Profile Type	Information Needs	Preliminary Assessment Findings
CSM Profile	Source media	Soil
	Migration routes/release mechanisms	Constituents could migrate from soil to groundwater via desorption and dissolution. Constituents could migrate to surface water due to runoff, dissolution, and adsorption from stormwater and recharge to groundwater from surface water.
	Exposure pathways, media, and human receptors	Soil is considered a potentially complete exposure pathway at the Old Fire Station. Although on-post groundwater is not currently used and unlikely to be used for drinking water at Fort McClellan (AWWSB supplies potable water to Fort McClellan), a potential future exposure pathway exists on-post because this AOPI has no groundwater use restrictions. In addition, a potential pathway exists off-post because multiple potable wells are located downgradient from the Fort McClellan boundary.

5.2.3 Fire Station (Building 69) AOPI Rationale and CSM

The Fire Station (Building 69) is located to the south of the Summerall Gate Road traffic circle. The building was constructed in 1936 and used as the Fort McClellan Fire Station until installation closure (U.S. Army 1999). The property currently belongs to the city of Anniston and is used for storage by the Anniston Fire Department. Interviews with former Fort McClellan Fire Department personnel indicated that approximately 50 gallons of AFFF and/or other firefighting foams that may contain PFAS were routinely stored in 5-gallon buckets in the Building 69 kitchen. In addition, fire trucks equipped with AFFF and/or other firefighting foams that may contain PFAS were washed in the driveway on the eastern side of the building and near the bay doors on the northern side of the building.

Table 5-4. AOPI CSM Information Profile – Fire Station (Building 69)

Profile Type	Information Needs	Preliminary Assessment Findings
Site Profile	AOPI site structures/description	The AOPI is located on a well-maintained grassy lot and Building 69 is surrounded by an asphalt driveway to the south with direct access to Summerall Gate Road and a concrete driveway to the north with access to the traffic circle.
	Latitude, longitude	1169645.1, 512386.8
	Size	0.5 acres
Land Use	Current/future land use	Industrial Use
CSM Profile	Source media	Soil
	Migration routes/release mechanisms	Constituents could migrate from soil to groundwater via desorption and dissolution. Constituents could migrate to surface water due to runoff, dissolution, and adsorption from stormwater and recharge to groundwater from surface water.
	Exposure pathways, media, and human receptors	Soil is considered a potentially complete exposure pathway at the Fire Station (Building 69). Although on-post groundwater is not currently used and unlikely to be used for drinking water at Fort McClellan (AWWSB supplies potable water to Fort McClellan), a potential future exposure pathway exists on-post because this AOPI has no groundwater use restrictions. In addition, a potential pathway exists off-post because multiple potable wells are located downgradient from the Fort McClellan boundary.

5.2.4 Fire Training Pit AOPI Rationale and CSM

The Fire Training Pit was located in the northeastern portion of the Main Post on property that was transferred to MDA and subsequently transferred to International Automotive Components, a private manufacturing company. The precise dates of operation as a Fire Training Pit are unknown; however, a ground scar and driveway are visible at the site in a 1961 aerial photograph, and fire training activities were discontinued prior to 1986 (ESE 1998, UA 2022).

The Fire Training Pit was reportedly used approximately once a year to train firefighters. Waste oil and other fluids were spread in the pit, ignited, and then extinguished using fire retardant foams (Weston 1990). Interviews conducted as part of the EBS in 1998 indicated that a concrete pad with an overflow drain was constructed in 1978, and rainwater runoff from the pit was drained to a nearby storm sewer that discharged to Cane Creek. Prior to 1978, burn materials were placed directly on the ground for training activities. The entire area (pad and soil) was excavated during construction of Building 350 (in approximately 1990), and the excavation was backfilled with clean soil (ESE 1998). Fort McClellan Fire Department personnel indicated that AFFF and/or other firefighting foams that may contain PFAS were used at the Fire Training Pit.

Table 5-5. AOPI CSM Information Profile – Fire Training Pit

Profile Type	Information Needs	Preliminary Assessment Findings
Site Profile	AOPI site structures/description	The Fire Training Pit no longer exists. The site currently consists of a large building with concrete and asphalt pavement, sidewalks, and driveways with some grassy areas.
	Latitude, longitude	1172187.7, 516290.2
	Size	0.2 acres
Land Use	Current/future land use	Industrial use
CSM Profile	Source media	Soil/surface water/sediment
	Migration routes/release mechanisms	Constituents could migrate from soil to groundwater via desorption and dissolution. Constituents could migrate to surface water due to runoff, dissolution, and adsorption from stormwater and recharge to groundwater from surface water.
	Exposure pathways, media, and human receptors	Soil is considered a potentially complete exposure pathway at the Fire Training Pit. Although on-post groundwater is not currently used and unlikely to be used for drinking water at Fort McClellan (AWWSB supplies potable water to Fort McClellan), a potential future exposure pathway exists on-post because this AOPI has no groundwater use restrictions. In addition, a potential pathway exists off-post because multiple potable wells are located downgradient from the Fort McClellan boundary.

5.2.5 Fire Station Warehouse (Building 228) AOPI Rationale and CSM

The Fire Station Warehouse (Building 228) was used by Fort McClellan for emergency response management services, including fire and rescue services. The building is between Lennox Avenue and Baltzell Gate Road and to the east of the south branch of Cane Creek. The Fire Station Warehouse was conveyed by the Army to the city of Anniston in 2004 (USACE 2004). According to personnel interviews, an unknown quantity of AFFF was stored in 5-gallon buckets on a pallet in Building 228 prior to transfer to the city of Anniston. In addition, the Army stored various firefighting equipment in Building 228.

Table 5-6. AOPI CSM Information Profile – Fire Station Warehouse (Building 228)

Profile Type	Information Needs	Preliminary Assessment Findings
Site Profile	AOPI site structures/description	Building 228 is located on a well-maintained grassy lot with asphalt driveways and parking lots.
	Latitude, longitude	1170824.8, 512385.0
	Size	0.7 acres
Land Use	Current/future land use	Industrial use
CSM Profile	Source media	Soil
	Migration routes/release mechanisms	Constituents could migrate from soil to groundwater via desorption and dissolution. Constituents could migrate to surface water due to runoff, dissolution, and adsorption from stormwater and recharge to groundwater from surface water.
	Exposure pathways, media, and human receptors	Soil is considered a potentially complete exposure pathway at the Fire Station Warehouse (Building 228) AOPI. A potential groundwater exposure pathway exists off-post because multiple potable wells are located downgradient from the Fort McClellan boundary. Although on-post groundwater is not currently used and unlikely to be used for drinking water at Fort McClellan (AWWSB supplies potable water to Fort McClellan) and groundwater use is restricted at the Fire Station Warehouse (Building 228), a potential future exposure pathway exists on-post because the groundwater use restrictions at this AOPI are not specific to PFAS.

5.2.6 Nozzle Testing AOPI Rationale and CSM

According to Fort McClellan Fire Department personnel interviews, the Fort McClellan Fire Department performed nozzle testing in the open asphalt lot on the corner of Berman Road and Town Center Drive. This parcel is currently owned by MDA. Water was used every Saturday and Sunday, but foam testing using AFFF and/or other firefighting foams that may contain PFAS was performed twice a year. Typically, approximately 50 gallons of diluted foam in water solution were used during nozzle testing episodes. At times when the foam concentrate was near expiration, more material was used and approximately 300 to 400 gallons of solution were released.

Table 5-7. AOPI CSM Information Profile – Nozzle Testing

Profile Type	Information Needs	Preliminary Assessment Findings
Site Profile	AOPI site structures/description	The Nozzle Testing AOPI is a moderately sloping asphalt lot surrounded by well-maintained grass.
	Latitude, longitude	1169227.22, 513621.73607
	Size	4.2 acres
Land Use	Current/future land use	Industrial use
CSM Profile	Source media	Soil
	Migration routes/release mechanisms	Constituents could migrate from soil to groundwater via desorption and dissolution. Constituents could migrate to surface water due to runoff, dissolution, and adsorption from stormwater and recharge to groundwater from surface water.
	Exposure pathways, media, and human receptors	Soil is considered a potentially complete exposure pathway at the Nozzle Testing AOPI. Although on-post groundwater is not currently used and unlikely to be used for drinking water at Fort McClellan (AWWSB supplies potable water to Fort McClellan), a potential future exposure pathway exists on-post because this AOPI has no groundwater use restrictions. In addition, a potential pathway exists off-post because multiple potable wells are located downgradient from the Fort McClellan boundary.

5.2.7 Reilly Airfield AOPI Rationale and CSM

Reilly Airfield, located in the northeastern portion of the Main Post, was used for fixed- and rotary-winged aircraft operations. The Federal Aviation Administration (FAA) closed the airfield prior to 1988 due to inadequate glide ratio. MDA currently owns this parcel. Following the airfield's closure, the Military Police School used the airfield for defensive driving training (U.S. Army 1998). According to Fort McClellan Fire Department personnel interviews, aircraft coddling training was conducted semi-annually at Reilly Airfield. During each aircraft coddling training exercise, Army firefighters applied a blanket of firefighting foam consisting of approximately 10 gallons of diluted foam (i.e., AFFF and/or other firefighting foams in water solution) to the grassy areas at the airfield to prevent sparking associated with landing gear failure. The aircraft coddling exercises were discontinued by the mid-1970s.

Table 5-8. AOPI CSM Information Profile – Reilly Airfield

Profile Type	Information Needs	Preliminary Assessment Findings
Site Profile	AOPI site structures/description	Reilly Airfield currently consists of degraded asphalt surrounded by grassy fields and wooded areas. Small trees and light vegetation grow in the former grassy areas between runways. In addition, Iron Mountain Road cuts through and somewhat overlaps the former airfield.
	Latitude, longitude	1180527.0, 515782.9
	Size	24.9 acres
Land Use	Current/future land use	Industrial use
CSM Profile	Source media	Soil
	Migration routes/release mechanisms	Constituents could migrate from soil to groundwater via desorption and dissolution. Constituents could migrate to surface water due to runoff, dissolution, and adsorption from stormwater and recharge to groundwater from surface water.
	Exposure pathways, media, and human receptors	Soil is considered a potentially complete exposure pathway at the Reilly Airfield AOPI. Although on-post groundwater is not currently used and unlikely to be used for drinking water at Fort McClellan (AWWSB supplies potable water to Fort McClellan), a potential future exposure pathway exists on-post because this AOPI has no groundwater use restrictions. In addition, a potential pathway exists off-post because multiple potable wells are located downgradient from the Fort McClellan boundary.

5.3 DATA LIMITATIONS

The data limitations relevant to the development of this PA for PFAS at Fort McClellan are discussed below.

A comprehensive well survey was not completed as part of this PA; therefore, the information reviewed regarding off-post wells is limited to the desktop survey that was completed. No off-post water supply wells were found in the EDR well search report (Appendix G).

The searches for ecological receptors and off-post PFAS sources were limited to readily identifiable and available information evaluated during the relevant documents research, Army personnel interviews, and site reconnaissance. An online database was referenced when identifying the ecological profile for the site (USFWS 2021).

Records reviewed during the PA process were limited in information regarding PFAS-containing materials, including AFFF use, procurement records, and firefighter training records. Generally, interviews were

crucial to understanding past practices and identifying the potential for use, storage, or disposal of PFAS-containing materials because records are often not available after installation closure. Interviews providing information regarding potential PFAS-containing material use were limited in quantity but inclusive of personnel knowledgeable of fire, emergency response, and industrial activities over the time frame from 1973 to the present.

The PA was conducted through observation of operational periods, site usage, aerial photographs, records reviews, anecdotal evidence, and personnel interviews to evaluate the use, storage, or disposal of PFAS-containing materials. Therefore, some conclusions and recommendations presented in this report are based on available information, professional judgment, and industry best practices.

6. CONCLUSIONS

This PA was conducted in accordance with DoD, Army, and USEPA guidance documents. Programmatically, the Army has focused its PFAS PA efforts on identifying locations where a potential for a release of PFAS exists (i.e., those locations where PFAS-containing materials were used, stored, or disposed of). Locations on Army installations with the greatest likelihood of releases of PFAS were evaluated as part of this PA, including FTAs, AFFF storage locations, aircraft crash sites, fuel farms, and sites associated with aviation assets. However, other potential sources of PFAS at the installation were considered and have been documented in this PA. A combination of document review, Internet searches, interviews with installation personnel, and an installation site visit were used to identify specific areas of suspected PFAS use and releases at Fort McClellan.

The entire former Fort McClellan installation, except for property under the command and control of the ARNG (i.e., FM-ARNGTC and the Pelham Range), was assessed; 42 preliminary areas were identified and evaluated for potential use, storage and/or disposal of PFAS-containing materials; and these areas were further refined during the PA process and then either identified either as an area not retained for further investigation or as an AOPI. In accordance with the established process for the PA, six of the preliminary areas have been identified as AOPIs.

The AOPIs identified during this this PA at Fort McClellan are listed below:

- Old Fire Station
- Building 69 Fire Station
- Fire Training Pit
- Building 228 Fire Station Warehouse AOPI
- Nozzle Testing Area
- Reilly Airfield AOPI.

A site-specific CSM was developed for each AOPI based on an assessment of existing records, personnel interviews, and site reconnaissance trips. The CSMs developed for this PA did not identify any of the six AOPIs as currently impacting on-post drinking water receptors. However, multiple off-post potable water wells are potentially located downgradient from Fort McClellan and may be impacted by former operations at the AOPIs. In addition, a potential future pathway exists on-post because the AOPIs have no PFAS-related groundwater use restrictions, and only the Fire Station Warehouse (Building 228) has a general use restriction.

Given the findings of this PA, the AOPIs presented warrant further evaluation in an SI (40 CFR 300.420(c)).

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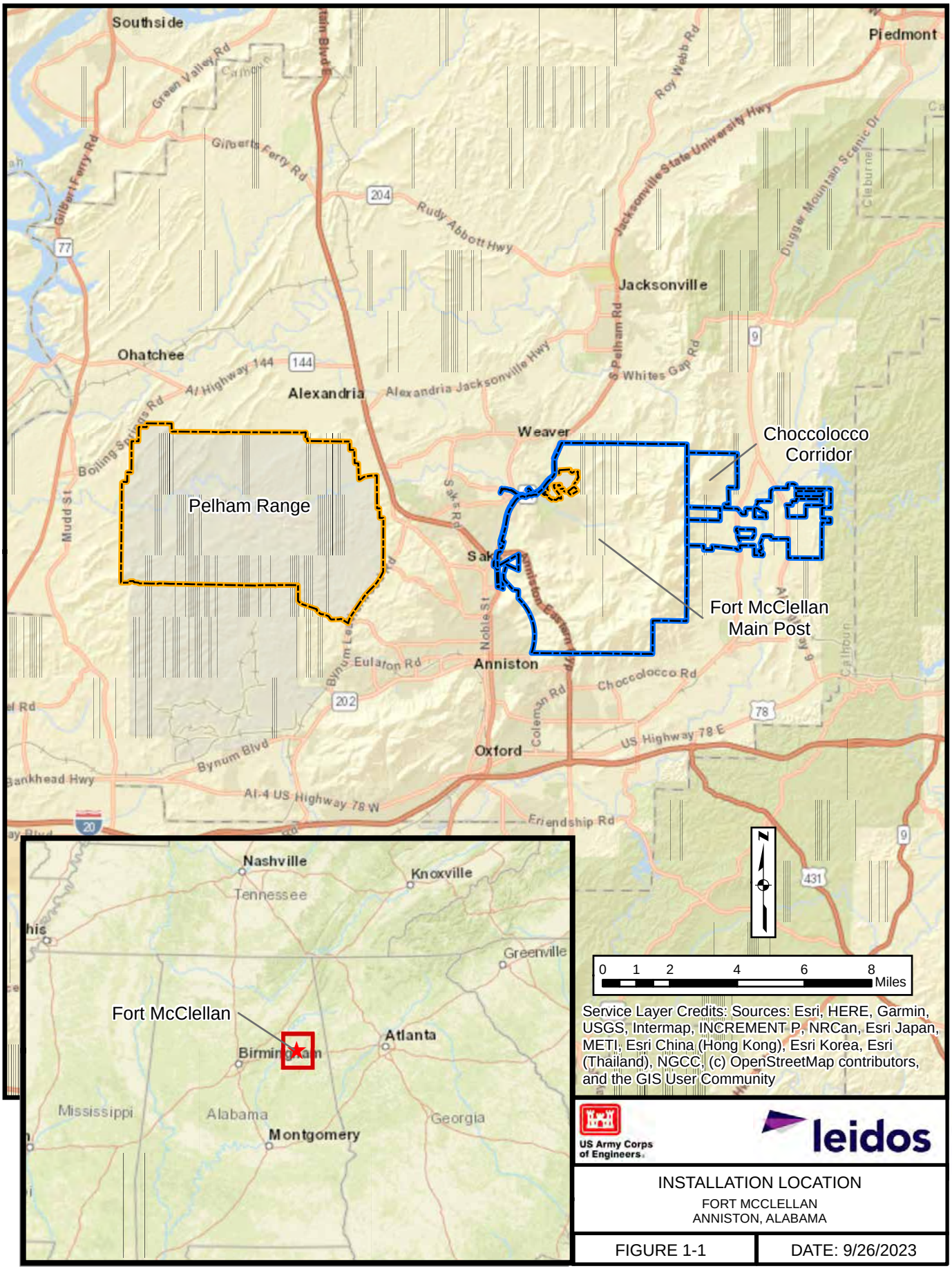
FIGURES



Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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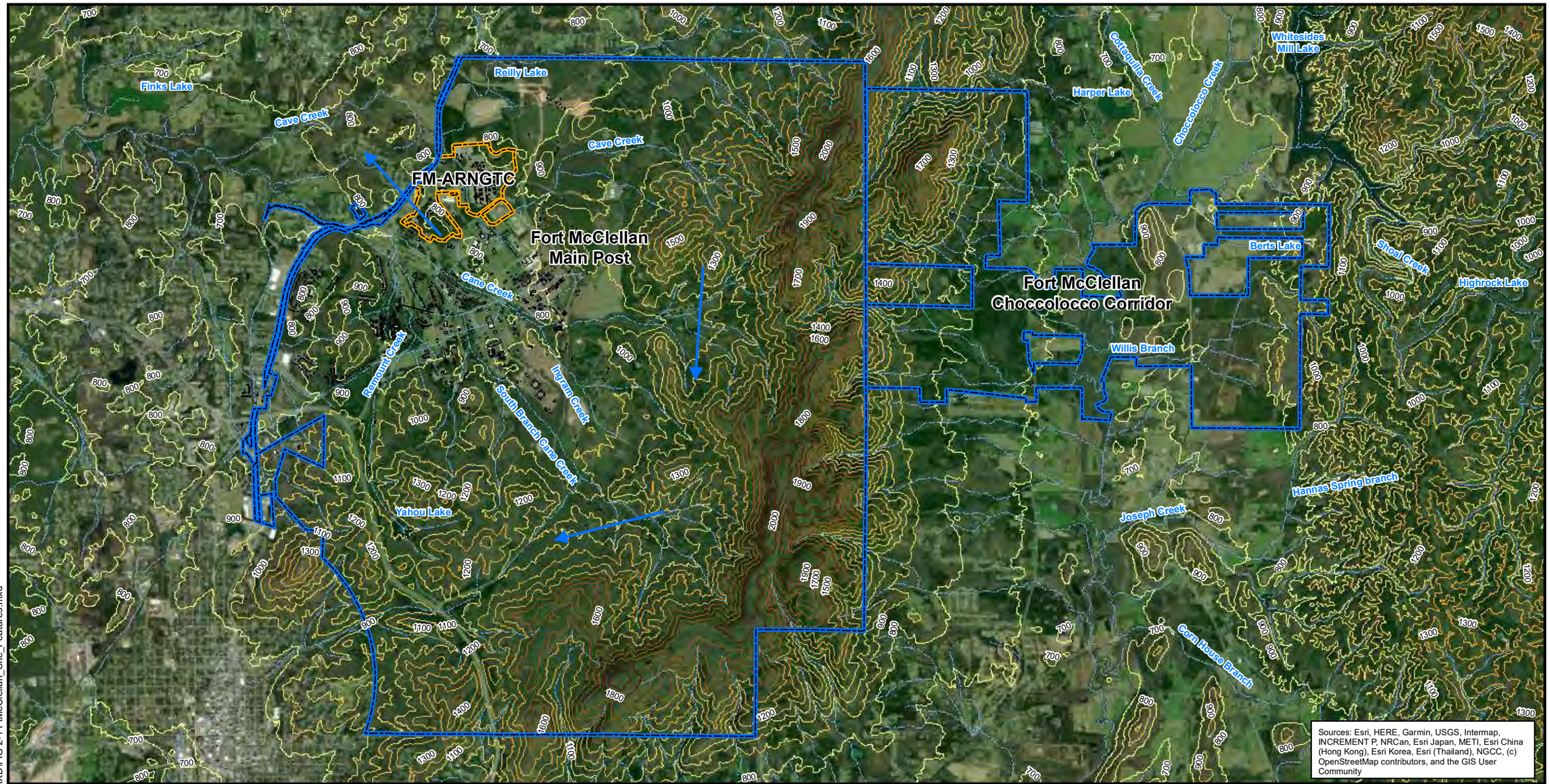
INSTALLATION LOCATION

FORT MCCLELLAN
ANNISTON, ALABAMA

FIGURE 1-1	DATE: 9/26/2023



F:\ARMY_BRAC_PFAS\21010\MXD\FIG 2-1 FtMcClellan_Site_Features.mxd

Legend

- BRAC Parcel Boundary
- FM-ARNGTC Boundary
- Building
- Stream
- Lake/Pond
- Groundwater Flow Direction

100-foot Contours

- 700 - 800
- 800 - 1100
- 1100 - 1400
- 1400 - 1700
- 1700 - 2000

Notes:
ARNG = Army National Guard
FM-ARNGTC = Fort McClellan-Army National Guard Training Center

0 5,000 10,000 Feet
SCALE:1 inch = 5,000 feet

AL STATE PLANE EAST (NAD83)

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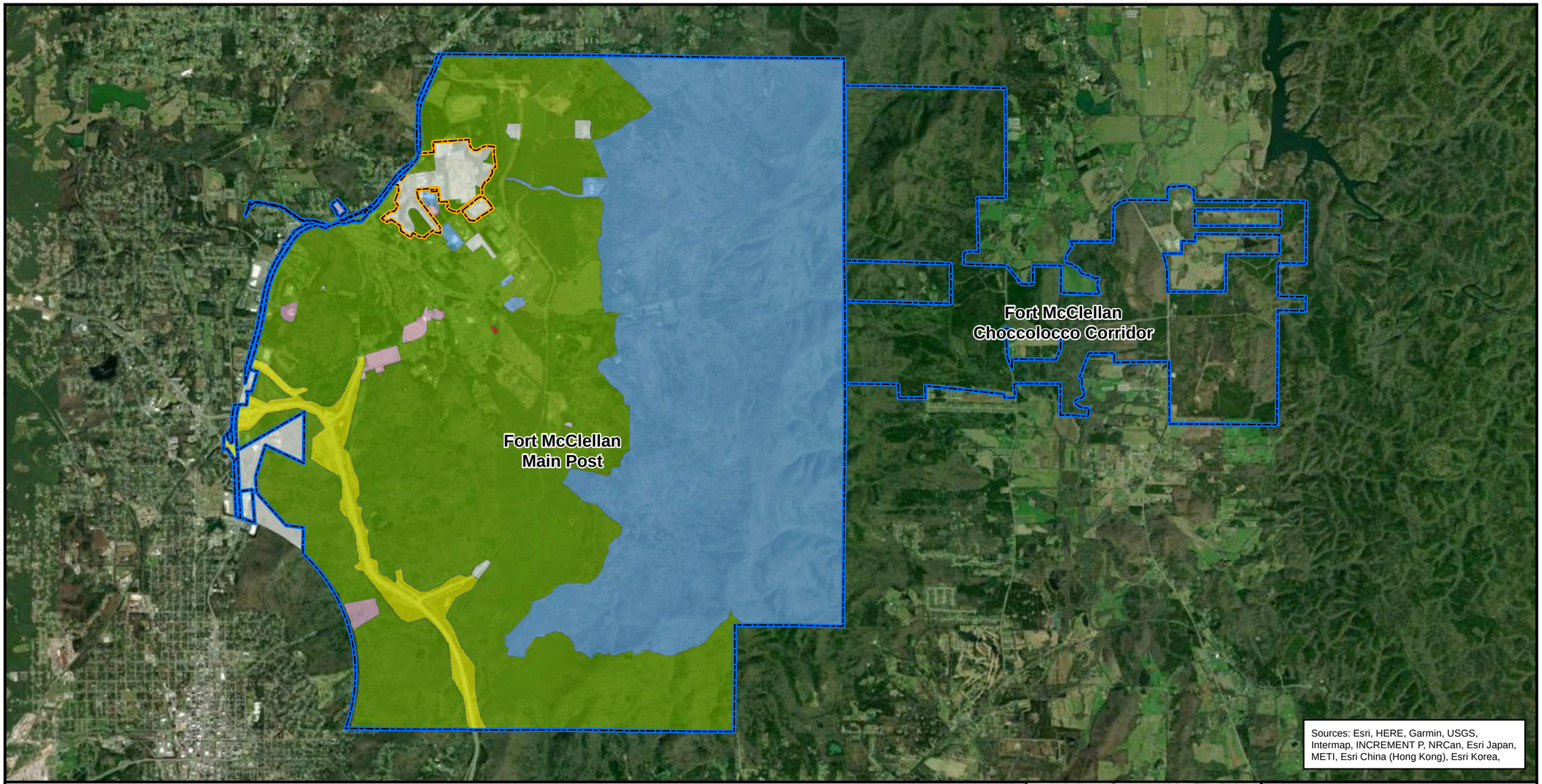
SITE FEATURES

FORT MCCLELLAN
ANNISTON, ALABAMA

FIGURE 2-1 | DATE: 6/20/2023



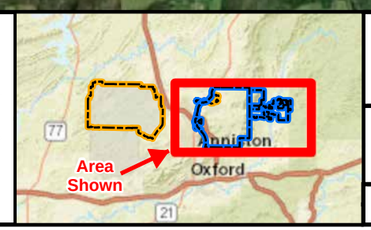
Legend

- BRAC Parcel Boundary
- FM-ARNGTC Boundary
- McClellan Development Authority
- Federal Agencies (DOJ, HHS, and FWS)
- Alabama Department of Transportation
- City of Anniston
- Fort McClellan Credit Union
- U.S. Army

Notes:
ARNG = Army National Guard
FM-ARNGTC = Fort McClellan-Army National Guard Training Center

0 5,000 10,000 Feet
SCALE: 1 inch = 5,000 feet

AL STATE PLANE EAST (NAD83)



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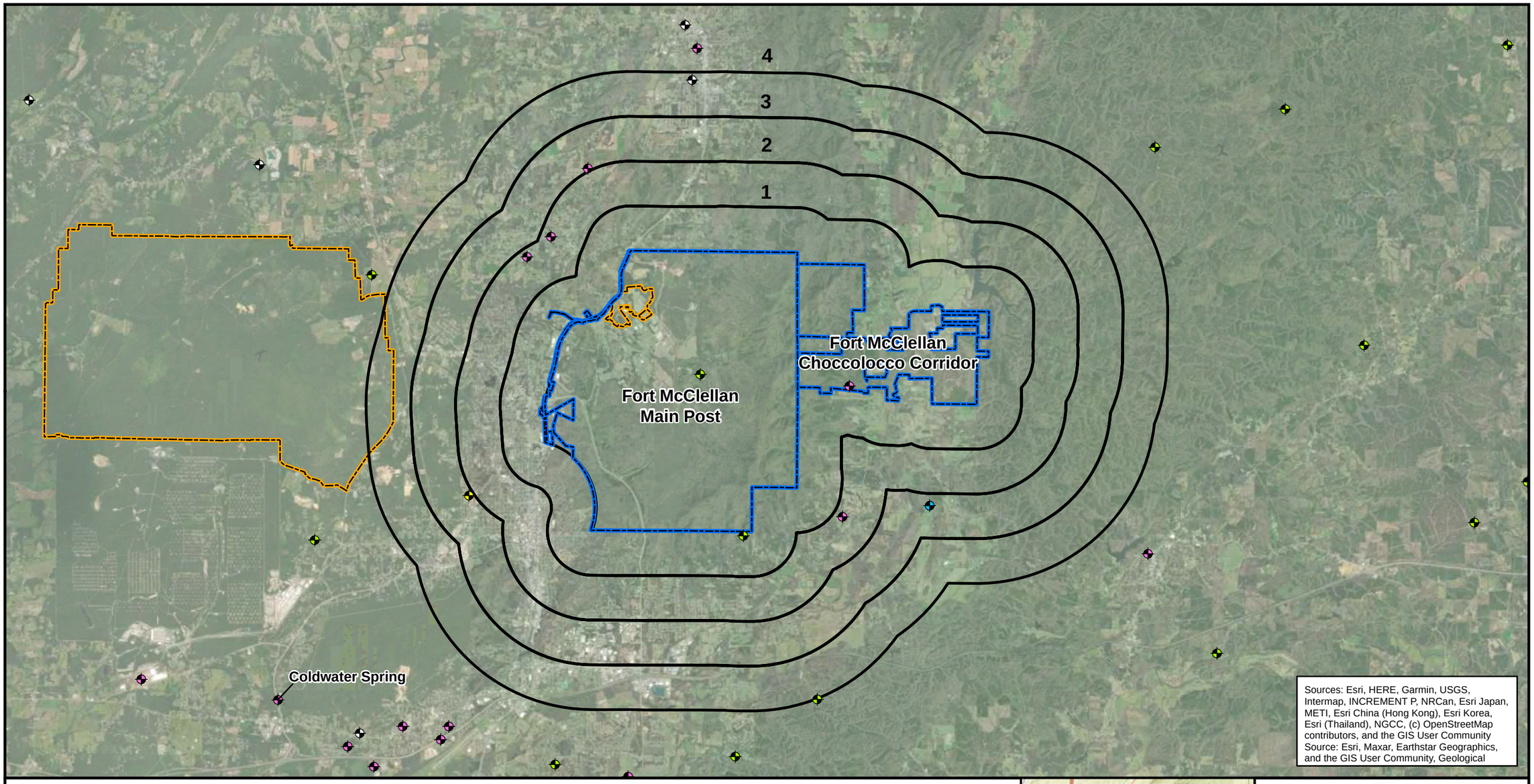
PARCEL TRANSFER MAP
FORT MCCLELLAN
ANNISTON, ALABAMA

FIGURE 2-2 | DATE: 9/25/2023



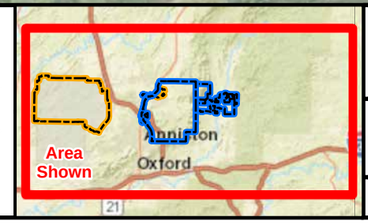
Legend

- Agricultural Well
- Domestic Well
- Industrial Well
- Monitoring Well
- Public Well
- BRAC Parcel Boundary
- FM-ARNGTC & Pelham Range Boundary
- Distance Ring

Notes:
ARNG = Army National Guard
FM-ARNGTC = Fort McClellan-Army National Guard Training Center
Well data obtained from the Geological Survey of Alabama (December 2015)
https://www.gsa.state.al.us

0 12,000 24,000 Feet
SCALE: 1 inch = 12,000 feet

AL STATE PLANE EAST ZONE 2 (NAD83)



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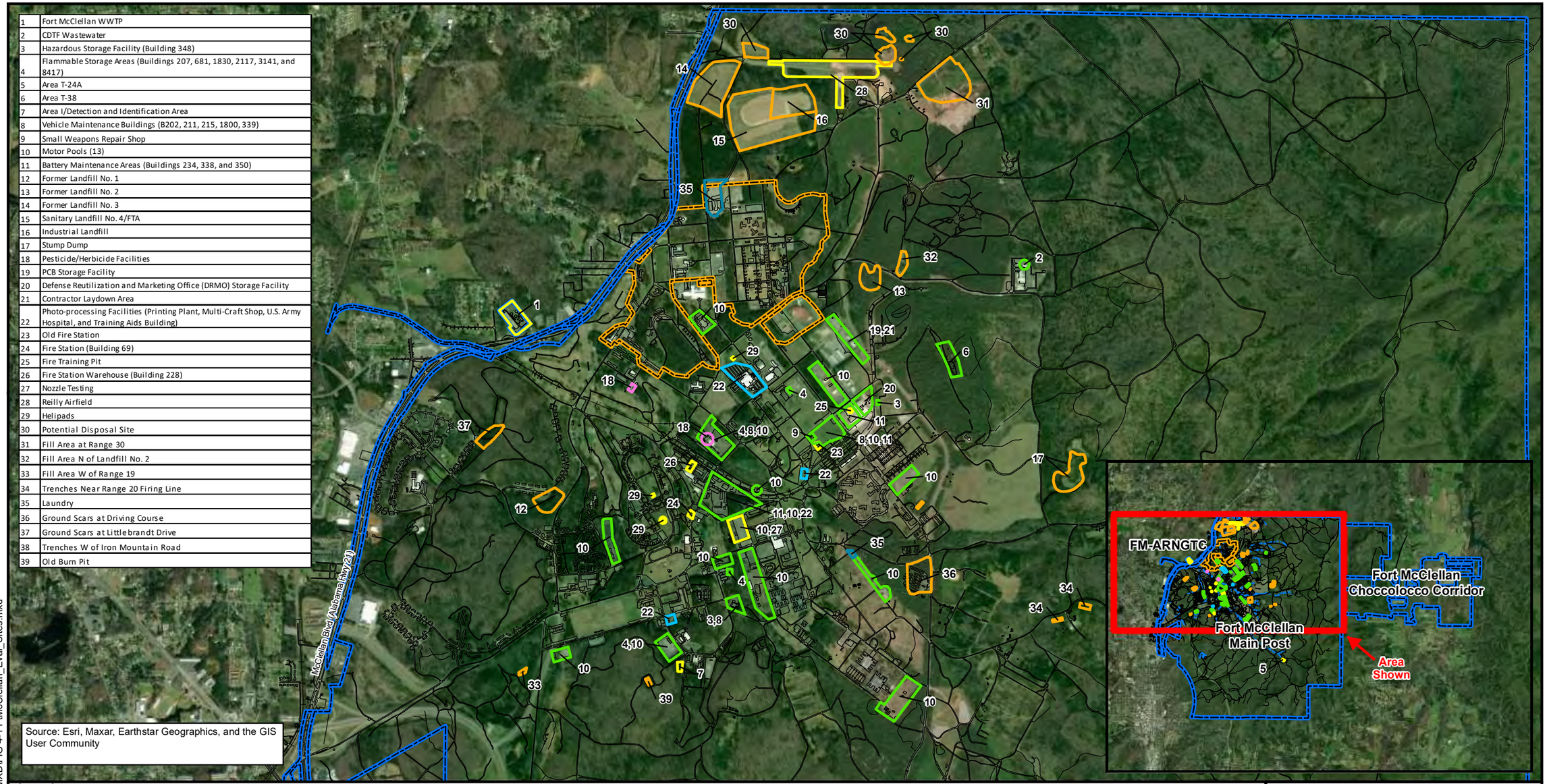
POTABLE WELLS WITHIN A 4-MILE RADIUS
FORT MCCLELLAN
ANNISTON, ALABAMA

FIGURE 2-3 | DATE: 9/25/2023

1	Fort McClellan WWTP
2	CDTF Wastewater
3	Hazardous Storage Facility (Building 348)
4	Flammable Storage Areas (Buildings 207, 681, 1830, 2117, 3141, and 8417)
5	Area T-24A
6	Area T-38
7	Area I/Detection and Identification Area
8	Vehicle Maintenance Buildings (B202, 211, 215, 1800, 339)
9	Small Weapons Repair Shop
10	Motor Pools (13)
11	Battery Maintenance Areas (Buildings 234, 338, and 350)
12	Former Landfill No. 1
13	Former Landfill No. 2
14	Former Landfill No. 3
15	Sanitary Landfill No. 4/FTA
16	Industrial Landfill
17	Stump Dump
18	Pesticide/Herbicide Facilities
19	PCB Storage Facility
20	Defense Reutilization and Marketing Office (DRMO) Storage Facility
21	Contractor Laydown Area
22	Photo-processing Facilities (Printing Plant, Multi-Craft Shop, U.S. Army Hospital, and Training Aids Building)
23	Old Fire Station
24	Fire Station (Building 69)
25	Fire Training Pit
26	Fire Station Warehouse (Building 228)
27	Nozzle Testing
28	Reilly Airfield
29	Helipads
30	Potential Disposal Site
31	Fill Area at Range 30
32	Fill Area N of Landfill No. 2
33	Fill Area W of Range 19
34	Trenches Near Range 20 Firing Line
35	Laundry
36	Ground Scars at Driving Course
37	Ground Scars at Littlebrandt Drive
38	Trenches W of Iron Mountain Road
39	Old Burn Pit



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

- Installation Boundary
- Building
- Railroad Feature
- Road
- Potential AFFF Use, Release, and/or Storage Area
- Pesticide Storage Facility
- Landfill/Disposal Area
- Hazardous Materials Storage Area, Vehicle Wash Rack, Motor Pool, and OWS
- Photo-Processing Facility
- Laundry

Notes:
CDTF = Chemical Defense Training Facility
FTA = Fire Training Area
OWS = Oil/Water Separator
WWTP = Waste Water Treatment Plant
FM-ARNGTC = Fort McClellan-Army National Guard Training Center

0 2,500 5,000 Feet

SCALE: 1 inch = 2,500 feet

AL STATE PLANE EAST (NAD83)

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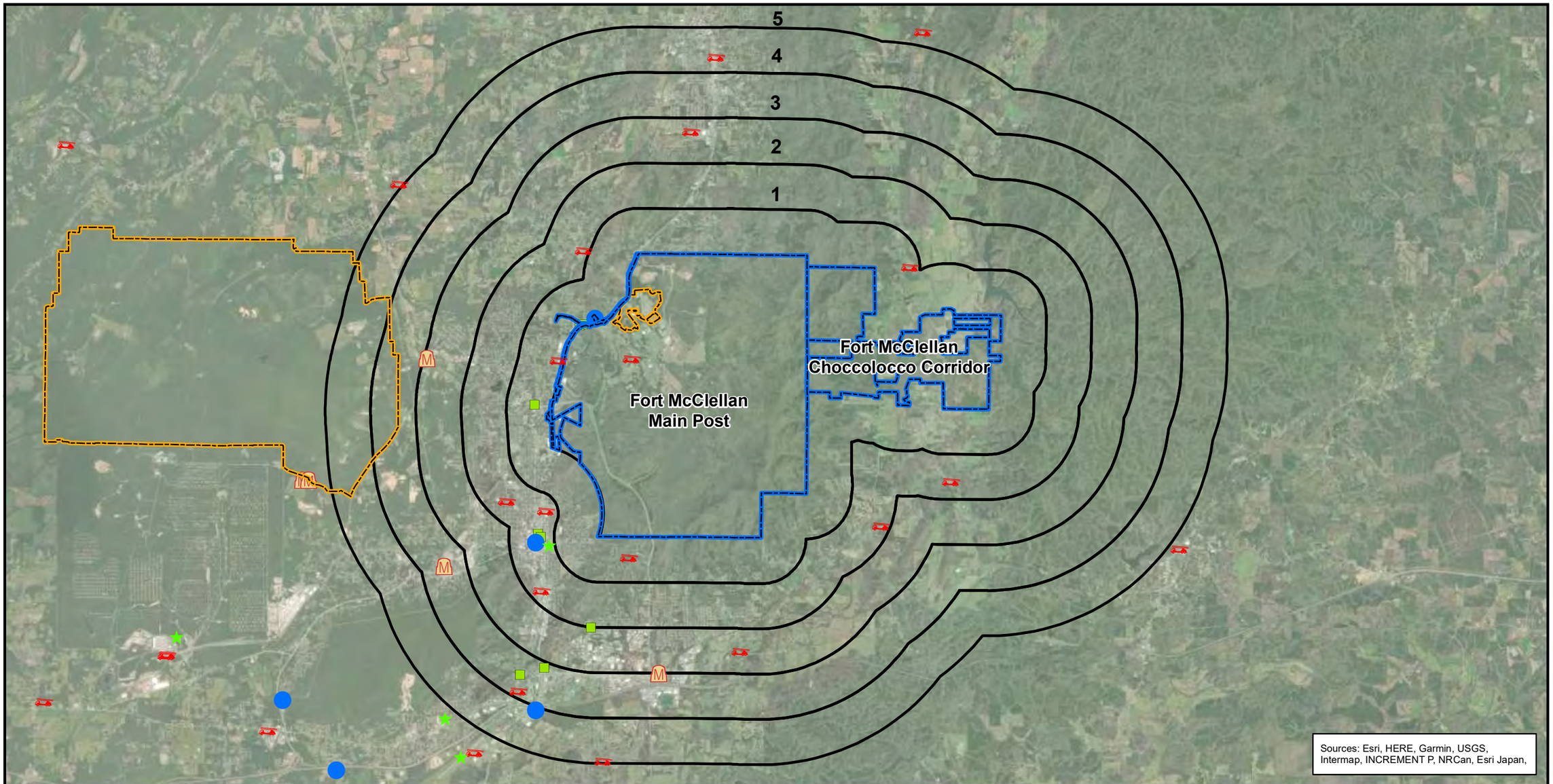
EVALUATED SITES
FORT MCCLELLAN
ANNISTON, ALABAMA

FIGURE 4-1 | DATE: 9/26/2023

F:\ARMY_BRAC_PFAS\21010\MXD\FIG 4-1 FtMcClellan_Eval_Sites.mxd



Legend

- Airport/Helipad (FAA)
- Fire Station
- Wastewater Treatment Plant
- Dry Cleaners
- Landfill
- BRAC Parcel Boundary
- Distance Rings (Miles)

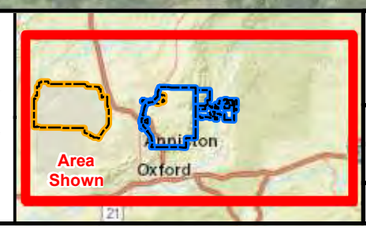
Notes:

ARNG = Army National Guard
FM-ARNGTC = Fort McClellan-Army National Guard Training Center
Airports/Helipad data obtained from the Federal Aviation Administration, Air Traffic Organization, Mission Support Services, Aeronautical Information Services.
Fire Station data obtained from ESRI ArcGIS online community
Wastewater Treatment Plant data obtained from the Environmental Protection Agency (EPA) Facility Registry Service (FRS) Wastewater Treatment Plants
Dry Cleaner and Landfill data obtained from Google Maps

0 12,000 24,000 Feet

SCALE: 1 inch = 12,000 feet

AL STATE PLANE EAST (NAD83)



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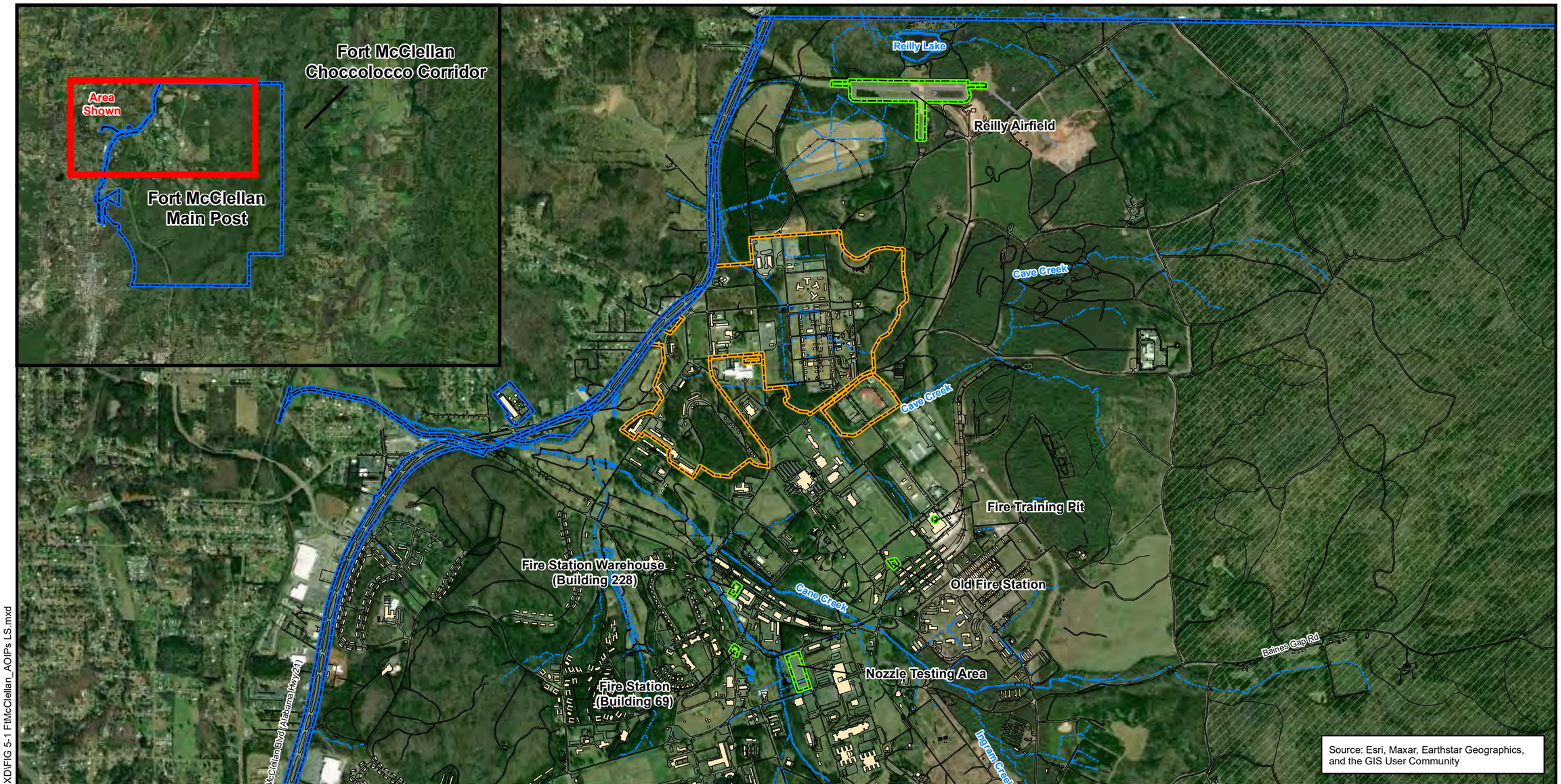
POTENTIAL PFAS SOURCES WITHIN A 5-MILE RADIUS
FORT MCCLELLAN
ANNISTON, ALABAMA

FIGURE 4-2 | DATE: 9/26/2023



Legend

- Installation Boundary
- Area of Potential Interest (AOPI)
- FM-ARNGTC Boundary
- Mountain Longleaf National Wildlife Refuge
- Building
- Fence
- Drainage
- Railroad Feature
- Roads

Notes:
ARNG = Army National Guard
FM-ARNGTC = Fort McClellan-Army National Guard Training Center

0 2,000 4,000 Feet
SCALE: 1 inch = 2,000 feet

AL STATE PLANE EAST (NAD83)

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AOPI MAP
FORT MCCLELLAN
ANNISTON, ALABAMA

FIGURE 5-1 | DATE: 9/26/2023

F:\ARMY_BRAC_PFAS\21010\MXD\FIG 5-1 FtMcClellan_AOIPs LS.mxd