FINAL
Preliminary Assessment Report
Lakeland Readiness Center
Lakeland, Florida

Perfluorooctanesulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) Impacted Sites
ARNG Installations, Nationwide

August 2020

Prepared for:

Army National Guard Bureau
111 S. George Mason Drive
Arlington, VA 22204

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Acronyms and Abbreviations

°F	degrees Fahrenheit
AECOM	AECOM Technical Services, Inc.
AFFF	aqueous film forming foam
AOI	area of interest
ARNG	Army National Guard
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CSM	conceptual site model
FLARNG	Florida Army National Guard
FTA	fire training area
NGVD 29	National Geodetic Vertical Datum of 1929
NOAA	National Oceanic and Atmospheric Administration
PA	Preliminary Assessment
PFAS	per- and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
RC	Readiness Center
SI	Site inspection
UCMR3	Unregulated Contaminant Monitoring Rule 3
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VSI	visual site inspection

Executive Summary

The United States (US) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG) G9, Cleanup Branch contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections (SIs) for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide*. The ARNG is assessing potential effects on human health related to processes at facilities that used per- and poly-fluoroalkyl substances (PFAS) (a suite of related chemicals), primarily in the form of aqueous film forming foam (AFFF) released during firefighting activities or training, although other PFAS sources are possible.

AECOM completed a PA for PFAS at Lakeland Readiness Center (RC) in Lakeland, Florida, to assess potential PFAS release areas and exposure pathways to receptors. Historical aerial imagery shows an armory as early as 1980. Original lease terms for Lakeland RC began in 1972, extending for a period of 50 years between Florida ARNG (FLARNG) and the city of Lakeland. An amendment was made to the lease terms in 1986 extending the lease for an additional 20 years. Based on the USEPA Unregulated Contaminant Monitoring Rule 3 (UCMR3) data, it was indicated that PFAS were detected in a public water system above the USEPA Health Advisory level within 20 miles of the facility (**Appendix A**).

The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 5 February 2019
- Interviewed current Lakeland RC personnel during the site visit including FLARNG operations staff and Lakeland Fire Department Station No. 7 staff
- Completed visual site inspections (VSIs) at known or suspected PFAS release locations and documented with photographs

One area, Lakeland RC Armory, has been identified as No Suspected Release (**Figure ES-1**). Based on the documented absence (2000-present) of the use or release of PFAS-containing materials at Lakeland RC, no Areas of Interest (AOIs) were identified during the PA. Evidence does not indicate that current or former ARNG activities contributed PFAS contamination to soil, groundwater, surface water, or sediment at the facility or adjacent areas. Lakeland RC will not move forward in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.

CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Lakeland Readiness Center, FL			
REVISED	7/5/2019	GIS BY	MS	7/5/2019
SCALE	1:19,200	CHK BY	MG	7/5/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	7/5/2019

Summary of Findings

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure ES-1

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1. Introduction

1.1 Authority and Purpose

The United States (US) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG) G9, Cleanup Branch contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections (SIs) for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide* under Contract Number W912DR-12-D-0014, Task Order W912DR17F0192, issued 11 August 2017. The ARNG is assessing potential effects on human health related to processes at their facilities that used per- and poly-fluoroalkyl substances (PFAS) (a suite of related chemicals), primarily releases of aqueous film forming foam (AFFF) although other sources of PFAS are possible. In addition, the ARNG is assessing businesses or operations adjacent to the ARNG facility (not under the control of ARNG) that could potentially be responsible for a PFAS release.

PFAS are classified as emerging environmental contaminants that are garnering increasing regulatory interest due to their potential risks to human health and the environment. PFAS formulations contain highly diverse mixtures of compounds. Thus, the fate of these PFAS compounds in the environment will vary. The regulatory framework at both federal and state levels continues to evolve. The US Environmental Protection Agency (USEPA) issued Drinking Water Health Advisories for PFOA and PFOS in May 2016, but there are currently no promulgated national standards regulating PFAS in drinking water..

This report presents findings of a PA for PFAS at Lakeland Readiness Center (RC) in Lakeland, Florida, in accordance with the CERCLA, as amended, the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations [CFR] Part 300), and USACE requirements and guidance.

This PA documents the locations where PFAS may have been released into the environment at Lakeland RC (also referred to as the “facility”). The term PFAS will be used throughout this report to encompass all PFAS chemicals being evaluated, including PFOS and PFOA, which are key components of AFFF.

1.2 Preliminary Assessment Methods

The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 5 February 2019
- Interviewed current Lakeland RC personnel during the site visit including Florida ARNG (FLARNG) operations staff and Lakeland Fire Department Station No. 7 staff
- Completed visual site inspections (VSIs) at known or suspected PFAS release locations and documented with photographs

1.3 Report Organization

This report has been prepared in accordance with the USEPA *Guidance for Performing Preliminary Assessments under CERCLA* (USEPA 1991). The report sections and descriptions of each are:

- **Section 1** – **Introduction:** identifies the project purpose and authority and describes the facility location, environmental setting, and methods used to complete the PA.
- **Section 2** – **Fire Training Areas:** describes the fire training areas (FTAs) at the facility identified during the site visit.
- **Section 3** – **Non-Fire Training Areas:** describes other locations of potential PFAS releases at the facility identified during the site visit.
- **Section 4** – **Emergency Response Areas:** describes areas of potential PFAS release at the facility, specifically in response to emergency situations.
- **Section 5** – **Adjacent Sources:** describes sources of potential PFAS release adjacent to the facility that are not under the control of ARNG.
- **Section 6** – **Conceptual Site Model:** describes the pathways of PFAS transport and receptors at each AOI (Area of Interest).
- **Section 7** – **Conclusions:** summarizes the data findings and presents the conclusions of the PA.
- **Section 8** – **References:** provides the references used to develop this document.
- **Appendix A** – Data Resources
- **Appendix B** – Preliminary Assessment Documentation
- **Appendix C** – Photographic Log

1.4 Facility Location and Description

Lakeland RC is located at 4140 Drane Field Road, Lakeland, Florida, in Polk County, western-central Florida (**Figure 1-1**). The RC is adjacent to Lakeland Linder International airport and surrounded by urban and suburban developments.

The facility contains an armory with dining and office space and has an associated vehicle storage and light maintenance area; the facility is entirely fenced around the perimeter. The Lakeland RC has been leased from the city of Lakeland since 1972 for a lease term total of 70 years and occupies 10 acres. See **Appendix A** for lease documents.

1.5 Facility Environmental Setting

Polk County is divided into 10 physiographic provinces. In general, these physiographic provinces are of four basic types: uplands, ridges, valleys, and plains.

Lakeland RC is situated in the Polk Upland and Lakeland Ridge provinces. These uplands are characterized by moderate relief, shallow lakes, and moderate water-table depths. The Polk Upland is a broad, sandy area that ranges in altitude from about 65 feet above National Geodetic Vertical Datum of 1929 (NGVD 29) along parts of the Peace River to about 150 feet (ft) above NGVD 29. Three north-northwest to south-southeast trending ridges rise from the surface of the Polk Upland. These ridges have the highest land surface elevations in the county and are characterized by closed basin lakes and sinkholes, deep water tables, and subsurface drainage. Surface drainage features generally are absent. The easternmost ridge within the Polk Upland consists mostly of small ridge remnants, reaching altitudes of about 200 ft above NGVD 29. The westernmost ridge, the Lakeland Ridge, begins about 10 miles north of Lakeland and extends to the south of Bartow, reaching altitudes of about 270 ft above NGVD 29 (Spechler 2007).

1.5.1 Geology

Polk County is underlain by a thick sequence of sedimentary rocks that has a minimum thickness of about 5,300 ft. These sediments are predominantly of shallow-water marine origin and are composed of limestone, dolostone, evaporite, clay, and sand that range in age from Late Cretaceous to Holocene. The major stratigraphic units of interest in Polk County, from oldest to youngest, are: the Cedar Keys Formation of late Paleocene age, the Oldsmar Formation of early Eocene age, the Avon Park Formation of middle Eocene age, the Ocala Limestone of late Eocene age, the Suwannee Limestone of early Oligocene age, the Hawthorn Group of late Oligocene to Miocene age, and the undifferentiated surficial deposits of Pliocene to Holocene ages. Most geologic units cropping out within Polk County are composed of unconsolidated siliciclastic sediments (Spechler 2007). The discussion below focuses on the primary water bearing units: the Hawthorn Group, Peace River Formation, and Bone Valley Member (**Figure 1-2**).

Unconformably overlying the Suwannee Limestone is the Hawthorn Group of late Oligocene to Miocene age. Although originally believed to be Miocene in age, more recently, the Hawthorn Group has been interpreted to include late Oligocene-aged sediments as well. The Arcadia Formation may contain up to two named members, which are, in ascending order, the Nocatee and Tampa Members. The Arcadia Formation is composed of limestone and dolostone containing varying amounts of quartz sand, clay, and phosphate grains. Thin beds of quartz sand, and clay are scattered throughout the section and generally are calcareous or dolomitic and phosphatic. The top of the Arcadia Formation ranges from about 100 ft above to more than 100 ft below NGVD 29 (Spechler 2007).

1.5.2 Hydrogeology

Polk County is underlain by the following principal hydrogeologic units: the surficial aquifer system, the intermediate confining unit, and the Floridan aquifer system. The discussion below focuses on the uppermost aquifer, as it is the most likely to be affected by PFAS releases.

The uppermost water-bearing unit is the surficial aquifer system, which is unconfined and composed primarily of clastic deposits. The surficial aquifer system is recharged primarily by the infiltration of rainfall; however, much of the rain that falls in the study area drains into streams or lakes or is lost to evapotranspiration. Most of the water in the surficial aquifer system flows vertically to recharge the Upper Floridan aquifer, and there is also a lateral component of flow. The lateral direction in which the water flows in the surficial aquifer generally is governed by the topography. Water in the surficial aquifer system usually flows laterally from areas of higher altitude and discharges into lakes, streams, and wetlands in areas of lower altitude.

The depth to water table at Lakeland RC is approximately 0.5 to 1.5 ft (United States Department of Agriculture [USDA] 2019). In Polk County and locally at Lakeland RC, the groundwater flow direction is predominantly to the southeast (**Figure 1-2**). Lakeland RC is supplied drinking water from the local public utilities. Two wells within 1 mile of the facility, are downgradient of Lakeland RC; one well is used for irrigation, and one well is used by Florida Department of Environmental Protection for monitoring. Based on the USEPA UCMR3 data, it was indicated that PFAS were detected in a public water system above the USEPA Health Advisory level within 20 miles of the facility (**Appendix A**).

1.5.3 Hydrology

Lakeland RC is within the English Creek Watershed, which is a subwatershed of the Alafia Watershed (**Figure 1-3**).

The Alafia River Watershed, which is comprised of the Alafia River, The North Prong, and the South Prong, extends over portions of Polk counties and encompasses approximately 418 square miles. The Alafia River discharges into Hillsborough Bay, in the northeastern region of Tampa Bay. The North Prong originates in a freshwater swamp, near the city of Mulberry, in Polk County. The headwaters of the South Prong originate in Hookers Prairie, in western Polk County. The South Prong flows southwesterly before turning northward and joining the North Prong near Alderman's Ford Park near the county border. Smaller creeks discharge into the river as it flows westward.

The Alafia River Watershed is a naturally fertile area that contains extensive phosphate-bearing geological deposits and experiences abundant seasonal rainfall and a humid subtropical climate. Phosphate is an important nutrient for terrestrial and aquatic organisms, and many lakes and streams that drain the Bone Valley region are "eutrophic" as a result of the naturally elevated phosphate inputs they receive. These naturally eutrophic waterbodies have the potential to become hypereutrophic, exhibiting undesirably high levels of biological productivity if human activities cause nutrient loads to increase to excessive levels. Lakes and impoundments in the Alafia River Watershed appear susceptible to similar impacts if excessive anthropogenic nutrient loads can occur (Parsons Engineering Science, Inc. 2001).

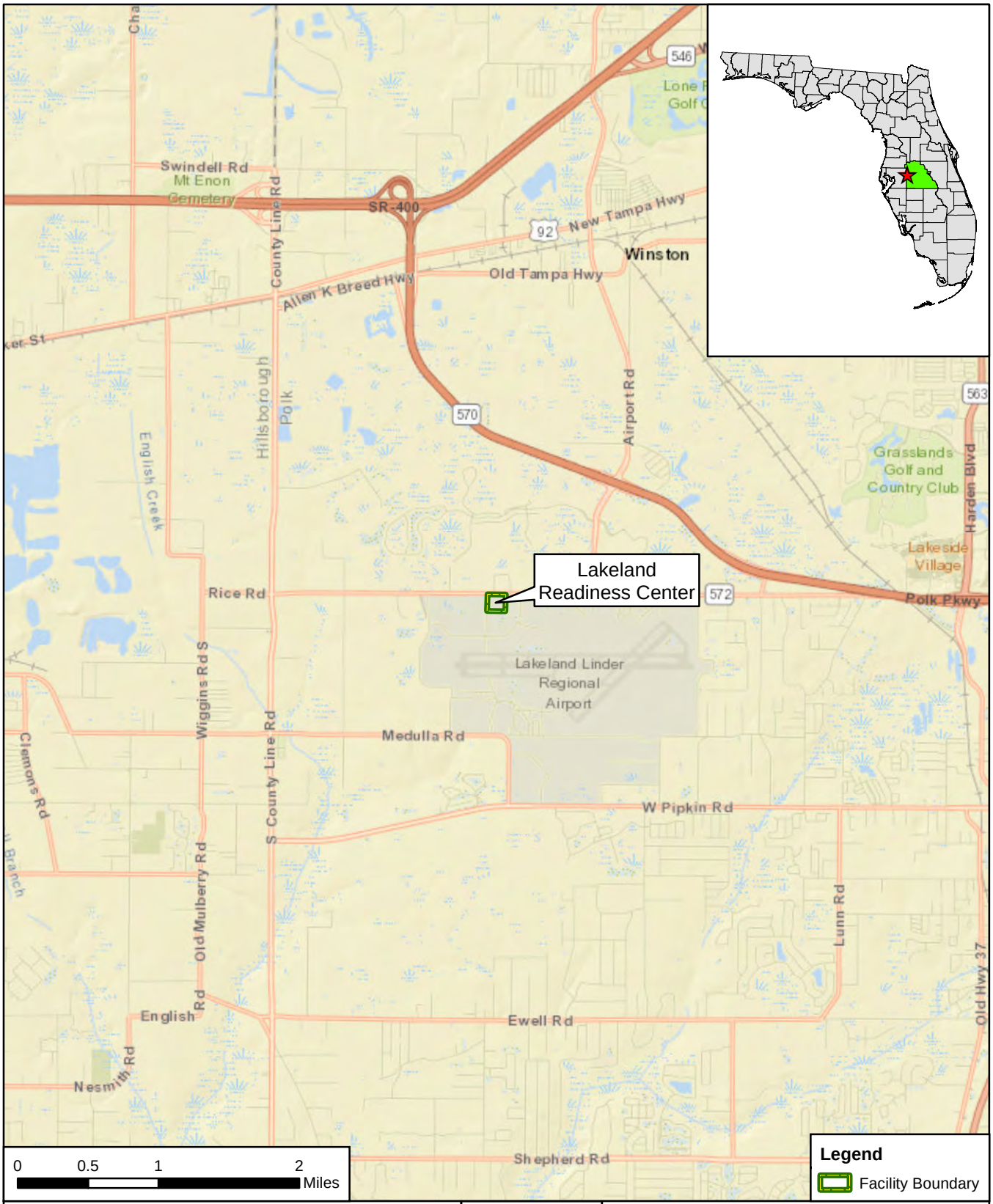
1.5.4 Climate

The climate at Lakeland RC is classified as humid subtropical and is characterized by hot, wet summers and mild, relatively dry winters (Spechler 2007). In January, the average temperature is 71.8 degrees Fahrenheit (°F). June, July, and August have the highest average temperatures, at 91°F. The greatest mean monthly precipitation occurs in July and August. The average annual precipitation is 54.79 inches (National Oceanic and Atmospheric Administration [NOAA] 2019).

Rainfall is unevenly distributed throughout the year. About 55 percent of the annual rainfall total is derived from thunderstorms that occur frequently during the months of June through September. During the summer months and early fall, occasional tropical storms and hurricanes also can bring heavy precipitation into the area. During the winter, rainfall is associated with frontal system activity, which is usually of a longer duration and more uniform than summer convectional precipitation. April and November typically are the driest months (Spechler 2007).

1.5.5 Current and Future Land Use

Lakeland RC currently contains an armory with dining, office space, and outdoor vehicle storage area for the ARNG. The armory complex includes parking areas, and access to the facility is controlled by perimeter fencing. Land use is not expected to change. The surrounding city of Lakeland is highly urbanized and consists of agricultural, wetland and lower density urban land use types. Wetlands are located adjacent to the north, west, and south of the facility; however, no wetlands are located on the facility.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Lakeland Readiness Center, FL			
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SCALE	1:63,360	CHK BY	MG	4/1/2019
Base Map: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI,		PM	RG	4/1/2019

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Facility Location

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 1-1

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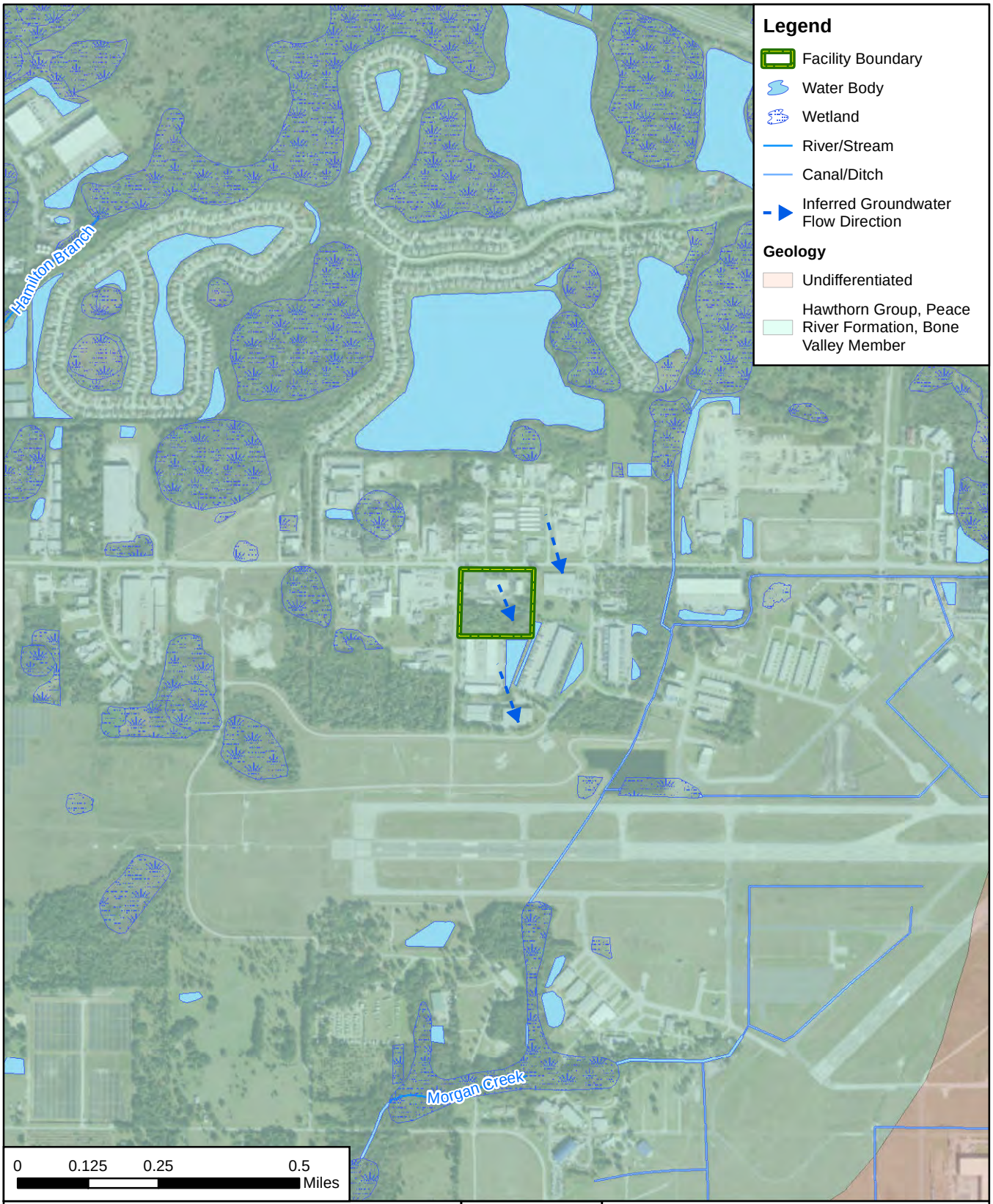

CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Lakeland Readiness Center, FL			
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SCALE	1:15,840	CHK BY	MG	4/4/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	4/4/2019

Groundwater Features

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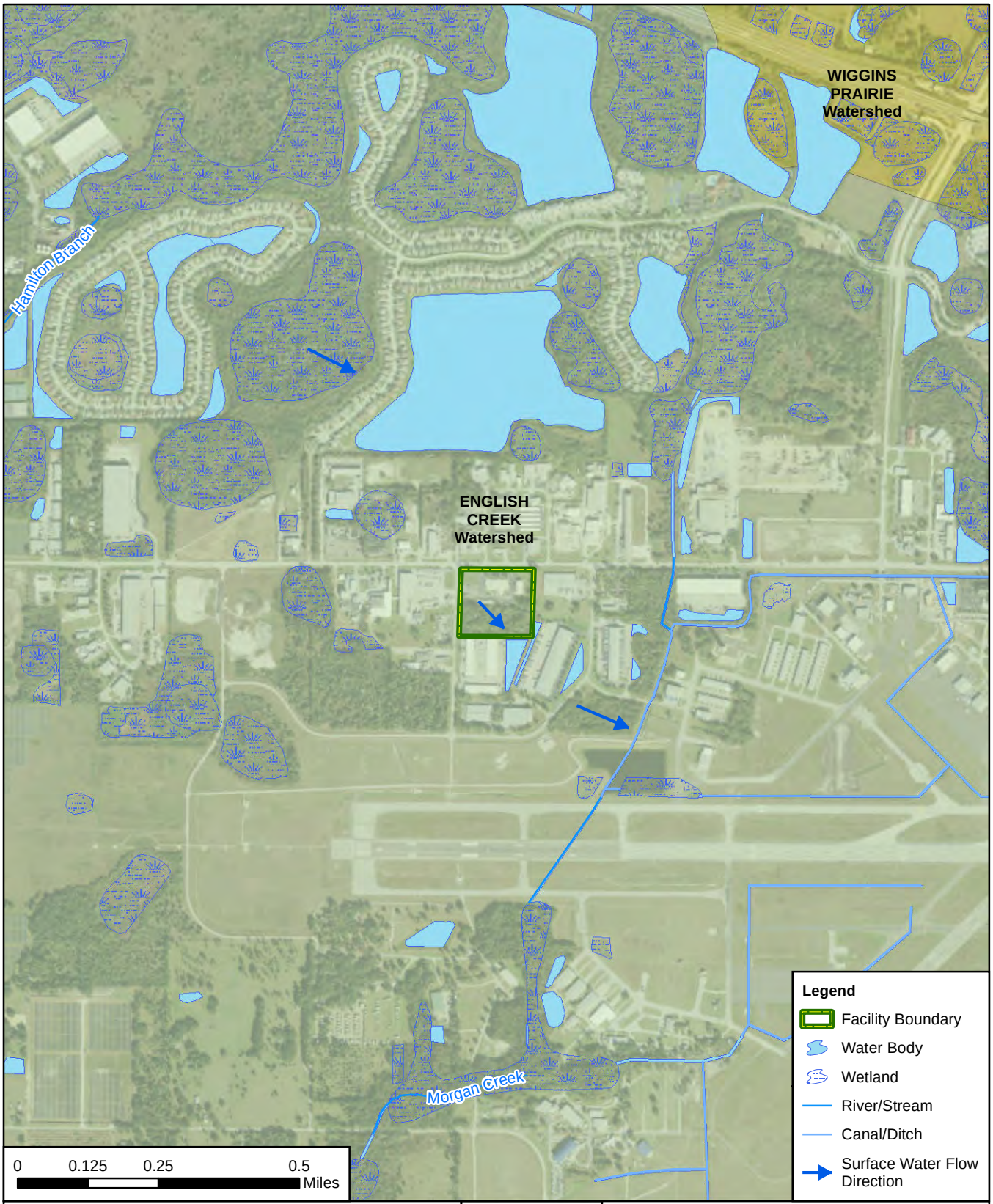
Figure 1-2

Q:\Projects\ENV\GEARS\GEO\ARNG PFAS\900-CAD-GIS\920-GIS or Graphics\MXD\FL\Lakeland_RC\Lakeland_RC_PA_Figures\Fig_1-2_Lakeland_RC_Groundwater.mxd



CLIENT	ARNG			
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SCALE	1:15,840	CHK BY	MG	4/1/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	4/1/2019

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Surface Water Features

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Figure 1-3

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2. Fire Training Areas

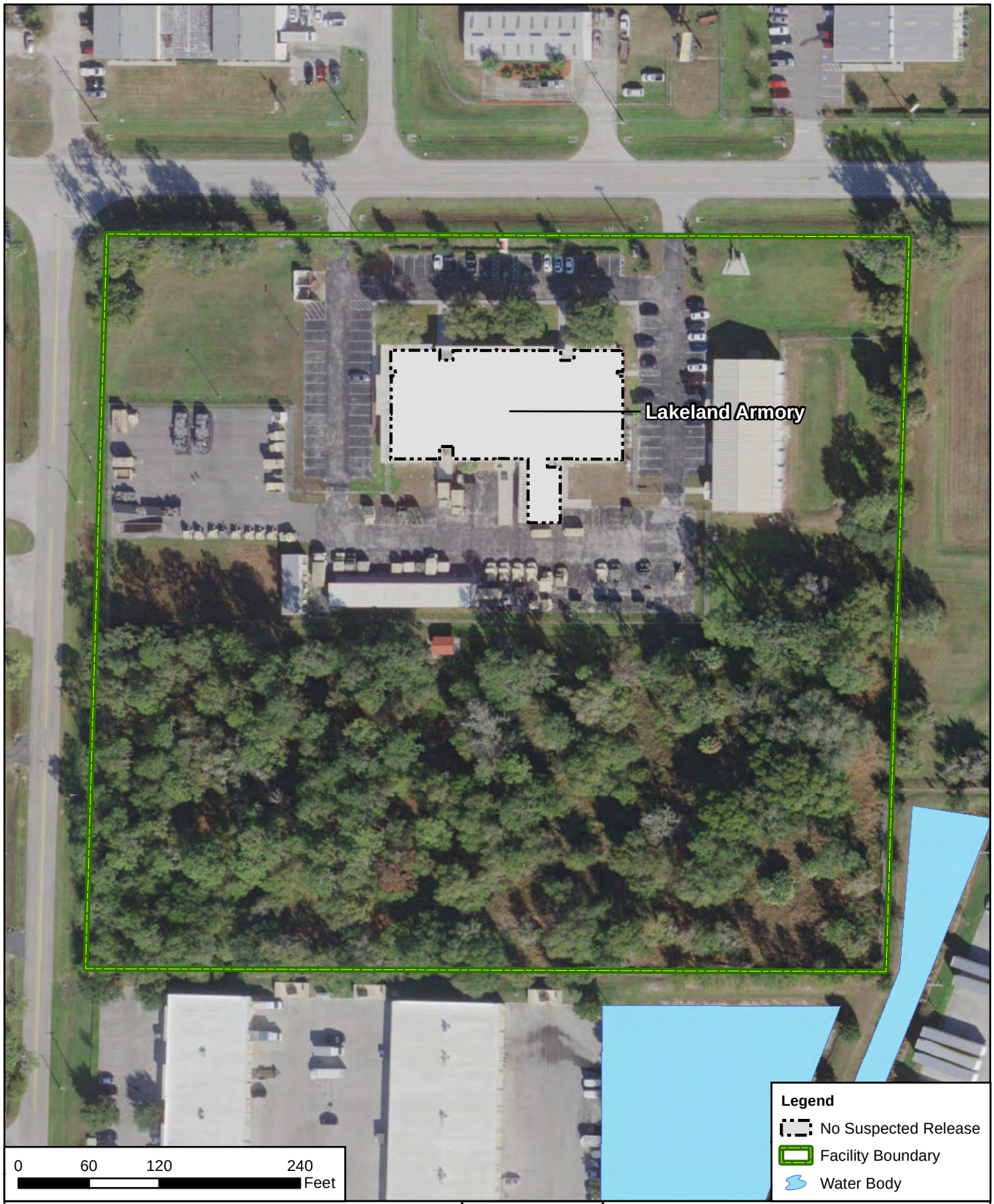
Through Environmental Data Resource Reports and interviews with Lakeland RC personnel who had knowledge dating back to 2000, no FTAs were identified within the Lakeland RC facility during the PA. Aerial photos covering 1980 to present show no sign of an FTA, and development of the property has remained relatively unchanged from 1980 to present. Interview records appear in **Appendix B**.

3. Non-Fire Training Areas

One non-FTA where PFAS were potentially released was also identified during the PA. A description of the non-FTA is presented below, and the non-FTA is shown on **Figure 3-1**. Interview records appear in **Appendix B**, and photographs appear in **Appendix C**.

3.1 Armory

The Armory is located in the center of the facility's property (**Figure 3-1**). The geographic coordinates are 27°59'46.15"N; 82°1'46.85"W. The armory is used for drills and is not outfitted with a fire suppression system. During the site visit, ABC Dry chemical extinguishers were found throughout the facility. The kitchen portion of the armory is outfitted with an R-102 wet chemical fire suppression system. At the time of the visit, and to interviewee knowledge dating back to 2000, the fire suppression system contained a potassium carbonate solution. A potential PFAS release to the environment at the armory is not suspected.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Lakeland Readiness Center, FL			
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SCALE	1:1,440	CHK BY	MG	4/1/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	4/1/2019

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Non-Fire Training Area

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Figure 3-1

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4. Emergency Response Areas

Based on interviews with FLARNG personnel whose knowledge covers 2000 to present and review of Environmental Data Resource Reports, no emergency response areas were identified within the Lakeland RC facility during the PA. All emergency services for the current Lakeland RC are provided by the Lakeland Fire Department. Interview records appear in **Appendix B**.

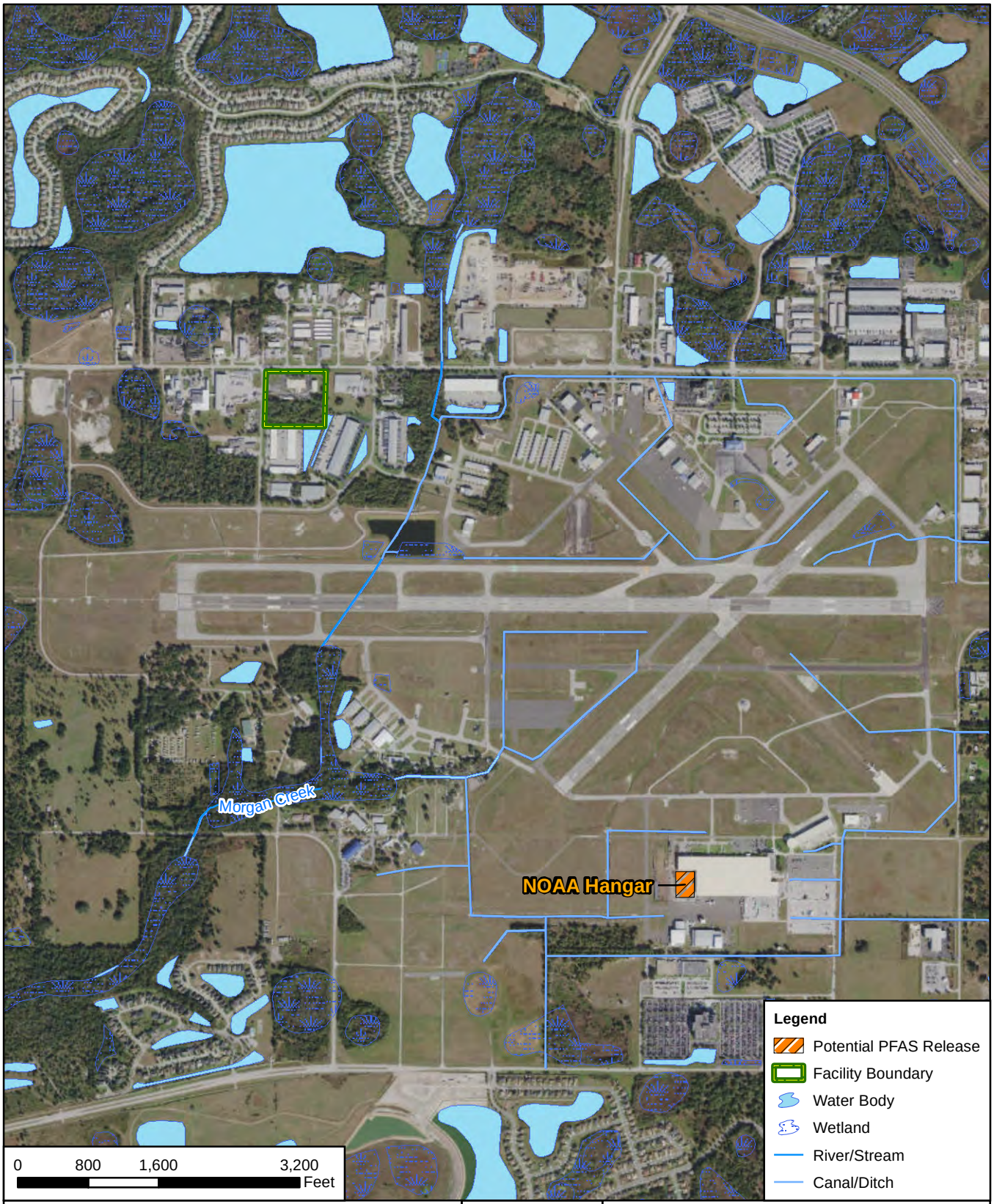
5. Adjacent Sources

One potential off-facility source of PFAS contamination was identified during the PA. The off-facility source is shown on **Figure 5-1**.

5.1 Lakeland Linder International Airport

The Lakeland Linder International Airport is located 0.4 miles to the south of Lakeland RC. The geographic coordinates are 27°59'35.87"N; 82° 0'57.80"W. The Lakeland Fire Department Lieutenant of Station No. 7 stated annual training is conducted at the airport. Dish washing foams are used for the simulations and training purposes. A truck containing AFFF is stored at Lakeland Fire Department Station No. 7 for responses to Lakeland Linder International Airport emergencies. It is unknown whether the AFFF is changed out at the station and whether the truck is cleaned at the fire station. No AFFF has been used on emergency responses at the airport to the interviewee knowledge. The Lieutenant also stated that a NOAA hangar was constructed approximately 2 years ago. The hangar contains floor drains and is equipped with an AFFF fire suppression system. The hangar's AFFF system was tested at the time of its construction. It is unknown how the AFFF was disposed. Because it is outside the boundary of Lakeland RC, the Lakeland Linder International Airport potential PFAS release area is considered an adjacent potential source of PFAS for Lakeland RC.

Based on the inferred groundwater flow direction, the airport is downgradient of the Lakeland RC, and any PFAS release is unlikely to affect it.



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SCALE	1:19,200	CHK BY	MG	7/5/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	7/5/2019

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Adjacent Source

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Figure 5-1

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6. Preliminary Conceptual Site Model

Based on the PA findings, no release areas were identified, therefore, there are no AOIs at Lakeland RC. A conceptual site model (CSM) identifies three components necessary for potentially complete exposure pathways related to a site: (1) source, (2) pathway, and (3) receptor. If any of these elements are missing, the pathway is considered incomplete. Based on the findings of this PA, there are no PFAS sources that originate at Lakeland RC or from activities associated with Lakeland RC; therefore, a CSM was not developed.

7. Conclusions

This PA report presents a summary of available information gathered on the use and storage of AFFF and other PFAS-related activities at Lakeland RC. The PA findings are based on the information presented in **Appendix A** and **Appendix B**.

7.1 Findings

No PFAS releases relating to current or historical activities at Lakeland RC were identified during this PA. The following areas, which were discussed in **Section 3** (**Figure 7-1**) and are presented in **Table 7-1** below, were determined to have no suspected release:

Table 7-1: No Suspected Release Areas

No Suspected Release Area	Used by	Rationale for No Suspected Release Determination
Armory	FLARNG	Interviewees indicated the fire extinguishers located around the facility have been ABC dry chemical. The fire suppression system installed in the facility kitchen contains potassium carbonate. EDR aerial photos covering 1980 to present show no sign of an FTA.

7.2 Uncertainties

A number of information sources were investigated during this PA to determine the potential for PFAS-containing materials to have been present, used, or released at the facility. Historically, documentation of PFAS use was not required because PFAS were considered benign. Therefore, records on the disposition of PFAS or the use of PFAS in training, firefighting, or other non-traditional activities, were not typically kept by the facility or available during the PA.

The conclusions of this PA are predominantly based on the information provided during interviews with personnel who had direct knowledge of the facility. Sometimes, the provided information was vague. Gathered information has a degree of uncertainty due to the absence of written documentation, the limited number of personnel with direct knowledge due to staffing changes, the time passed since PFAS were first used (1969 to present), and a reliance on personal recollection. There is also a possibility the PA missed a source of PFAS, as the science of how PFAS may enter the environment continually evolves.

In order to minimize the level of uncertainty, readily available data regarding the use and storage of PFAS were reviewed, current personnel were interviewed, multiple persons were interviewed for the same potential source area, and potential source areas were visually inspected.

Table 7-2 summarizes the uncertainties associated with the PA:

Table 7-2: Uncertainties within the PA

Area Evaluated	Source of Uncertainty
Lakeland RC	Limited information was available on the use and/or storage of AFFF at the facility prior to FLARNG occupancy in 1972; however,

	the property was undeveloped per a 1971 aerial photograph. While interviewees did not have specific knowledge prior to 2000, they confirmed that no AFFF-containing materials were likely used based on the historical purpose of the facility.

7.3 Potential Future Actions

Based on the documented absence (2000-present) of the use or release of PFAS-containing materials at Lakeland RC, no AOIs were identified during the PA. Evidence does not indicate that current or former ARNG activities contributed PFAS contamination to soil, groundwater, surface water, or sediment at the facility or adjacent areas. Lakeland RC will not move forward in the CERCLA process.

CLIENT	ARNG			
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SCALE	1:19,200	CHK BY	MG	7/5/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	7/5/2019

N

Summary of Findings

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 7-1

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8. References

National Oceanic and Atmospheric Administration (NOAA). 2019. *National Weather Service Tampa Bay Original Climate Page*. Retrieved May 30, 2019, from NOAA: https://www.weather.gov/tbw/tampabayoriginalclimatepage.

Parsons Engineering Science, Inc. 2001. *Alafia River Watershed Management Plan (Volume II)*: Hillsborough County Engineering Division Department of Public Works Stormwater Management Section.

Spechler, Rick and Kroening, S.E., 2007, *Hydrology of Polk County, Florida*: U.S. Geological Survey Scientific Investigations Report 2006–5320.

United States Department of Agriculture (USDA). 2019. Custom *Soil Resource Report for Polk County, Florida*: Natural Resources Conservation Service.

United States Environmental Protection Agency (USEPA). 1991. *Guidance for Performing Preliminary Assessments under CERCLA.* September.

Appendix A
Data Resources

Data resources will be provided separately on CD. Data resources for Lakeland Readiness Center include:

Lakeland Leases, Licenses, and Permits

- 1972 Armory Board, State of Florida Lease No. 1698A located at Lakeland Armory, Florida
- 1986 Armory Board, State of Florida Lease No. 1698A located at Lakeland Armory, Florida

Environmental Data Resources, Inc™. Geocheck Report

- 2019 Environmental Data Resources, Inc™. Geocheck Report for Lakeland Readiness Center, Florida

Miscellaneous Data Resources

- 2001 Alafia River Watershed Management Plan (Volume II): Hillsborough County Engineering Division Department of Public Works Stormwater Management Section
- 2007 Hydrology of Polk County, Florida: U.S. Geological Survey Scientific Investigations Report
- 2019 Soil Resource Report for Polk County, Florida: Natural Resources Conservation Service
- Lakeland USEPA Unregulated Contaminant Monitoring Rule 3 Data

Appendix B
Preliminary Assessment Documentation

Appendix B.1
Interview Records

PA Interview Questionnaire - Other

Facility: LAKE LAND
Interviewer: [redacted]
Date/Time: 02/05/19 9:15

Interviewee: [redacted] **Title:** ASST. OPERATIONS, ARNGLY MANAGER **Phone Number:** [redacted] **Email:** [redacted]	Can your name/role be used in the PA Report? (Y) or N Can you recommend anyone we can interview? Y or (N) _____

Roles or activities with the Facility/Years working at the Facility:

3 YEARS CURRENTLY. ON AND OFF SINCE 2000's.

PFAS Use: Identify accidental/intentional release locations, time frame of release, frequency of releases, storage container size (maintenance, fire training, firefighting, buildings with suppression systems (as builts), fueling stations, crash sites, pest management, recreational, dining facilities, metals plating, or waterproofing). How are materials ordered/purchased/disposed/shared with others?

	Known Uses
• 1974 CONSTRUCTION OF BUILDING; 2012 RENOVATION	Use
• FIELD MAINT SHOP (FMS): MOST VEHICLES TAKEN OFF SITE FOR MAINT, LIGHT MAINT, NO FUEL POINTS.	Procurement
	Disposition
• KITCHEN / FOOD PREPARATION AREAS	Storage (Mixed)
• POSSIBLE CRASHES AT AIRPORT, FIRE STATION NO 7 ON AIRPORT PROVIDE FIRE PROTECTION, AIRPORT MAY HAVE FIRE TRAINING AREA.	Storage (Solution)
	Inventory, Off-Spec
• NOT AWARE OF AFFF FIRE TRUCK STORED, NO AASF UNITS AT LOCATION.	Containment
	SOP on Filling
• NO ACTUAL DISCHARGE OF FIRE EXT. FOR TRAINING.	Leaking Vehicles
•	Nozzle and Suppression System Testing
	Dining Facilities
	Vehicle Washing
	Ramp Washing
	Fuel Spill Washing and Fueling Stations
	Chrome Plating or Waterproofing

PA Interview Questionnaire - Other

Facility: LAKELAND
Interviewer: [redacted]
Date/Time: 02/05/19 10:00

Interviewee: FIRE STATION NO. 7 CREW **Title:** LIEUTENANT **Phone Number:** **Email:**	Can your name/role be used in the PA Report? Y or (N) Can you recommend anyone we can interview? Y or (N)

Roles or activities with the Facility/Years working at the Facility:

LIEUTENANT OF FIRE STATION NO. 7

PFAS Use: Identify accidental/intentional release locations, time frame of release, frequency of releases, storage container size (maintenance, fire training, firefighting, buildings with suppression systems (as builts), fueling stations, crash sites, pest management, recreational, dining facilities, metals plating, or waterproofing). How are materials ordered/purchased/disposed/shared with others?

	Known Uses
• HAVE 1 TRUCK WITH AFFF	Use
• AFFF STORED ON SITE	Procurement
• PERFORM TRAINING SIMULATIONS WITH SOAP. NOT AFFF.	Disposition
• ANNUAL TESTING OF AFFF SYSTEMS SPRAYED ON PAVEMENT.	Storage (Mixed)
• ABOUT 2 YEARS AGO NOAA HANGAR EQUIPPED WITH AFFF SUPPRESSION WAS TESTED. HANGAR FILLED WITH AFFF. UNKNOWN HOW FOAM WAS DISPOSED OF. HANGAR CONTAINS FLOOR DRAINS	Storage (Solution) Inventory, Off-Spec Containment
	SOP on Filling
	Leaking Vehicles
	Nozzle and Suppression System Testing
	Dining Facilities
	Vehicle Washing
	Ramp Washing
	Fuel Spill Washing and Fueling Stations
	Chrome Plating or Waterproofing

Appendix B.2
Visual Site Inspection Checklists

Facility ST
Visual Survey Inspection Log

Recorded by: [redacted]
ARNG Contact: [redacted]
Date: 02/05/19

Site Name / Area Name / Unique ID: LAKELAND READINESS CENTER
Site / Area Acreage:
Historic Site Use (Brief Description): VEHICLE MAINT. AND ARMORY

Current Site Use (Brief Description): LT VEHICLE MAINT AND ARMORY

1. Was AFFF used at the site/area? Y / (N)
   3a. If yes, document how AFFF was used and usage time (e.g., *fire fighting training 2001 to 2014)*
2. Has usage been documented? Y / N
   2a. If yes, keep a record (place electronic files on a disk)
   N/A

Significant Topographical Features:

1. Has the infrastructure changed at the site/area? Y / (N)
   1a. If so, please describe change: (*ex. Structures structures longer exist.)*
2. Is the site/area vegetated? (Y) / N
   2a. If not vegetated, briefly describe the site/area composition:
3. Does the site or area exhibit evidence of erosion? Y / (N)
   3a. If yes, describe the location and extent of the erosion :
4. Does the site/area exhibit any areas of ponding or standing water? Y / (N)
   4a. If yes, describe the location and extent of the ponding :

Migration Potential:

1. Does site/area drainage flow off installation? Y / (N)
   1a. If so, please note observation and location:
2. Is there standing water or drainage issues within the site/area? Y / (N)
   2a. If so, please note observation and location:
3. Is there channelized flow within the site/area? Y / N
   3a. If so, please note observation and location:
4. Have man-made drainage channels been constructed within the site/area? Y / N
   4a. If so, please note the location of the channel:

Additional Notes

Appendix B.3
Conceptual Site Model Information

Preliminary Assessment – Conceptual Site Model Information

Site Name: LAKELAND READINESS CENTER

Why has this location been identified as a site?

AFFF STORED OR USED. VEHICLE MAINT.

Are there any other activities nearby that could also impact this location?

AIRPORT

Training Events

Have any training events with AFFF occurred at this site? NO

If so, how often? N/A

How much material was used? Is it documented? N/A

Identify Potential Pathways: Do we have enough information to fully understand over land surface water flow, groundwater flow, and geological formations on and around the facility? Any direct pathways to larger water bodies?

Surface Water:

Surface water flow direction? SOUTH WEST

Average rainfall? 54" ANNUAL

Any flooding during rainy season? NO

Direct or indirect pathway to ditches? YES

Direct or indirect pathway to larger bodies of water? NO

Does surface water pond any place on site? NO

Any impoundment areas or retention ponds? YES

Any NPDES location points near the site?

How does surface water drain on and around the flight line? N/A

Preliminary Assessment – Conceptual Site Model Information

Groundwater:

Groundwater flow direction? SOUTH WEST

Depth to groundwater? UNKNOWN

Uses (agricultural, drinking water, irrigation)? NO

Any groundwater treatment systems? NO

Any groundwater monitoring well locations near the site? NO

Is groundwater used for drinking water? NO

Are there drinking water supply wells on installation? NO

Do they serve off-post populations? N/A

Are there off-post drinking water wells downgradient YES, 2 PRIVATE DRINKING WATER WELLS

Waste Water Treatment Plant:

Has the installation ever had a WWTP, past or present? N/A

If so, do we understand the process and which water is/was treated at the plant? N/A

Do we understand the fate of sludge waste? N/A

Is surface water from potential contaminated sites treated? N/A

Equipment Rinse Water

1. Is firefighting equipment washed? Where does the rinse water go?

N/A

2. Are nozzles tested? How often are nozzles tested? Where are nozzles tested? Are nozzles cleaned after use? Where does the rinse water flow after cleaning nozzles?

N/A

3. Other?

Preliminary Assessment – Conceptual Site Model Information

Identify Potential Receptors:

Site Worker YES

Construction Worker YES

Recreational User NO

Residential YES

Child NO

Ecological YES

Note what is located near by the site (e.g. daycare, schools, hospitals, churches, agricultural, livestock)?

NO

Documentation

Ask for Engineering drawings (if applicable).

Has there been a reconstruction or changes to the drainage system? When did that occur?

Appendix C
Photographic Log

Appendix C - Photographic Log

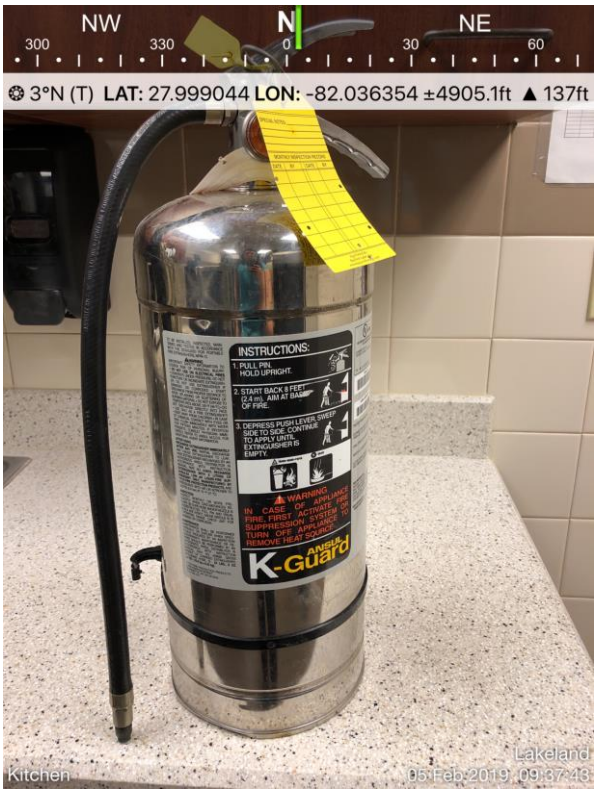
Army National Guard, Preliminary Assessment for PFAS	Lakeland Readiness Center	Lakeland, Florida

Photograph No. 1

Date 2/5/2019
Time 9:37

Description:
Facility Kitchen fire supression, Class K extinguisher.

Orientation:
North



Photograph No. 2

Date 2/5/2019
Time 9:39

Description:
Facility Kitchen fire suppression system, R-102 wet chemical.

Orientation:
East