# FINAL
# Preliminary Assessment Report
# Fort Pierce Readiness Center
# Fort Pierce, 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 |
| EDR | Environmental Data Resource |
| FLARNG | Florida Army National Guard |
| FTA | fire training area |
| 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 |
| USDA | United States Department of Agriculture |
| 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 Fort Pierce Readiness Center (RC) in Fort Pierce, Florida, to assess potential PFAS release areas and exposure pathways to receptors. Historical aerial imagery of the current Fort Pierce RC Boundary depicts an armory as early as 1958. The current lease for Fort Pierce RC, which began in 1954, extends for a period of 99 years between Florida ARNG (FLARNG) Armory Board of the state of Florida and the city of Fort Pierce. Based on the US Environmental Protection Agency (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 8 February 2019
- Interviewed current Fort Pierce RC personnel during the site visit including FLARNG operations staff and Saint Lucie County Fire District Station No. 1 staff
- Completed visual site inspections (VSIs) at known or suspected PFAS release locations and documented with photographs

Two areas, Fort Pierce RC Armory and the vehicle bays, have been identified as No Suspected Releases (**Figure ES-1**). Based on the documented absence (2017-present) of the use or release of PFAS-containing materials at Fort Pierce 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. Fort Pierce RC will not move forward in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.


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|---|---|---|---|---|
| CLIENT | ARNG | | | |
| NOTES | Preliminary Assessment for PFAS at Fort Pierce Readiness Center, FL | | | |
| REVISED | 4/1/2019 | GIS BY | MS | 4/1/2019 |
| SCALE | 1:1,080 | CHK BY | MG | 4/1/2019 |
| Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, | | PM | RG | 4/1/2019 |

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**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 Fort Pierce Readiness Center (RC) in Fort Pierce, 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 any fire training areas (FTAs) that may have been present as well as additional locations where PFAS may have been released into the environment at Fort Pierce 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 8 February 2019
- Interviewed current Fort Pierce RC personnel during the site visit including FLARNG operations staff and Saint Lucie County Fire District Station No. 1 staff
- Completed visual site inspections (VSI) 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 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** – **Preliminary Conceptual Site Model:** describes the pathways of PFAS transport and receptors at each Area of Interest (AOI)
- **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

Fort Pierce RC (also referred to as the "facility") is located at 2805 Delaware Avenue, Fort Pierce, Florida, in St. Lucie County, western central Florida (**Figure 1-1**). The facility is surrounded by urban and suburban developments.

The facility contains an armory with dining, office space, and an associated vehicle bay and storage, and light maintenance area. The facility perimeter is bordered entirely by fences. The Fort Pierce RC has a 99-year lease from city of Fort Pierce that began in 1954. An armory and vehicles appear in aerial images of the Fort Pierce RC property as early as 1958.

## 1.5 Facility Environmental Setting

St. Lucie County is situated on the eastern edge of the Eastern Valley geomorphic province of the Atlantic Coastal Lowlands. This province extends eastward from the topographically higher Osceola Plain province of the central Florida peninsula to the Atlantic Ocean and spans the eastern peninsula from Jacksonville, southward to southern palm Beach County. The Eastern Valley is characteristically flat and has low elevation, with land surface elevations varying between 0 and 35 feet above mean seal level. Surficial sediments are predominantly marine terrace sands and shelly sands deposited during the Pleistocene age Pamlico sea level highstand (Rupert 1992).

### 1.5.1 Geology

St. Lucie County is underlain by Mesozoic and Cenozoic sedimentary rocks resting on Mesozoic volcanic basement rock. The Cenozoic rocks, which comprise the upper 3,000 feet of the sediment column, are Paleocene, Eocene, and Oligocene carbonates that function as primary freshwater aquifers. These rocks are overlain by Miocene- to recent-age siliclastics. Most water wells penetrate Eocene and younger sediments. For the purpose of this report, the discussion of

geology will be limited to the younger strata, the Anastasia Formation and Pleistocene Series (**Figure 1-2**) (Rupert 1992).

The upper Pleistocene Anastasia Formation varies from unconsolidated quartz sand and shell to calcareous sandstone to a quartz sandy, tan to orange colored coquina limestone. This Formation is perhaps best recognized as the coquina beach rock, which outcrops sporadically along the east coast from St. Augustine, southward to Boca Raton. The Anastasia Formation is predominantly shelly sands or calcareous sandstone containing mollusk shell beds. The depth to the top of the unit is variable, generally ranging from between 10 and 20 feet below land surface in low swales to as much as 50 feet under dune ridges. The formation locally attains a thickness of 50 to 100 feet. The Anastasia Formation is overlain by a veneer of Pleistocene and Holocene sands, clays, and silts (Rupert 1992).

Surficial deposits in the St. Lucie county area are predominantly relict marine quartz sands, with sandy muds and silts forming the substrate in the west marshy areas. Much of the sand was deposited and reworked during sea level high stands of the late Pleistocene, having been carried south from the eroding Appalachians by longshore currents (Rupert 1992).

### 1.5.2 Hydrogeology

The principal water-bearing units in the Fort Pierce RC area are the surficial and the Floridan aquifer systems. The two aquifer systems are separated by the intermediate confining unit, which contains sediments of lower permeability. The Floridan aquifer system has two major water-bearing zones, the Upper and Lower Floridan aquifers, which are separated by a less permeable middle confining unit (Reese 2002). The discussion below focuses on the uppermost aquifer, as it is the most likely to be affected by PFAS releases.

The thickness of the surficial aquifer system in the Fort Pierce RC area varies from less than 50 feet to greater than 250 feet. The aquifer system consists of quartz sand, silts, clay, shell beds, coquina, calcareous sandstone, and sandy, shelly limestone. The base of the aquifer system commonly is defined where sediments grade from sand into clayey sand or clay; however, basal sediments also can consist of limestone (Reese 2002).

The surficial aquifer system provides most of the potable water used in the area. It is unconfined and receives recharge from rain-fall, canals, lakes, reservoirs, irrigation water, and probably some upward leakage from the Floridan aquifer system (Reese 2002). The depth to water table at Fort Pierce RC is approximately 0.5 to 1.5 feet (United States Department of Agriculture [USDA] 2019). Locally at Fort Pierce RC, the groundwater flow direction is predominantly to the northeast (**Figure 1-2**). Several wells exist to the northeast of the facility, and the active and inactive wells vary in use from potable to non-potable public supply wells. There are five potable water wells located around the armory building within the facility boundary. However, these on-site wells are not used for drinking water purposes. Drinking water to the facility is provided by Fort Pierce Utility Authority. The on-site wells have not been sampled for PFAS. 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

The St. Lucie Estuary is located in southeast Florida, in St. Lucie county, and is a major tributary to the Southern Indian River Lagoon. The St. Lucie Estuary is divided into four distinct regions: the North Fork, the South Fork, the middle estuary, and the lower estuary (Tetra Tech 2009). The discussion below focuses on the North Fork watershed (**Figure 1-3**).

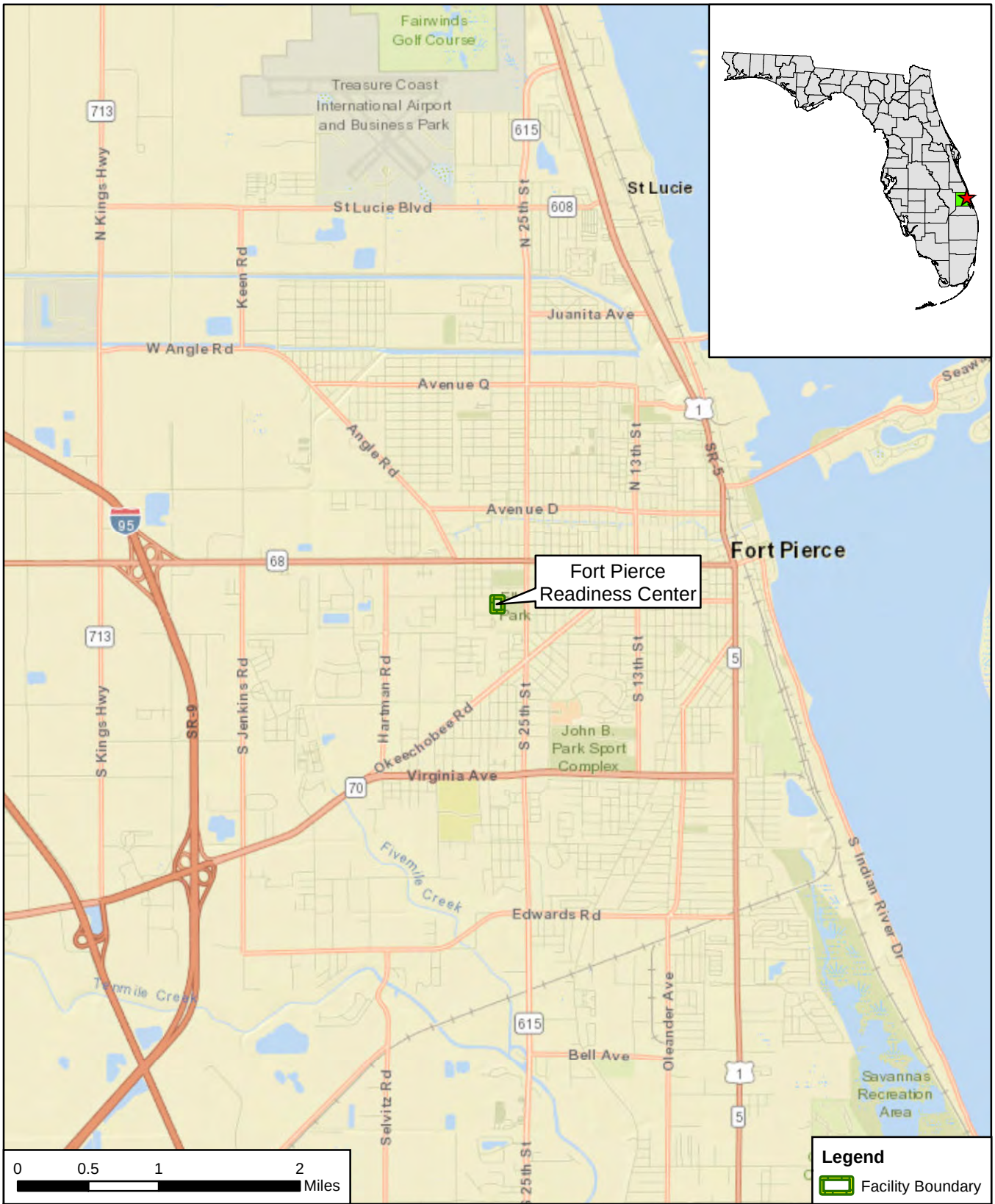
The North Fork Sub-watershed comprises of the North Fork and North Mid-Estuary basins and has a total drainage area of approximately 119,168 acres. The North Fork Sub-watershed is located in eastern St. Lucie County. Surface water flow at the Fort Pierce RC is to the southeast, towards the Ten Mile Creek. (Tetra Tech 2009).

### 1.5.4 Climate

The climate at Fort Pierce RC is subtropical, with warm, humid summers and winters. In January, the average temperature is 63.0 degrees Fahrenheit (°F). July and August have the highest average temperatures, at 81.9°F. The greatest mean monthly precipitation occurs in September. The average annual precipitation is 52.01 inches (Climate-Data 2019).

### 1.5.5 Current and Future Land Use

Fort Pierce RC currently contains an armory with dining, office space, vehicle bays, and an outdoor vehicle storage area for the ARNG. The armory complex includes parking areas. Access to the facility is controlled by fencing. Land use is not expected to change. The city of Fort Pierce is highly urbanized and consists of lower density urban land use types. Major land uses in St. Lucie county include urban areas (53,656 acres), natural areas (25,043 acres), and citrus farms (20,678 acres) (Tetra Tech 2009).

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| CLIENT | ARNG | | | |
| NOTES | Preliminary Assessment for PFAS at Fort Pierce Readiness Center, FL | | | |
| REVISED | 4/1/2019 | GIS BY | MS | 4/1/2019 |
| 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 |

**Facility Location**

AECOM
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**Figure 1-1**

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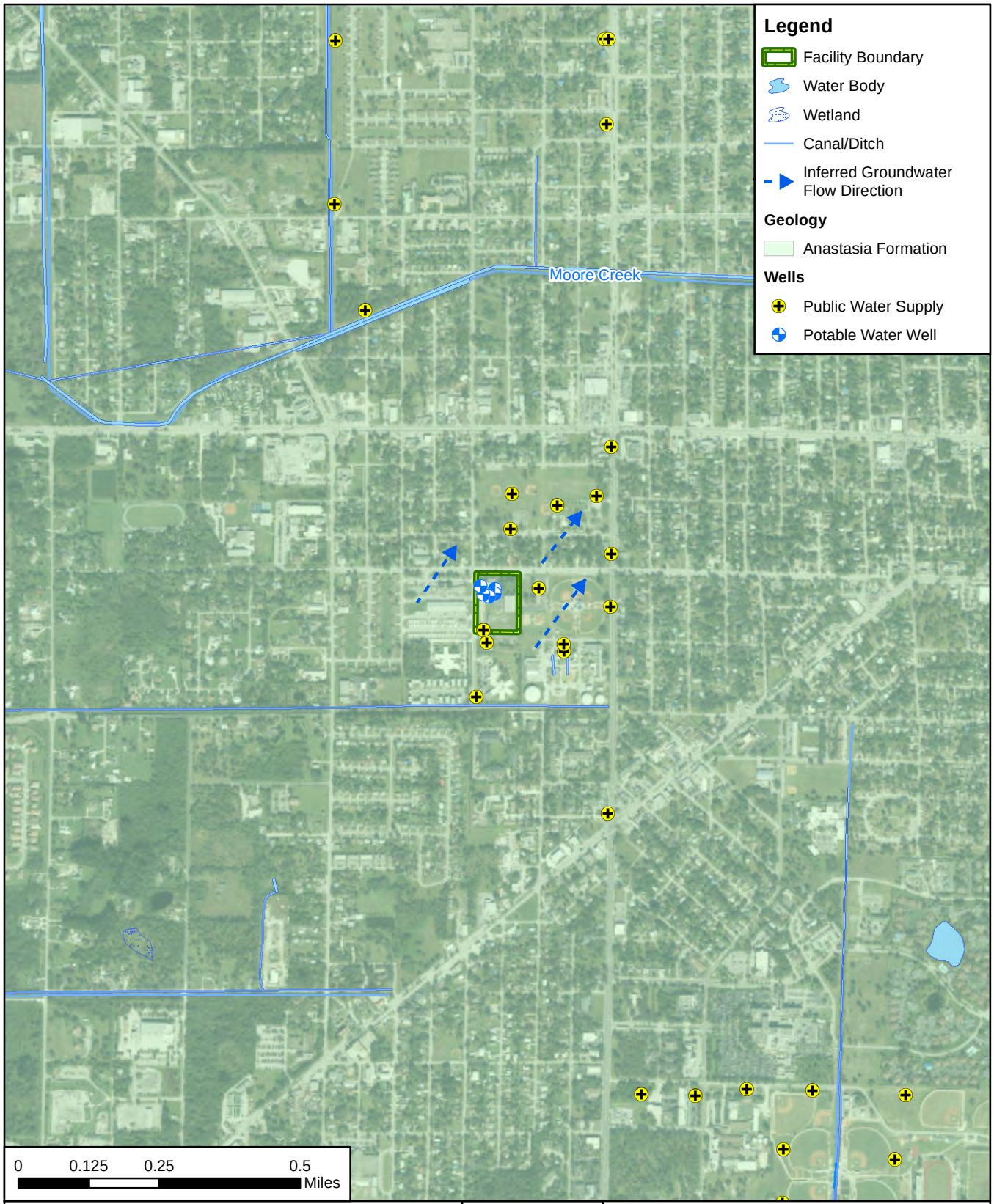


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| CLIENT | ARNG | | | |
| NOTES | Preliminary Assessment for PFAS at Fort Pierce Readiness Center, FL | | | |
| REVISED | 4/4/2019 | GIS BY | MS | 4/4/2019 |
| SCALE | 1:15,840 | CHK BY | MG | 4/4/2019 |
| Base Map: Source: Esri, DigitalGlobe, GeoEye,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

**Groundwater Features**

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**Figure 1-2**

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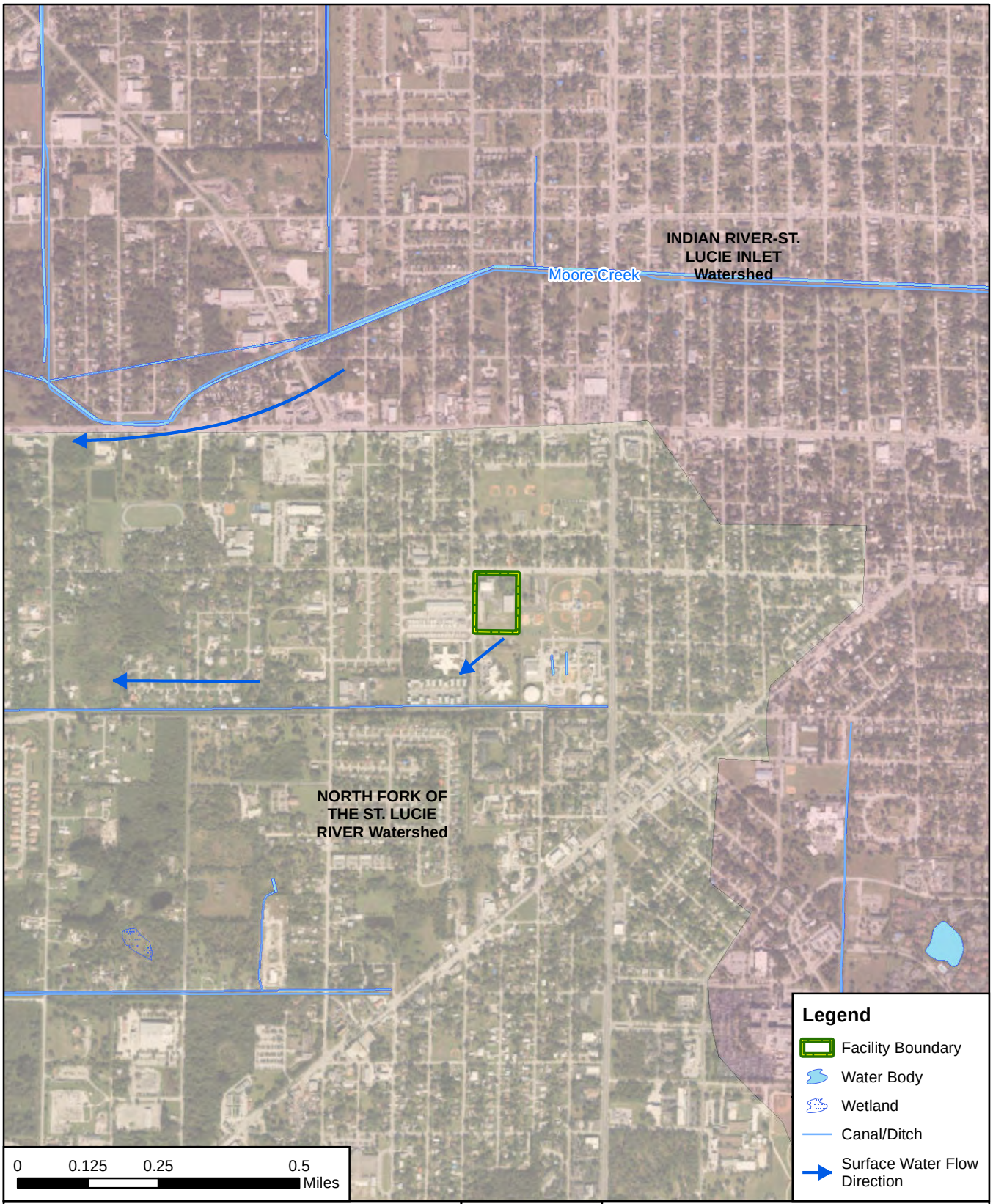


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| CLIENT | ARNG | | | |
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| SCALE | 1:15,840 | CHK BY | MG | 4/1/2019 |
| Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, | | PM | RG | 4/1/2019 |

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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 (EDR) Reports and interviews with Fort Pierce RC personnel who had knowledge dating back to 2017, no FTAs were identified within the Fort Pierce RC facility during the PA. Aerial photos covering 1958 to present show no sign of an FTA, and development of the property has remained relatively unchanged from 1958 to present. Interview records appear in **Appendix B**. Fire protection for the facility is provided by Saint Lucie County Fire District.

# 3. Non-Fire Training Areas

Two non-FTAs where PFAS were potentially released were identified during the PA. Descriptions of the non-FTAs are presented below, and the non-FTAs are 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 northwest portion of the facility property (**Figure 3-1**). The geographic coordinates are 27°26'36.37"N; 80°21'13.13"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 a fire suppression system. At the time of the visit and to interviewee knowledge dating back to 2017, the fire suppression system contained potassium alkaline base solution. The kitchen also contained K-class fire extinguishers, which do not contain PFAS. A potential PFAS release to the environment at the armory is not suspected.

## 3.2 Vehicle Bays

The vehicle bays are located on the eastern portion of the facility property (**Figure 3-1**). The geographic coordinates are 27°26'34.66"N; 80°21'10.70"W. The vehicle bays were used to store vehicles from the military police unit and is not outfitted with a fire suppression system or floor drains. The military police unit vehicles were mounted with missile pods. These vehicles were stored and maintained in the vehicle bays. It is unknown if AFFF may have been present when these vehicles were stored at the facility. Currently, the vehicle bays serve as a multipurpose area used for vehicle storage, light vehicle maintenance, and leisure activities area. During the site visit, extinguishers were not observed in the vehicle bays. At the time of the visit and to interviewee knowledge dating back to 2017, there were no vehicle fires at the facility. A potential PFAS release to the environment at the armory is not suspected.


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|---|---|---|---|---|
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| SCALE | 1:1,080 | 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 2017 to present, and review of EDR Reports, no emergency response areas were identified within the Fort Pierce RC facility during the PA. All emergency services for the current Fort Pierce RC are provided by the Saint Lucie County Fire District. No information was available regarding emergency responses prior to interviewee knowledge. Interview records appear in **Appendix B**.

# 5. Adjacent Sources

One potential off-facility PFAS source adjacent to Fort Pierce RC was identified during interviews. A Fort Pierce RC interviewee indicated St. Lucie County Fire Department responded to a house fire near the Fort Pierce RC approximately 6 months prior to the site visit. No further information on the event was available. It is unknown whether the St. Lucie County Fire Department responded to the fire with AFFF. St. Lucie County Fire Station no. 1 staff did not recall the fire. It was noted that the firetrucks, at the fire station, contain 3% foam solutions on trucks in gallon containers.

# 6. Preliminary Conceptual Site Model

Based on the PA findings, no PFAS release areas were identified, therefore, there are no AOIs at Fort Pierce 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 Fort Pierce RC or from activities associated with Fort Pierce RC.

# 7. Conclusions

This report presents a summary of available information gathered during the PA on the use and storage of AFFF and other PFAS-related activities at Fort Pierce 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 Fort Pierce RC were identified during this PA. The following areas discussed in **Section 3** (**Figure 7-1**) and 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 contained ABC dry chemical. The fire suppression system installed in the facility kitchen contains a potassium alkaline base solution. EDR aerial photos covering 1958 to present show no sign of an FTA. |
| Vehicle Bays | FLARNG | Building does not contain fire suppression system. Interviewees indicated no engine or vehicle fires on facility. Bays used for vehicle storage, leisure activities, and light maintenance. The units that have occupied the facility since 1969 are unlikely to have used AFFF for fire protection. |

## 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 |
|---|---|
| Fort Pierce RC | No or limited information was available on the use and/or storage of AFFF at the facility prior to 2017 |

## 7.3 Potential Future Actions

Based on the documented absence (2017-present) of the use or release of PFAS-containing materials at Fort Pierce RC, no AOIs were identified during the PA. Evidence does not indicate that current or former ARNG activities (if past activities were consistent with current operational procedures) contributed PFAS contamination to soil, groundwater, surface water, or sediment at the facility or adjacent areas. Fort Pierce RC will not move forward in the CERCLA process.


| | | | | |
|---|---|---|---|---|
| CLIENT | ARNG | | | |
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| SCALE | 1:1,080 | CHK BY | MG | 4/1/2019 |
| Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, | | PM | RG | 4/1/2019 |

N

## Summary of Findings

AECOM
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**Figure 7-1**

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# 8. References

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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 Fort Pierce Readiness Center include:

### Fort Pierce Leases, Licenses, and Permits

- 1954 Armory Board, State of Florida Lease No. 1698A located at Fort Pierce Armory, Florida

### Environmental Data Resources, Inc™. Geocheck Report

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

### Miscellaneous Data Resources

- 1992 Geomorphology, Geology, and Hydrogeology of the Savannas State Reserve, Martin and St. Lucie Counties, Florida
- 2004 Hydrogeology, Water Quality, and Distribution and Sources of Salinity in the Floridan Aquifer System, Martin and St. Lucie Counties, Florida
- 2009 St. Lucie River Watershed Protection Plan: South Florida Water Management Dristrict
- 2019 Soil Resource Report for St. Lucie County, Florida: Natural Resources Conservation Service
- Fort Pierce USEPA Unregulated Contaminant Monitoring Rule 3 Data

# Appendix B
# Preliminary Assessment Documentation

# Appendix B.1
# Interview Records

PA Interview Questionnaire - Other

Facility: FT. PIERCE
Interviewer: [redacted]
Date/Time: 02/08/19 9:05

| | |
|---|---|
| **Interviewee:** [redacted]<br>**Title:** ~~SGT~~ SFC / READINESS NCO<br>**Phone Number** [redacted]<br>**Email:** [redacted] | Can your name/role be used in the PA Report? (Y) or N<br>Can you recommend anyone we can interview?<br>Y or N |

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

1 YEAR AT FACILITY

INFANTRY UNIT

**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** |
|---|---|
| • USED TO BE AVA | Use |
| • 3 DIFFERENT UNITS AT FACILITY THROUGHOUT THE YEAR. | Procurement |
| • NO FIRE TRUCK STORED RECENTLY. | Disposition |
| • ABC DRY CHEMICAL EXT AROUND FACILITY | Storage (Mixed) |
| • KITCHEN FIRE SUPPRESSION | Storage (Solution) |
| • FT. PIERCE FIRE DEPARTMENT ON ORANGE AVE. | Inventory, Off-Spec |
| • LT MAINT FOR VEHICLES. | Containment |
| • NO FMS | SOP on Filling |
| • PREVIOUS UNIT MOVED. | Leaking Vehicles |
| • NO FIRE TRAINING | Nozzle and Suppression System Testing |
| • 6 MONTHS AGO A HOUSE FIRE NEAR FACILITY. | Dining Facilities |
| • AIRPORT ABOUT 5 MILES FROM FACILITY | Vehicle Washing |
| • CITY DRINKING WATER. | Ramp Washing |
| • FARP'D 2007 ; NO FIRE SINCE | Fuel Spill Washing and Fueling Stations |
| | Chrome Plating or Waterproofing |

**PA Interview Questionnaire - Other**

**Facility: Fort Pierce RC**
**Interviewer:** [redacted]
**Date/Time: 02/08/19 11:00**

| | |
|---|---|
| **Interviewee: St. Lucie County Fire Station Staff**<br>**Title: Varies**<br>**Phone Number:** [redacted]<br>**Email:** | Can your name/role be used in the PA Report? (Y) or N<br>Can you recommend anyone we can interview?<br>Y or (N) |

| **Roles or activities with the Facility/Years working at the Facility:** |
|---|
| Roles vary; years unknown |
| |
| |
| |
| |
| |
| |

**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** |
|---|---|
| Fire trucks contain gallon containers of AFFF liquid 3% | Use |
| No responses to Fort Pierce RC | Procurement |
| Do not recall emergency response to house fire near facility | Disposition |
| Could not obtain records of the response | Storage (Mixed) |
| | 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 |

# Appendix B.2
# Visual Site Inspection Checklists

# *Facility ST*
## *Visual Survey Inspection Log*

**Recorded by:** [redacted]
**ARNG Contact:** [redacted]
**Date:** 02/08/19

**Site Name / Area Name / Unique ID:** FORT PIERCE
**Site / Area Acreage:**
**Historic Site Use (Brief Description):** MP UNIT PREVIOUSLY, ARMORY
**Current Site Use (Brief Description):** ARMORY, DRILLS, LT VEHICLE MAINT

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: SOME PORTIONS ARE PAVED PARKING LOT AREAS.
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: UNKNOWN
2. Is there standing water or drainage issues within the site/area? Y / N
   2a. If so, please note observation and location: UNKNOWN
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:** FORT PIERCE READINESS CENTER

**Why has this location been identified as a site?**

FACILITY VEHICLE MAINTENANCE ACTIVITIES. AFFF POSSIBLY STORED OR USED AT THIS FACILITY.

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

UNKNOWN

**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? SOUTHWEST

Average rainfall? 53 INCHES

Any flooding during rainy season? UNKNOWN

Direct or indirect pathway to ditches? NO

Direct or indirect pathway to larger bodies of water? NO

Does surface water pond any place on site? UNKNOWN

Any impoundment areas or retention ponds? NO

Any NPDES location points near the site? NO

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

# Preliminary Assessment – Conceptual Site Model Information

**Groundwater:**

Groundwater flow direction? NORTH EAST

Depth to groundwater? 0.5 – 1.5 FEET

Uses (agricultural, drinking water, irrigation)? IRRIGATION, PUBLIC WATER SUPPLY

Any groundwater treatment systems? NO

Any groundwater monitoring well locations near the site? YES

Is groundwater used for drinking water? NO

Are there drinking water supply wells on installation? NO

Do they serve off-post populations? NO

Are there off-post drinking water wells downgradient NO

**Waste Water Treatment Plant:**

Has the installation ever had a WWTP, past or present? NO

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? N/A

# Preliminary Assessment – Conceptual Site Model Information

**Identify Potential Receptors:**

Site Worker YES

Construction Worker YES

Recreational User NO

Residential ~~NO~~ YES

Child NO

Ecological YES

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

DAY CARES, SCHOOLS, MEDICAL CENTERS

**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 | Fort Pierce Readiness Center | |
|---|---|---|

**Photograph No. 1**

**Date** 2/8/2019
**Time** 9:23

**Description:**
Facility Kitchen fire suppresion system, Potassium alkaline base solution.

**Orientation:**
NE


**Photograph No. 2**

**Date** 2/8/2019
**Time** 9:27

**Description:**
No fire suppression in vehicle bays.

**Orientation:**
NE