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Mr. Nicholas Protopsaltis
Chief, Environmental Division
Installation Management Command
Directorate of Public Works, Environmental Division Building 129, Room 11
129 Wainwright Drive
U.S. Army Garrison Fort Hamilton, NY, 11252

Subject:
Final Preliminary Assessment for Fort Hamilton, New York
Contract No: W912DR-13-D-0019
Delivery Order No: W912DR17F0396

Environment

Date:
28 August 2020

Contact:
Ankit Gupta

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Our ref:
30001975

Dear Mr. Protopsaltis:

Arcadis U.S., Inc. is pleased to provide the Final Preliminary Assessment for per- and polyfluoroalkyl substances at Fort Hamilton, New York.

Please call me at 703.465.4222 or Rhonda Stone at 610.563.6122 if you have any questions or comments.

Respectfully,

Arcadis U.S., Inc.

Ankit Gupta
Arcadis U.S., Inc.
Regional Lead

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FINAL PRELIMINARY ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES

Fort Hamilton, New York

Prepared For:
U.S. Army Corps of Engineers, Baltimore District
2 Hopkins Plaza
Baltimore, MD 21201

August 2020

Preliminary Assessment of Per- and Polyfluoroalkyl Substances

Fort Hamilton, New York

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Prepared for:

U.S. Army Corps of Engineers

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ACRONYMS

°F	degrees Fahrenheit
%	percent
AAFES	Army and Air Force Exchange Service
AFFF	aqueous film-forming foam
AOPI	area of potential interest
Arcadis	Arcadis U.S., Inc.
Army	U.S. Army
BASOPS	Base Operations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DoD	Department of Defense
EDR	Environmental Data Resources, Inc.
FDNY	Fire Department of New York
GIS	geographic information system
IMCOM	Installation Management Command
installation	U.S. Army or Reserve installation
ng/L	nanograms per liter (parts per trillion)
NYARNG	New York Army National Guard
NYC	New York City
NYCDEP	New York City Department of Environmental Protection
OSD	Office of the Secretary of Defense
PA	preliminary assessment
PFAS	per- and polyfluoroalkyl substances
PFBS	perfluorobutanesulfonic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
POC	point of contact
UCMR3	third Unregulated Contaminant Monitoring Rule
U.S.	United States
USACE	United States Army Corps of Engineers

USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

ES-1 Background

The U.S. Army (Army) is performing preliminary assessments (PAs) on the current or potential historical use of per- and polyfluoroalkyl substances (PFAS) at Army installations (installations) nationwide. The objective of a PA is to identify locations that are areas of potential interest (AOPIs) based on whether there was use, storage or disposal of aqueous film-forming foam (AFFF) and/or potential PFAS containing materials, in accordance with the 2018 Army Guidance for Addressing Releases of Per-and Polyfluoroalkyl Substances (Army 2018). This report provides the PA for Fort Hamilton and was completed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and The National Oil and Hazardous Substances Pollution Contingency Plan.

Fort Hamilton is located within Kings County at the western end of Long Island and is situated on the eastern shores of Gravesend Bay in New York. Fort Hamilton consists of approximately 177 acres (Army 2011) and contains approximately 78 buildings that support maintenance activities, housing and professional services for Army personnel, and administrative offices. The mission of Fort Hamilton is to provide installation services to the military community and its stakeholders enabling Army readiness. On order, Fort Hamilton provides defense support to civil authorities in the New York City (NYC) area of operations.

ES- 2 Preliminary Assessment and Conclusions

PAs were conducted at installations where AFFF or other PFAS containing materials were possibly used or stored as part of operational history (Army 2018). The following PFAS source types were evaluated during the PA: firefighting training areas, fire stations, fire response areas, fire nozzle testing areas, crash sites or landing areas, fuel spills, installation storage warehouses, hangars and/or buildings with AFFF suppression systems, chromium plating operations, wastewater treatment systems, landfills, stormwater or sanitary sewer components, and remediated soil application areas. From reviewing these potential source types, no AOPIs have been identified and ten areas were not retained for future investigation for this PA at Fort Hamilton.

Results from this PA indicate further investigation for PFAS at Fort Hamilton is not warranted at this time.

1 INTRODUCTION

The United States (U.S.) Army (Army) is conducting per- and polyfluoroalkyl substances (PFAS) Preliminary Assessments (PAs) at select active U.S. Army (Army) installations (installations) nationwide. The Army is the lead agency under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and Executive Order 12,580, and is conducting the PFAS PAs consistent with its authority under CERCLA, 42 United States Code (U.S.C.) §§ 9600, et seq. (as amended), and the Defense Environmental Restoration Program, 10 U.S.C. §§ 2701, et seq. The purpose of this PFAS PA is to identify locations that are areas of potential interest (AOPIs) at Fort Hamilton based on whether there was use, storage or disposal of aqueous film-forming foam (AFFF) and/or potential PFAS containing materials, in accordance with the 2018 Army Guidance for Addressing Releases of Per-and Polyfluoroalkyl Substances (Army 2018). This report provides the PA for Fort Hamilton and was completed in accordance with CERCLA and The National Oil and Hazardous Substances Pollution Contingency Plan.

1.1 Project Background

PFAS are a class of compounds that have been used in a wide range of industrial applications and commercial products due to their unique surface tension/leveling properties. Due to industry and regulatory concerns about the potential health effects and adverse environmental impacts, there has been a reduction in the manufacture and use of PFAS worldwide. In the U.S., significant reductions in the production, importation, and use of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) (two individual compounds in the PFAS class) occurred between 2001 and 2015 (Interstate Technology Regulatory Council 2017). Perfluorobutanesulfonic acid (PFBS) replaced PFOS in some applications and is currently used and manufactured in the U.S.

The focus of the PA is to identify the locations at installations, which may be later categorized as AOPIs, where AFFF and/or PFAS-containing materials were used, stored, and/or disposed.

AFFF was developed in the mid-1960s in response to a need for firefighting foams better suited to extinguish Class B, fuel-based fires. AFFF formulations consist of water, an organic solvent, up to 5 percent (%) hydrocarbon surfactants, and 1 to 3% PFAS (Interstate Technology Regulatory Council 2020). AFFF concentrate is designed to be diluted with water to become a 1, 3, or 6% foam. AFFF releases at Department of Defense facilities may have occurred during fire training, emergency response actions, equipment testing, or accidental releases. The military still primarily uses AFFF for Class B fires; however, the current formulation of AFFF contains significantly lower amounts of regulated PFAS (such as PFOA and PFOS), and significant operational changes have been implemented to restrict uncontrolled releases and non-essential use of PFAS-based foams. Army installations may still house AFFF, commonly stored in closed containers (e.g., 55-gallon drums, 5-gallon buckets), within designated storage buildings or at firehouses.

Potential PFAS use associated with chromium plating activities may also be relevant to Army installations. During hard chromium plating, a metal surface is treated with a layer of electrochemically deposited chromium in a chromic acid bath. PFAS, specifically PFOS, have been used in hard chromium plating operations as surface tension-reducing wetting agents to mitigate the release of aerosolized hexavalent

chromium into a working environment. Historically, it was common for spent plating baths from plating operations to be disposed of in a lined or unlined pit or into a sanitary or storm sewer. Therefore, PFAS present in mist suppressants during the plating process could be released to the environment.

Many of the PFAS found in AFFF and chromium plating operations are surfactants (which do not volatilize) and are found in a charged or ionic state at environmental pH (i.e., pH 5 to 9 standard units), including PFOS, PFOA, and PFBS, which are negatively charged. The media potentially affected by PFAS use, storage, and disposal at Army installations are soil, groundwater, surface water, and sediment. Once within the environment, the main factor that inhibits the movement of PFAS is the presence of organic matter and organic co-constituents in soils and sediments. Generally, PFAS are mobile in the potentially affected media, and they are not known to be broken down by natural processes.

In 2016, the United States Environmental Protection Agency (USEPA) established a lifetime health advisory of 70 nanograms per liter (ng/L) in drinking water for PFOS or PFOA and for the sum of PFOS and PFOA when both are present (USEPA 2016). In November 2018, the USEPA also issued draft subchronic and chronic oral toxicity values for PFBS for public comment. The new toxicity values for PFBS are intended to update the current PFBS toxicity values that were finalized in July 2014 (USEPA 2014). USEPA expects to finalize updated toxicity assessments for PFBS in 2020.

On 15 October 2019, the Office of the Secretary of Defense (OSD) provided guidance on the investigation of PFOS, PFOA, and PFBS at Operation and Maintenance accounts for the National Guard-funded, Environmental Restoration Account-funded, and Base Realignment and Closure Account-funded sites (OSD 2019). The 15 October 2019 Memorandum: Investigating Per- and Polyfluoroalkyl Substances within the Department of Defense Cleanup Program is provided for reference as **Appendix A**. The Department of Defense guidance provides risk screening levels for PFOS, PFOA, and PFBS in groundwater (tap water) or soil, calculated using the USEPA's Regional Screening Level (RSL) calculator for residential and industrial/commercial worker receptor scenarios.

1.2 PA Objectives

During the PA, investigators collect readily available information and conduct site reconnaissance. The PA is designed to distinguish between sites that pose little or no threat to human health and the environment and sites that require further investigation. The PA also identifies sites requiring further assessment for possible emergency response actions (USEPA 1991). This PA will evaluate and document areas, which may later be categorized as AOPIs, where PFAS-containing materials were used, stored, and/or disposed, so the Army can distinguish between sites that pose little or no threat to human health and the environment and sites that require further investigation.

1.3 PA Process Description

For Fort Hamilton, PA development followed a similar process as described in **Sections 1.3.1** through **1.3.5** below. **Section 3** provides a summary of the PA activities completed at Fort Hamilton. The PA processes are documented in the PA Quality Control Checklist included as **Appendix B**.

1.3.1 Pre-Site Visit

First, an installation kickoff teleconference was held between applicable points of contact (POCs) from United States Army Environmental Command (USAEC), United States Army Corps of Engineers (USACE), Fort Hamilton, and Arcadis U.S., Inc. (Arcadis). The kickoff call occurred four to six weeks before the site visit to discuss the goals and scope of the PA, project scheduling, installation access, timeline for the site visit, access to installation-specific databases, and to request available records.

Records research was conducted before the site visit to obtain electronically available documents from the installation and external sources for review. The purpose of the records research is to identify any area on the installation that may have been a location where AFFF and/or PFAS-containing materials were used, stored, and/or disposed, as well as gather information on the physical setting and site history at Fort Hamilton.

A read-ahead package was prepared and submitted to the appropriate POCs two weeks before the site visit. The read-ahead package contains the following information:

- The Installation Management Command (IMCOM) operation order
- The Army PA Operations Security requirements package, which includes the antiterrorism/operations security review cover sheet (**Appendix C**)
- The PFAS PA kickoff call minutes
- An information paper on the PA portion of the Army's PFAS PA
- Contact information for key POCs
- A list of the data sources requested and reviewed
- A list of preliminary locations identified during the kickoff call and pre-site visit records review, that may be evaluated as potential AOPIs, where additional information on those areas will be collected through personnel interviews, additional document review, and site reconnaissance.
- A list of roles for the installation POC to consider when recommending potential interviewees.

1.3.2 Preliminary Assessment Site Visit

The site visit was conducted on 17 September 2018. An in brief meeting was held in order to provide installation staff with the objectives of the site visit and team introductions. **Section 3** includes information regarding personnel interviewed and site reconnaissance during the site visit.

Personnel interviews were conducted with individuals having significant historical knowledge at Fort Hamilton. The interviews focused on confirming information discussed in historical documents, collecting information that may have not been in historical documents, corroborating other interviewees' information.

An exit briefing was offered to installation personnel at the conclusion of the site visit to raise any items identified during the site visit, discuss any follow-up items, and review the schedule for submitting deliverables. The exit briefing was conducted on 17 September 2018 with the installation and the Army to discuss preliminary findings of the PA site visit.

1.3.3 Post-Site Visit

After the site visit, information collected pre-, during, and post-site visit was reviewed and corroborated by cross-referencing records and reviewing interview details and observations noted during the site visit. A site visit trip report was completed and provided to the installation POC, applicable USAEC POCs, and USACE regional POCs following the site visit. Map document files and associated geographic information system (GIS) data are provided as **Appendix D**. GIS data layers created for the project are included in a Spatial Data Standards for Facilities, Infrastructure, and Environment-compliant geodatabase.

2 INSTALLATION OVERVIEW

The following subsections provide general information about Fort Hamilton, including the location and layout, the installation mission(s) over time, a brief site history, current and projected land use, climate, topography, geology, hydrogeology, surface water hydrology, potable wells within a 5-mile radius of the installation, and applicable ecological receptors.

2.1 Site Location

Fort Hamilton is located within Kings County at the western end of Long Island and is situated on the eastern shores of Gravesend Bay **(Figure 2-1)**, approximately 6.5 miles south of the Battery, the southern tip of the Borough of Manhattan, New York. The installation is bounded by the Verrazano Narrows Bridge to the west, the Belt Parkway to the south, Dyker Beach Park to the east, and Cropsey Avenue and Polytechnic Preparatory School to the north. The surrounding land is heavily developed urban area, consisting of a mix of residential areas, retail operations, and some commercial operations. A Veterans Administration Hospital is located further to the east. The adjacent Verrazano Narrows Bridge is the primary route between Brooklyn and Staten Island (USAEC 2017).

2.2 Mission and Brief Site History

Following the War of 1812, military planners decided to erect a masonry casemate fort and an earthen redoubt on the site of Fort Lewis. Re-designated as Fort Hamilton, this facility was constructed between 1825 and 1831. The Civil War brought changes to the fort, as the installation adapted to the exigencies of war and defense with the construction of temporary buildings and residences to the north and east of the casemate fort. At the turn of the twentieth century, Fort Hamilton increased its physical size by incorporating contiguous properties and its defenses were modernized. During the twentieth century, the area surrounding Fort Hamilton saw intensive development as a residential community and as part of the urbanization of New York City (NYC). The construction of the Shore Parkway in the 1930s and the erection of the Verrazano-Narrows Bridge in the 1960s have, for all practical purposes, cut the fort off from its historic relationship with the sea. The fort also has undergone reorganization, assuming duties increasingly related to recruitment, housing and general support and less for coastal defense (Panamerican Consultants 2001).

Fort Hamilton is now part of Army Materiel Command in addition to being part of IMCOM Directorate-Training. Contributing administrative, financial, intelligence, legal, logistical, managerial, operational, and security support for all assigned and attached units, Fort Hamilton also “provides administrative and logistical support to retirees and their dependents, reserve units, National Guard units, and active duty personnel, including tenant and satellite units, in NYC and the surrounding counties” (Panamerican Consultants 2001). The mission of Fort Hamilton is to provide premium installation services to the military community and its stakeholders enabling Army readiness. On order, supports Defense Support to Civil Authorities in the NYC area of operations.

2.3 Current and Projected Land Use

The present reservation tract of Fort Hamilton consists of approximately 177 acres; of that amount less than 120 acres are considered usable (Army 2011). Fort Hamilton contains approximately 78 buildings that support maintenance activities, housing and professional services for Army personnel, and administrative offices (**Figure 2-2**). Amongst the buildings are lawns, tree groves, and tree-lined streets that resemble the surrounding neighborhoods and parks in Brooklyn (USAEC 2017).

2.4 Climate

Brooklyn, New York, the borough in which Fort Hamilton is located, is characterized by hot, humid summers and cold, snowy winters, with spring and fall generally mild. The local climate is largely affected by the presence of open water in the vicinity of the facility. Average annual temperature is 54.5 degrees Fahrenheit (°F), with average monthly temperatures of 32.2 °F in January and 76.6 °F in July. Rainfall in the region averages 41.7 inches annually, with average annual snowfall of 28.7 inches (USAEC 2017).

2.5 Topography

With an undulating to gently sloping topography, the elevations within Fort Hamilton range from sea level to 50 feet above mean sea level, with an average elevation of about 30 feet above sea level (**Figure 2-3**). The fort is located within the coastal plain on the main morainal ridge which extends to the east across Long Island. The variable topography of hillocks and hollows characteristic of the terminal moraine has been altered in the Fort Hamilton area due to historic cut and-fill operations related to changes in the installation's mission. In general, land surfaces within Fort Hamilton and the surrounding area have been modified by extensive civilian and military excavations and construction activities during the last 170 plus years. Modifications have included construction of a casemate fort, redoubt, batteries, administrative buildings, housing units and other structures, and the construction of the adjacent transportation routes like the Shore Parkway and the Verrazano Narrows Bridge (Panamerican Consultants 2001).

2.6 Geology

Situated in the Coastal Plain physiographic province of the Atlantic Coast Lowland, Fort Hamilton is positioned on the southern part of the western portion of the Ronkonkoma and Harbor Hill ridges of the terminal moraine of the last or Wisconsin glaciation (between 14,000 and 16,000 years ago). In New York State, the Atlantic Coast Lowland only occurs on Long Island and Staten Island. South of the terminal moraine a broad outwash plain slopes towards the ocean.

Fort Hamilton is underlain by a bedrock composed of Fordham gneiss, Hudson Schist and "an array of the early Paleozoic and Pre-Cambrian metamorphic and igneous rock" at a depth ranging from 160 to 220 feet below mean sea level. These types of rock predominate at the installation. Above the bedrock, the general stratigraphy consists of levels of thick clay and thick sand formations. These sedimentary strata are intermixed with clay and a glacial outwash which includes cobbles that tend to increase in both size and frequency closer to the surface. The next level in the stratigraphy tends to be deposits of buried mudflats, sand beaches and glacial debris (Panamerican Consultants 2001).

2.7 Hydrogeology

The groundwater system that underlies Kings County consists of a series of unconsolidated deposits of clay, sand, and gravel of Late Cretaceous and Pleistocene age that are underlain by Precambrian bedrock.

Fort Hamilton and other portions of Kings County reside atop the surficial Upper Glacial Aquifer. The Upper Glacial Aquifer consists of saturated glacial drift, sand and gravel. The sand and gravel beds deposited as outwash south of the terminal glacial moraine are highly permeable and are capable of yielding large quantities of water. The horizontal hydraulic conductivity of glacial outwash within the Upper Glacial Aquifer has been estimated to be 270 feet per day. The Upper Glacial Aquifer is underlain by the Gardiners Clay unit, which serves as a regional confining unit between the Upper Glacial Aquifer and the underlying water-bearing gravels of the Jameco-Magothy aquifer system (USGS 1995).

Fort Hamilton resides along the western portion of the Long Island groundwater divide (USGS 1995). Regional groundwater movement in the aquifers underlying Fort Hamilton is generally to the southeast towards the Narrows and Gravesend Bay (**Figure 2-2**) (General Physics Corporation 2003).

2.8 Surface Water Hydrology

Fort Hamilton is located within the Atlantic Ocean/Long Island Sound drainage basin, which encompasses 1,650 square miles. No surface water bodies reside within or flow through Fort Hamilton. Surface water from Fort Hamilton discharges southwest into Gravesend Bay via topographic flow and through three stormwater outfalls located along the installation's southern boundary.

2.9 Relevant Utility Infrastructure

The following subsections provide general information regarding the installation's stormwater and wastewater management systems, as well as information on how the utility infrastructures may influence the fate and transport of PFAS at Fort Hamilton.

2.9.1 Stormwater Management System Description

Storm water collected from the western portion of Fort Hamilton is sent to a combined sanitary/storm sewer system and treated at the New York City Department of Environmental Protection (NYCDEP) Owl's Head Water Pollution Control Plant. The area serviced by this combined sewer system encompasses approximately 75 acres.

The remaining 45 acres is serviced by a municipal separate storm sewer system (MS4), which discharges through three outfalls to the Gravesend Bay. These three outfalls are regulated by Fort Hamilton's Phase II Stormwater General Permit. A large portion of the area that is discharged to Gravesend Bay is residential townhomes and apartment buildings. The Army and Air Force Exchange Service (AAFES) Main Exchange, USACE, fitness center, post theatre, library, and Department of Emergency Services are also located in the MS4 area (U.S. Army Public Health Command 2011).

2.9.2 Sewer System Description

All sanitary sewage waste generated at Fort Hamilton is discharged to a combined sewer system and pumped via a sanitary sewer lift to the NYCDEP Owl's Head Water Pollution Control Plant.

2.10 Potable Water Supply and Drinking Water Receptors

Fort Hamilton receives its potable water supply from the NYC water supply system. There are no potable wells located within Fort Hamilton, or 5-miles of the installation. The five boroughs of NYC receive water via a series of aqueducts originating from reservoirs within the Catskill/Delaware Watersheds (located approximately 125 miles northeast of NYC), and the Croton Watershed (located approximately 35 miles northwest of NYC) (NYCDEP 2015).

An Environmental Data Resources, Inc. (EDR) report generated for Fort Hamilton was reviewed to obtain off-post water supply well information which is provided in **Appendix E**.

2.11 Ecological Receptors

Due to the availability of adequate toxicity data, the Army focused the PA on human receptors. The PA team collected information on ecological receptors that was available in the installation documents reviewed during the PA process. The following information is provided for future reference should the Army decide to evaluate exposure pathways relevant to the ecological receptors.

As part of one of the largest cities in the world, the NYC area is characterized by diverse fauna, including sea gulls, rats, pigeons, a variety of birds, and other urban fauna.

The New York State Department of Environmental Conservation Natural Heritage Program did not identify any potential impacts to endangered, threatened, or special concern wildlife species, or rare plant, animal, or natural community occurrences, or to significant habitats at Fort Hamilton. Fort Hamilton, according to the Facility Engineers Office, has undergone extensive development, which has left the installation with no areas in their natural state. Furthermore, the facility neither includes valuable vegetational and wildlife areas nor offers shelter or forage for wildlife (Panamerican Consultants 2001).

2.12 Previous PFAS Investigations

As Fort Hamilton purchases water from the NYC water supply system, third Unregulated Contaminant Monitoring Rule (UCMR3) sampling results from NYC water supply system were submitted to the Army, fulfilling IMCOM Operations Order 16-088, issued in 2016.

The USEPA conducted UCMR3 related monitoring between 2013 to 2015. UCMR3 is a national program that collects data for constituents that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. The UCMR3 published in 2012 included the analysis of PFOS, PFOA, and PFBS in public water systems serving more than 10,000 people between 2013 to 2015.

The NYC water supply system was sampled during the UCMR3 and results indicated that PFOS, PFOA, and PFBS were not detected. The limit of detection during this analysis was 40, 20, and 90 ng/L for PFOS, PFOA, and PFBS respectively, below the OSD tap water screening levels in **Appendix A**.

3 SUMMARY OF PA ACTIVITIES

The following two principal sources of information were used to develop this PA:

1. Records Review
2. Personnel interviews

These sources of data, along with their relative application to this PA, are discussed below. The specific findings of records review and personnel interviews to PFAS at Fort Hamilton are described in **Section 4**.

3.1 Records Review

The records reviewed included, but were not limited to, various Installation Restoration Program administrative record documents, compliance documents, Fort Hamilton directorate of public works documents, and GIS files. Internet searches were also conducted to identify publicly available and other relevant information. Additionally, an EDR report generated for Fort Hamilton was reviewed to obtain off-post water supply well information. A list of the documents reviewed is provided in **Appendix F**.

3.2 Personnel Interviews

All interviews were conducted during the site visit. The list of roles for the installation personnel interviewed during the PA process for Fort Hamilton is presented below (affiliation is with Fort Hamilton unless otherwise noted).

- Environmental Chief
- Environmental Engineer
- Base Operations (BASOPS) Project Manager (Re-Engineered Business Solutions, Inc.)
- Museum Director/Curator
- Fire Protection Officer
- Battalion Chief of the Fire Department of New York (FDNY)
- Real Property Officer
- Administrative Officer
- Installation Geospatial Information and Services Manager (Zantech)
- Senior Environmental Analyst (New York Army National Guard [NYARNG])

The compiled interview logs provided in **Appendix G**.

3.3 Site Reconnaissance

Site reconnaissance and visual surveys were not conducted at Fort Hamilton, since no AOPIs were identified at the conclusion of the records review process, the installation in-brief meeting, and the installation personnel interviews.

4 SUMMARY OF SOURCE AREAS RESEARCHED

A summary of the observations made and data collected through records review (**Appendix F**) and installation personnel interviews (**Appendix G**) during the PA process for Fort Hamilton is presented below.

4.1 AFFF Use and Storage at Fort Hamilton

Following the review of data collected from installation personnel interviews and records review, there is no current or historical AFFF use, storage, or disposal identified at Fort Hamilton. The Fort Hamilton Fire Protection Officer stated to his knowledge, currently and historically there are no AFFF suppression systems at Fort Hamilton and that AFFF has not been used or stored at the installation. The Fort Hamilton Fire Protection Officer also stated that under NYC Administrative Code 2-201 and 2-202, the FDNY is stipulated to provide fire and emergency response to Fort Hamilton.

A subsequent phone interview with a FDNY battalion chief confirmed that the FDNY provides emergency and fire response to Fort Hamilton, and to his knowledge, the FDNY has not used AFFF at Fort Hamilton for any purposes within the last 40 years.

One historical residential fire department that was located within the current Fort Hamilton boundaries was identified during the PA. The historical residential fire department ceased operation prior to the introduction of AFFF in 1969. The fire station has thus not been identified as an AFFF use, storage, or disposal location. No fire training areas or incidents with AFFF response were identified at Fort Hamilton. There are no current fire stations at Fort Hamilton since fire and emergency response is provided by FDNY.

4.2 Chromium Plating Operations

Review of data collected from installation personnel interviews and records review indicated that no chromium plating operations currently exist or have historically existed at Fort Hamilton.

4.3 Other Potential PFAS Sources at Fort Hamilton

The September 2018 Army guidance indicates the mechanisms for potential use, storage, and disposal of PFAS include AFFF, chromium plating, wastewater treatment plants (and associated biosolids) and landfills (Army 2018). Other potential PFAS sources were also considered. These potential sources include installation storage warehouses, pesticide use, prescribed burn areas, automobile maintenance shops, photo-processing facilities, laundry/water-proofing facilities, car washes, stormwater or sanitary sewer components, or remediated soil application areas. It was noted during a discussion with a USAEC Pest Management Consultant that the larger group of pesticides are generally not of PFAS concern. Specifically, products containing Sulfluramid (i.e., associated with insecticides) may have contained PFAS and were phased out in 1996. The USAEC Pest Management Consultant has records of pesticides used and stored at IMCOM installations, including Fort Hamilton, and did not identify Fort Hamilton as an installation ever containing PFAS-containing pesticides/insecticides. Following records review and personnel interviews at Fort Hamilton, additional PFAS source types were either not identified at the installation or did not prompt further research or constitute categorization as AOPIs.

Further discussion regarding areas not retained as AOPIs is presented in **Section 5.1**.

4.4 Readily Identifiable Off-Post PFAS Sources

An exhaustive search to identify all potential off-post PFAS sources (i.e., not related to operations at Fort Hamilton) is not part of the PA. However, potential off-post PFAS sources within a 5-mile radius of the installation that were identified during the records search and site visit are described below.

The FDNY battalion chief interviewed identified 19 FDNY storage depot locations across NYC where AFFF was stored. One FDNY storage depot E284 was found within a 5-mile radius of Fort Hamilton and is located at 1157 79th Street, Brooklyn, New York.

5 SUMMARY AND DISCUSSION OF PA RESULTS

The areas evaluated for potential PFAS use or storage and/or disposal at Fort Hamilton were refined during the PA process and identified either as an area not retained for further investigation or as an AOPI. In accordance with the established process for the PA, ten have been identified as areas not retained for further investigation and none have been identified as AOPIs. The process used for refining these areas is presented on **Figure 5-1**, below.

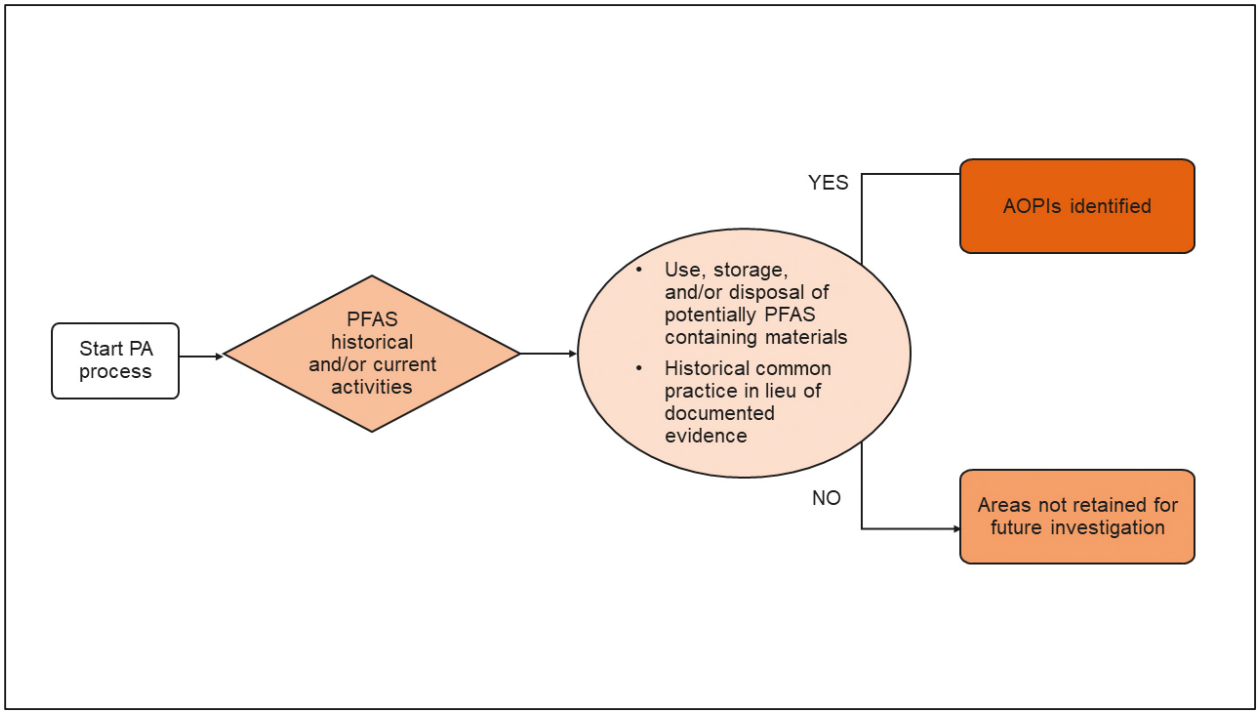

Figure 5-1: AOPI Decision Flowchart

The areas not retained for further investigation are presented in **Section 5.1**.

Data limitations for this PA at Fort Hamilton are presented in **Section 6**.

5.1 Areas Not Retained for Further Investigation

Through the evaluation of information obtained during records review and personnel interviews, the areas described below were categorized as areas not retained for further investigation. These areas were previously identified as potential PFAS sources at Fort Hamilton. However, following the PA, PFAS use, storage, and/or disposal was not suspected at these areas. These areas are not retained for further investigation at this time but may be re-evaluated at a later date if additional information is collected and/or updated Army guidance is issued.

A brief site history for areas not retained for further investigation and the rationale for eliminating the areas as AOPIs is presented in **Table 5-1**, below.

Table 5-1. Installation Areas Not Retained for Further Investigation

Area Description	Dates of Operation	Relevant Site History	Rationale
Historical Fort Hamilton Fire Station	Approximately 1910 to 1950s	A fire station located at Fort Hamilton was in operation during the early half of the 20th century. After this fire station ceased operations, Fort Hamilton relied on both the NYC and Brooklyn fire departments for fire response.	The years of operation for this fire station do not coincide with the use of AFFF starting 1969.
Building 126 –Pesticide Management Shop	1955 to Present	Pesticide Management Shop is operated by a BASOPS contractor at Fort Hamilton. Stores pesticides used on installation for pest mitigation.	Pesticide use proposals from 2011 and 2016 to 2018 were reviewed. Pesticides stored on-post were not found to contain PFAS.
Pesticide Application Areas	Uncertain	Pesticides were applied around buildings at Fort Hamilton for pest management.	Review of 2011 and 2016-2018 Pesticide Use Proposals indicated that PFAS containing pesticides were not used at Fort Hamilton.
Building 127 – Installation Support Vehicle Maintenance Shop	1955 to Present	Maintenance shop operated by the Logistics Readiness Center. A list of chemicals used at this location was provided following the site-visit.	Review of maintenance shop chemical inventory identified one product confirmed to contain PFAS: Cerflon® (Chemical Abstracts Service Number: 009002-84-0). However, it is unlikely to be a concern due to small scale use of the product.
Building 127W – Vehicle Maintenance Facility	Uncertain	Supplementary building to Building 127. Confirmed during site visit that this building was not used for vehicle maintenance. Operated	Did not confirm use, storage, or disposal of PFAS containing materials at this location.

Area Description	Dates of Operation	Relevant Site History	Rationale
		as a hazardous material storage pick up bay.	
Building 105 – Civil Support Team Maintenance Shop	Uncertain	Building operated by the Civil Support Team for nuclear, biological and chemical response. Minor vehicle operations reportedly occurred at this location.	Vehicle maintenance operations conducted at this location were deemed to be minor and small scale. PFAS containing chemical use, storage, or disposal was not confirmed at this location.
Building 103 –NYARNG Field Maintenance Shop 12	2012 to Present	Vehicle maintenance shop operated by the NYARNG since 2012. NYARNG environmental analyst stated that minor vehicle maintenance is conducted on trucks and Humvees at this location.	Did not confirm use, storage or disposal of PFAS containing materials at this location.
Building 106 –NYARNG Loading Dock	Uncertain	Identified during the Fort Hamilton site visit as a loading dock and storage area for NYARNG Building 103. Materials reportedly stored include oil drums and vehicle parts per NYARNG environmental analyst.	Did not confirm use, storage, or disposal of PFAS containing materials at this location.
Building 104 –Vehicle Wash Rack	2012 to Present	Identified during the site visit as a vehicle wash rack operated by NYARNG and maintained by Fort Hamilton.	Did not confirm use, storage, or disposal of PFAS containing materials at this location.
Building 200 –AAFES Station	1998	During a 1998 investigation, benzene, toluene, ethylbenzene and xylene contamination was discovered near the gasoline underground storage tanks at Building 200. An estimated 2,000 gallons of free product was reported to have	Confirmed during site visit that AFFF was not used in response to this spill. As no PFAS use, storage, or disposal were identified at Fort Hamilton, groundwater extracted by the pump and treat system would not have introduced

Area Description	Dates of Operation	Relevant Site History	Rationale
Building 200 –AAFES Station		leaked. A dual-phase extraction remediation system was installed in 2008. Collected contaminated groundwater was pumped to the Fort Hamilton sanitary lift station. In 2013, the dual phase extraction was switched to soil vapor extraction only. Subsequently, monitored natural attenuation was implemented as a site remedy in 2018.	PFAS into the sanitary sewer system.

6 DATA LIMITATIONS AT FORT HAMILTON

Data collected during the PA, as discussed in **Section 3**, **Section 4**, and **Section 5** were sufficient to draw the conclusions summarized in **Section 7**. The data limitations relevant to the development of this PA for PFAS at Fort Hamilton are discussed below.

No historical AFFF use at Fort Hamilton was discovered in records reviewed during the PA process. Therefore, no procurement records of AFFF and no documentation of AFFF use during crash responses or fire training activities are expected to exist. Knowledge pertaining to the potential for any AFFF use at Fort Hamilton was limited to available installation and FDNY personnel and may have been restricted by their time spent at the installation or previously held roles that limited their relevant knowledge of potential AFFF (or other PFAS) use. These accounts stretch as far back as 1978, and a data-gap remains between the years of 1969 and 1978.

Chemical inventories for NYARNG operated vehicle storage, maintenance and wash rack areas were requested, but not provided at the time of this report. The use, storage, or disposal of PFAS containing materials at these locations was not confirmed.

A comprehensive well survey was not completed as part of this PA; therefore, the information reviewed regarding off-post wells is limited to what is contained in the EDR well search results. The EDR well search report (**Appendix E**) was reviewed when searching for potential off-post drinking water receptors.

The searches for ecological receptors and off-post PFAS sources were not exhaustive and were limited to easily identifiable and readily available information evaluated during the relevant documents research, installation personnel interviews, and site reconnaissance.

Finally, the available PFAS analytical data is limited to the UCMR3 monitoring/results from the NYC water supply, as well as limited to a select list of PFAS which were analyzed per the selected analytical method.

7 CONCLUSIONS AND RECOMMENDATIONS

The Army's PFAS PA focused on identifying the locations of potential PFAS use, storage, and disposal of PFAS containing materials per the Army Guidance for Addressing Releases of Per-and Polyfluoroalkyl Substances (Army 2018) at Fort Hamilton.

Although there is currently no federal maximum contaminant level for drinking water defined for any PFAS, OSD provided residential risk screening levels for PFOS, PFOA, and PFBS in soil and groundwater (tap water) and industrial/commercial risk screening levels for PFOS, PFOA, and PFBS in soil (**Appendix A**). 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, storage, and disposal at Fort Hamilton. Following the evaluation, no AOPIs were identified.

Further investigation of PFAS is not recommended at Fort Hamilton at this time.

8 REFERENCES

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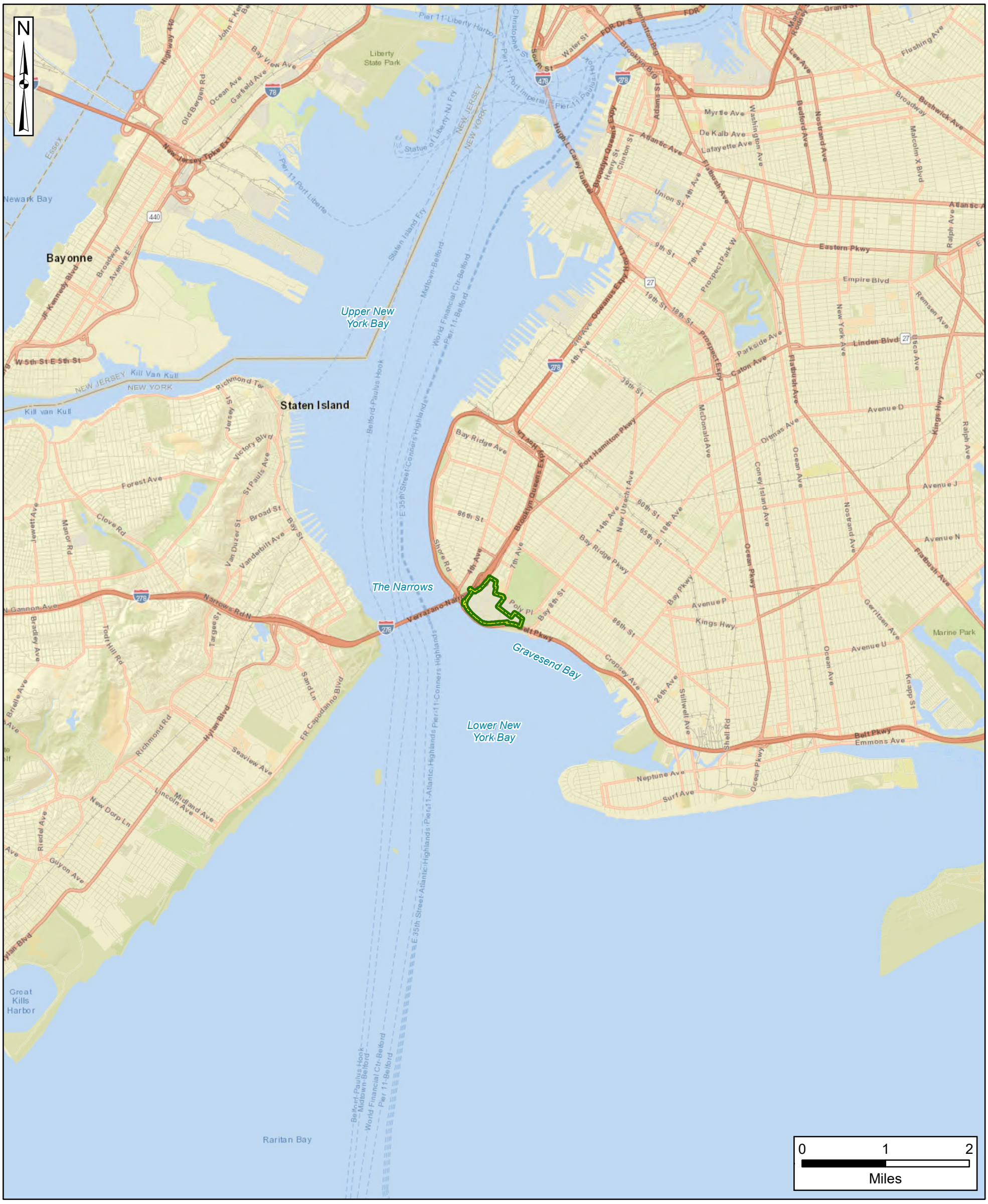
FIGURES

USAEC PFAS Preliminary Assessments
Fort Hamilton, NY

Figure 2-1
Site Location



Installation Boundary

Data Sources:
ESRI ArcGIS Online, StreetMap Data

Coordinate System:
WGS 1984, UTM Zone 18 North

USAEC PFAS Preliminary Assessments
Fort Hamilton, NY

Figure 2-2
Site Layout

Installation Boundary

Approximated Groundwater Flow Direction

Data Sources:
ESRI ArcGIS Online, Aerial Imagery

Note: Approximated Groundwater flow direction inferred from 1994 USGS Report 'Ground-Water Resources of Kings and Queens Counties, Long Island, New York.

Coordinate System:
WGS 1984, UTM Zone 18 North

USAEC PFAS Preliminary Assessments
Fort Hamilton, NY

Figure 2-3
Topographic Map

Installation Boundary

Elevation Contour (feet)

Data Sources:
ESRI ArcGIS Online, Aerial Imagery

Coordinate System:
WGS 1984, UTM Zone 18 North

APPENDIX A

Office of the Secretary of Defense. 2019. Memorandum: Investigating Per- and Polyfluoroalkyl Substances within the Department of Defense Cleanup Program. October 15.

ASSISTANT SECRETARY OF DEFENSE
3500 DEFENSE PENTAGON
WASHINGTON, DC 20301-3500

OCT 15 2019

SUSTAINMENT

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS, ENERGY AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE NAVY (ENERGY, INSTALLATIONS AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE AIR FORCE (INSTALLATIONS, ENVIRONMENT AND ENERGY)
DIRECTOR, NATIONAL GUARD BUREAU (JOINT STAFF, J8)
DIRECTOR, DEFENSE LOGISTICS AGENCY (INSTALLATION SUPPORT)

SUBJECT: Investigating Per- and Polyfluoroalkyl Substances within the Department of Defense Cleanup Program

The Department of Defense (DoD) conducts cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Defense Environmental Restoration Program (DERP). Our goal is protection of human health and the environment in a risk-based, fiscally-sound manner. This memorandum provides clarifying technical guidance on the investigation of perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), and perfluorobutanesulfonic acid (PFBS). This guidance is applicable to investigating PFOS, PFOA, and PFBS at Environmental Restoration Account-funded, Base Realignment and Closure Account-funded, and Operation and Maintenance accounts for the National Guard-funded sites.

PFOS, PFOA, and PFBS are part of a larger class of chemicals known as per- and polyfluoroalkyl substances (PFAS). PFAS shall be addressed in the same manner as other contaminants of concern within the DERP.

Under CERCLA, site-specific regional screening levels[1] (RSLs) for PFOS and PFOA are calculated using the Environmental Protection Agency (EPA) online calculator using the oral reference dose (RfD) of 2E-05 mg/kg-day. The RSL for PFBS is calculated using the EPA Provisional Peer Reviewed Toxicity Value (PPRTV) RfD of 2E-02 mg/kg-day, or it may be read off the tables available on the EPA RSL website. The values are provided in the attachment. These RSLs should be used for screening to determine if further investigation in the remedial investigation (RI) phase is warranted or if the site can proceed to site closeout. When multiple PFAS are encountered at a site, a 0.1 factor is applied to the screening level. For example, in cases where there are multiple PFAS, the screening level for PFOS and PFOA individually in tap water is 40 parts per trillion (ppt) (0.1 x 400 ppt = 40 ppt) and for PFBS it is 40 parts per billion (40,000 ppt).

[1] For sites on the National Priorities List, the DoD Components will use the EPA site specific screening levels, if provided.

During the RI phase, the RfDs for PFOS, PFOA, and PFBS and the oral cancer slope factor (CSF) for PFOA of 0.07 $(mg/kg\text{-}day)^{-1}$ will be used to conduct site specific risk assessments in accordance with Risk Assessment Guidance for Superfund Volume I, Part A (EPA/540/1-89/002, December 1989). Site-specific risk assessment results will be used to determine if any necessary remedial actions are required in accordance with CERCLA, DERP, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

My point of contact for this matter is Ms. Deborah Morefield at 703-571-9067 or deborah.a.morefield.civ@mail.mil.

Robert H. McMahon

Attachment:
As stated

Attachment: Risk Screening Levels Calculated for PFOS, PFOA, PFBS in Groundwater or Soil Using EPA's RSL Calculator

Chemical	Carcinogenic Slope Factor - Oral (SF) $(mg/kg\text{-}day)^{-1}$	Non-Carcinogenic Reference Dose (RfD) (mg/kg-day)	Residential Scenario Screening Levels Calculated Using EPA RSL Calculator								Industrial/Commercial Composite Worker Screening Levels Calculated Using EPA RSL Calculator			
			Tap Water (µg/L or ppb)				Soil (mg/kg or ppm)				Soil (mg/kg or ppm)			
			HQ = 0.1	HQ = 1.0	ILCR = 1E-06	ILCR = 1E-04	HQ = 0.1	HQ = 1.0	ILCR = 1E-06	ILCR = 1E-04	HQ = 0.1	HQ = 1.0	ILCR = 1E-06	ILCR = 1E-04
PFOS	NA	2.00E-05	0.040	0.40	NA	NA	0.13	1.3	NA	NA	1.6	16	NA	NA
PFOA	7.00E-02	2.00E-05	0.040	0.40	1.1	111	0.13	1.3	7.8	775	1.6	16	33	3,280
PFBS	NA	2.00E-02	40	400	NA	NA	130	1300	NA	NA	1600	16000	NA	NA

HQ=Hazard Quotient
ILCR=Incremental Lifetime Cancer Risk
NA=Not available/applicable

NOTES:

- The table represents screening levels based on residential and industrial/commercial worker receptor scenarios for either direct ingestion of groundwater (residential scenario only) or incidental ingestion of contaminated soil (both residential and composite worker scenarios).
- All values were calculated using slope factors or reference doses for PFOS and PFOA published by EPA Office of Water in support of the LHA, and default exposure assumptions for each potential receptor scenario, contained in EPA's RSL Calculator on April 6, 2018.
- Peer reviewed toxicity values considered valid for risk assessment exist for PFBS, and the screening levels may be found in EPA's RSL table or EPA's RSL calculator used to develop them.
- Other potential receptor scenarios (e.g., recreational user, site trespasser, construction worker) are not included in the above table, but could be relevant receptors at a site potentially contaminated with PFOS, PFOA and/or PFBS. These receptors, and their associated exposure scenarios, should be further considered in the scoping phase and completion of the Baseline Human Health Risk Assessment typically completed during an RI.
- The shaded values represent conservative screening levels for PFOS and PFOA in groundwater or soil that when exceeded should be considered a contaminant of potential concern in the risk assessment process and calculations of site-specific risk posed.

APPENDIX B

Preliminary Assessment Quality Control Checklist

Appendix B
Installation Preliminary Assessment Quality Control Checklist
Per- and Polyfluoroalkyl Substances Preliminary Assessment
Fort Hamilton, NY

Action Item *(Target Date)*	Comments	Completed Date	Completed By
Preliminary Assessment			
Pre-Site Visit			
Kickoff teleconference *(6 weeks prior to site visit)*	Arcadis U.S., Inc. (Arcadis) hosted a teleconference to introduce the U.S. Army Environmental Command (USAEC) per-and polyfluoroalkyl substances program with Fort Hamilton, the U.S. Army Corps of Engineers (USACE), and the USAEC.	18 July 2018	A. Gupta
Kickoff teleconference meeting minutes *(1 week after teleconference)*	Deliverable was reviewed by Arcadis Regional Lead and Technical Editor prior to distribution to Fort Hamilton, the USACE, and the USAEC.	26 July 2018	A. Gupta
Pre-site visit records search *(6 weeks prior to site visit)*	Arcadis initiated the Fort Hamilton records search in July 2018.	30 July 2018	A. Gupta
Read-ahead package *(2 weeks prior to site visit)*	Deliverable was reviewed by Arcadis Regional Lead and Technical Editor prior to distribution to Fort Hamilton, the USACE, and the USAEC.	5 September 2018	A. Gupta
Site Visit			
Notification	Arcadis regional lead finalized site visit logistics and requested contact information for interviewees with submission of read-ahead package.	14 September 2018	A. Gupta
In-briefing	Arcadis hosted an in-briefing for several personnel, including the Fort Hamilton Deputy Commander, Directorate of Public Works and fire department staff. NYARNG, USACE and USAEC representatives attended via teleconference.	17 September 2018	A. Gupta
Site visit records search	Arcadis collected various documents and records during the site visit.	17 September	A. Gupta
Site visit personnel interviews	Arcadis interviewed several personnel (Fort Hamilton DPW, FDNY, NYARNG) during the site visit, completing interview logs for each interviewee (or group of interviewees).	17 September 2018	A. Gupta
Site reconnaissance trips	There were no site reconnaissance trips performed during the Fort Hamilton Site Visit.	17 September 2018	A. Gupta
Exit briefing	Arcadis hosted an informal exit briefing with Nicholas Protopsaltis, Fort Hamilton DPW.	17 September 2018	A. Gupta
Scheduled area of potential interest (AOPI) teleconference	During the site visit, Arcadis scheduled or obtained possible dates for the AOPI teleconference from necessary U.S. Army and Reserve installation points of contact.	17 September 2018	A. Gupta

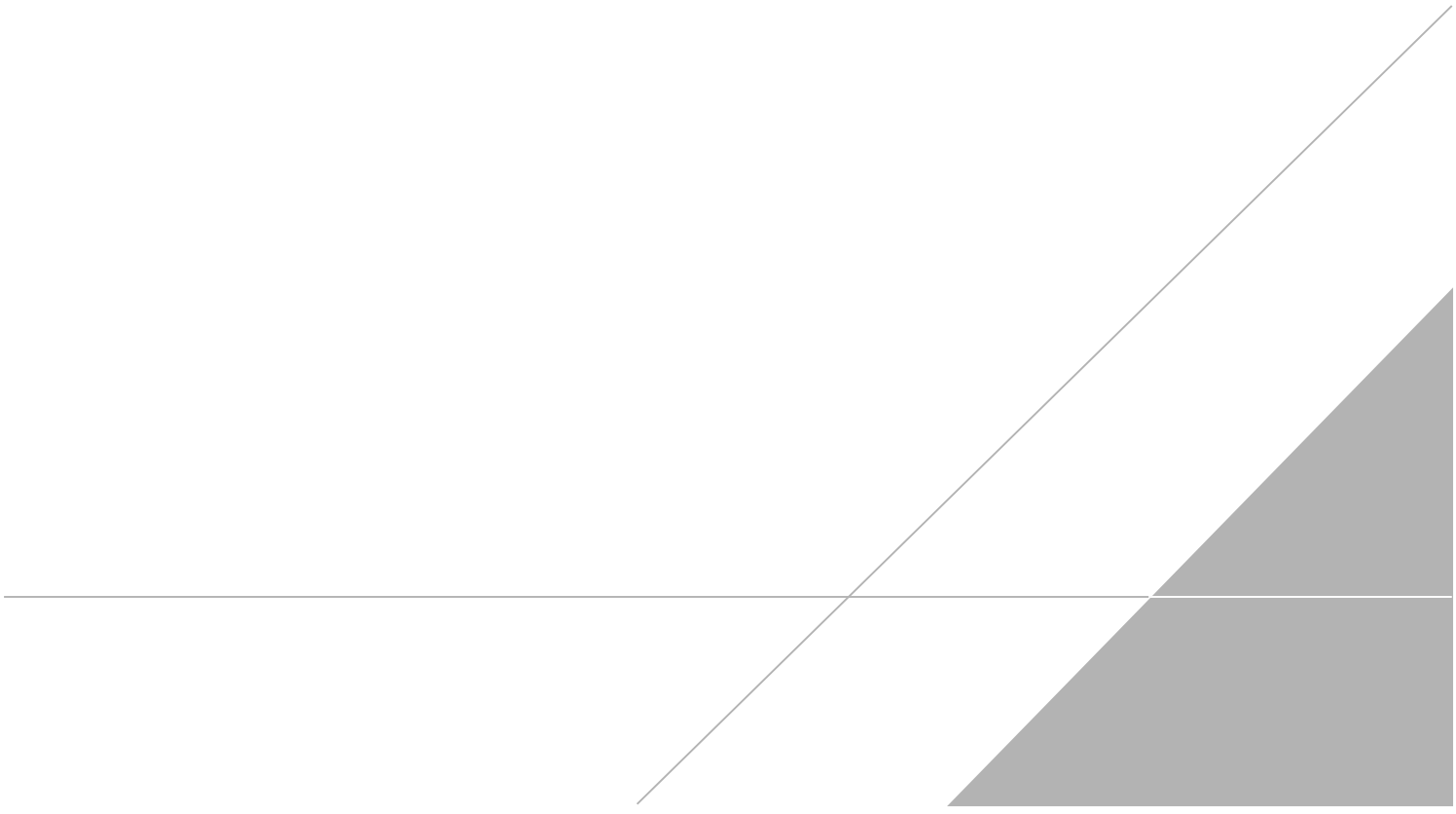
Appendix B
Installation Preliminary Assessment Quality Control Checklist
Per- and Polyfluoroalkyl Substances Preliminary Assessment
Fort Hamilton, NY

Action Item *(Target Date)*	Comments	Completed Date	Completed By
Post-Site Visit			
Data compilation, verification, and review	Arcadis evaluated additional information and data collected during the site visit to determine AOPI designations.	3 October 2018	A. Gupta
Site Visit Trip Report *(submittal and closing of pending action items within 2 weeks of site visit)*	Deliverable was reviewed by Arcadis Regional Lead and Technical Editor prior to distribution to Fort Hamilton, the USACE, and the USAEC.	3 October 2018	A. Gupta
Post-site visit teleconference *(within 4 weeks of site visit)*	Arcadis submitted details on the list of non-AOPIs to Fort Hamilton, the USACE, and USAEC staff. AEC provided concurrence to list of non-AOPIs on 15 November 2018 via email.	14 November 2018	A. Gupta
Preliminary Assessment Report			
Draft Preliminary Assessment Report	Deliverable was reviewed by Arcadis Regional Lead, Quality Control Reviewer, and Technical Editor prior to distribution to Fort Hamilton, the USACE, and the USAEC.	22 November 2019	A. Gupta
Response to Comments discussion teleconference *(within 15 days of receipt of comments)*	Arcadis hosted a discussion of the comments received to date with Fort Hamilton, the USACE, and the USAEC; resolutions to address the comments were agreed upon.	N/A	N/A
Submittal of responses to comments	The comments were addressed as agreed upon during the response to comment discussion teleconference, and the response to comment matrix detailing the completed revisions was submitted to Fort Hamilton, the USACE, and the USAEC.	8 April 2020	A. Gupta
Final Preliminary Assessment Report *(submittal within 45 days of receipt of comments)*	Revised deliverable was reviewed by Arcadis Regional Lead, Quality Control Reviewer, and Technical Editor prior to distribution to Fort Hamilton, the USACE, and the USAEC.	28 August 2020	A. Gupta

Preliminary assessment complete at Fort Hamilton - Quality Control Reviewer **Jessica Travis, Seres E&S**

APPENDIX C

Antiterrorism/Operations Security Review Cover Sheet



U.S. Army Corps of Engineers

CONTRACT REQUIREMENTS PACKAGE

ANTITERRORISM/OPERATIONS SECURITY REVIEW COVER SHEET

For use of this form, see AR 525-13, ALARACT 015/2012; and USACE OPORD 2013-74; the proponent agency is CECO-P.

SECTION I - CONTRACT INFORMATION

1. CONTRACT TITLE	2. LOCATION
US Army Environmental Command Preliminary Assessments (PAs) of Perfluorooctane Sulfonate (PFOS)	Nationwide
3. SOLICITATION/CONTRACT NO.	4. CLASS APPROVAL REQUEST NUMBER
W912DR-13-D-0019	

5. CONTRACT TYPE

☐ Construction ☐ IDIQ ☒ MATOC ☐ SATOC ☐ Service ☐ Supply ☐ Task Order

☐ Other (*specify*) _____

SECTION II - PURPOSE

Part A. Purpose of cover sheet is to document the review of the requirements package performance work statement (PWS)/statement of work (SOW)/ statement of requirements (SOR) for antiterrorism (AT) and other related protection matters to include, but not limited to: operation security (OPSEC), information assurance (IA), physical security, law enforcement, intelligence and foreign disclosure. **Army policy requirement:** A Signed AT/OPSEC cover sheet is required to be included in all requirements packages except for supply contracts under the simplified acquisition level threshold ($150K), field ordering officer actions and Government purchase card purchases. Local policy may require this form for supply contracts under the simplified acquisition level threshold based on risk and threat. **Mandatory review and signatures**: The organizational Antiterrorism Officer (ATO) and OPSEC Officer must review each requirements package, unless a signed class approval request form is completed, prior to submission to the supporting contracting activity to include coordination with other staff review as appropriate. If the requiring activity (RA) does not have an ATO or OPSEC Officer, the first ATO and OPSEC Officer in the chain of command will review the contract for AT/OPSEC considerations.

SECTION III - STANDARD CONTRACT LANGUAGE

Part B. Standard Contract Language and/or Additional PWS/SOW/SOR Language. The applicability of each requirement must be considered and each block must be checked "Yes" or "N/A". If the standard PWS/SOW/SOR language text found in Section VIII. of this form is sufficient to meet specific contract request requirements, check "Yes" in block below and include this language in the PWS/SOW/SOR. If the standard PWS/SOW/SOR language applies, but is not in of itself sufficient, check "Yes" and include both the standard language and additional contract specific language in the PWS/SOW/SOR. If standard PWS/SOW/SOR language text does not apply, check "N/A".

SECTION IV - REQUIRED CLAUSES

Required Clause(s) (*see Section VIII for sample language*)	YES	N/A
1. AT Level I training *(general).*	☒	☐
2. Access and General Protection/Security Policy and Procedures.	☒	☐
2a. Contractors requiring Common Access Card (CAC).	☒	☐
2b. Contractors who do not require CAC, but require access to a Department of Defense (DoD) facility or installation.	☒	☐
3. AT Awareness training for contractor personnel traveling overseas.	☒	☐
4. iWATCH and/or CorpsWatch training.	☒	☐
5. Access to government information systems.	☐	☒
6. OPSEC SOP/Plan requirements.	☒	☐
7. Requirement for OPSEC training.	☒	☐
8. Information assurance/information technology training.	☐	☒
9. Information assurance/information technology training certification.	☐	☒
10. Contractors Authorized to Accompany the Force (OCONUS).	☐	☒
11. Contract requires performance or delivery in a foreign country (OCONUS).	☐	☒
12. Handling/Access to Classified Information.	☐	☒
13. Will be escorted in areas where they may be exposed to classified and/or sensitive materials.	☐	☒
14. Contractor Company to obtain a Facility Clearance and individual clearances at the appropriate level.	☐	☒

15. Pre-screen candidates using E-Verify Program.	☐	☒
16. For contracts requiring armed security guards.	☐	☒
17. Threat Awareness Reporting Program (TARP) training.	☐	☒

SECTION V - REMARKS

1. CONTRACT TITLE	2. LOCATION
US Army Environmental Command Preliminary Assessments (PAs) of Perfluorooctane Sulfonate (PFOS)	Nationwide
3. SOLICITATION/CONTRACT NO.	4. CLASS APPROVAL REQUEST NUMBER
W912DR-13-D-0019	

5. CONTRACT TYPE

☐ Construction ☐ IDIQ ☒ MATOC ☐ SATOC ☐ Service ☐ Supply ☐ Task Order

☐ Other (*specify*) _____

SECTION VI - ANTITERRORISM REVIEWER'S SIGNATURE

I am ATO Level II certified and I have reviewed the requirements package and understand my responsibilities IAW Army Regulation 525-13, Antiterrorism.

1. TYPED OR PRINTED NAME	2. RANK/CIVILIAN GRADE	3. PHONE NUMBER
Pratya Siriwat	GS14	210-466-1656
4. SIGNATURE	5. DATE	
SIRIWAT.PRATYA.1159129710 Digitally signed by SIRIWAT.PRATYA.1159129710 Date: 2018.07.27 16:19:09 -05'00'	2018-07-27	

SECTION VII - OPERATIONS SECURITY REVIEWER'S SIGNATURE

I am OPSEC Level II certified and have reviewed the requirements package to ensure that there are no OPSEC concerns regarding the release and/or publication of attached documentation to public forums as well as to determine OPSEC requirements for the Contractor, and understand my responsibilities IAW Army Regulation 530-1, Operations Security.

1. TYPED OR PRINTED NAME	2. RANK/CIVILIAN GRADE	3. PHONE NUMBER
Pratya Siriwat	GS14	210-466-1656
4. SIGNATURE	5. DATE	
SIRIWAT.PRATYA.1159129710 Digitally signed by SIRIWAT.PRATYA.1159129710 Date: 2018.07.27 16:19:45 -05'00'	2018-07-27	

SECTION VIII - STANDARD CONTRACT PROVISION AND CLAUSE TEXT APPLICABILITY AND/OR ADDITIONAL PWS/SOW/SOR LANGUAGE

(To access a Word version of page 3 and 4 for this form please click on the attachment icon on the left of the form)

1. **AT Level I Training.** This provision/contract text is for contractor employees with an area of performance within an Army controlled installation, facility or area. **Proposed language:** "All contractor employees, to include subcontractor employees, requiring access to Army installations, facilities, controlled access areas, or require network access, shall complete AT Level I awareness training within 30 calendar days after contract start date or effective date of incorporation of this requirement into the contract, whichever is applicable. Upon request, the contractor shall submit certificates of completion for each affected contractor employee and subcontractor employee, to the COR or to the contracting officer (if a COR is not assigned), within 5 calendar days after completion of training by all employees and subcontractor personnel. AT Level I awareness training is available at the following website: http://jko.jten.mil/courses/atl1/launch.html; or it can be provided by the RA ATO in presentation form which will be documented via memorandum."

2. **Access and General Protection/Security Policy and Procedures**. This standard language text is for contractor employees with an area of performance within an Army controlled installation, facility or area. **Proposed language**: "All contractor and all associated sub-contractors employees shall comply with applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative). The contractor shall also provide all information required for background checks to meet installation/facility access requirements to be accomplished by installation Provost Marshal Office, Director of Emergency Services or Security Office. Contractor workforce must comply with all personal identity verification requirements (FAR clause 52 204-9, Personal Identity Verification of Contractor Personnel) as directed by DOD, HQDA and/or local policy. In addition to the changes otherwise authorized by the changes clause of this contract, should the Force Protection Condition (FPCON) at any installation or facility change, the Government may require changes in contractor security matters or processes."

2a. **For contractors requiring Common Access Card (CAC).** Before CAC issuance, the contractor employee requires, at a minimum, a favorably adjudicated National Agency Check with Inquiries (NACI) or an equivalent or higher investigation in accordance with Army Directive 2014-05 and Homeland Security Presidential Directive-12 (HSPD-12). **Proposed language:** "The contractor and all sub-contractors employees will be issued a CAC only if duties involve one of the following: (1) Both physical access to a DoD facility and access, via logon, to DoD networks on-site or remotely; (2) Remote access, via logon, to a DoD network using DoD-approved remote access procedures; or (3) Physical access to multiple DoD facilities or multiple non-DoD federally controlled facilities on behalf of the DoD on a recurring basis for a period of 6 months or more. At the discretion of the sponsoring activity, an interim CAC may be issued based on a favorable review of the FBI fingerprint check and a successfully scheduled NACI at the Office of Personnel Management."

2b. **For contractors who do not require CAC, but require access to a DoD facility or installation. Proposed language**: Contractor and all associated sub-contractors employees shall comply with adjudication standards and procedures using the National Crime Information Center Interstate Identification Index (NCIC-III) and Terrorist Screening Database (TSDB) (Army Directive 2014-05 / AR 190-13), applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative, as NCIC and TSDB are available), or, at OCONUS locations, in accordance with status of forces agreements and other theater regulations.

3. **AT Awareness Training for Contractor Personnel Traveling Overseas**. This standard language text required US based contractor employees and associated sub-contractor employees to make available and to receive government provided area of responsibility (AOR) specific AT awareness training as directed by AR 525-13 (Antiterrorism). Specific AOR training content is directed by the combatant commander with the unit ATO being the local point of contact. **Proposed language**: "All US based contractor employees and associated sub-contractor employees traveling overseas will receive the government provided AOR specific AT awareness training. The documentation of training completion must be provided to the COR prior to departure."

4. **Suspicious Activity Reporting Training (e.g.** iWATCH, CorpsWatch, or See Something, Say Something**).** This standard language is for contractor employees with an area of performance within an Army controlled installation, facility or area. **Proposed language:** "The contractor and all associated sub-contractors shall receive a brief/training (provided by the RA) on the local suspicious activity reporting program. This locally developed training will be used to inform employees of the types of behavior to watch for and instruct employees to report suspicious activity to the project manager, security representative or law enforcement entity. This training shall be completed within 30 calendar days of contract award and within 30 calendar days of new employees commencing performance with the results reported to the COR NLT 5 calendar days after the completion of the training."

5. **Contractor Employees Who Require Access to Government Information Systems.** This standard language text is for contractor employees with access to government info system. **Proposed language:** "All contractor employees with access to a government info system must be registered in the Army Training Certification Tracking System (ATCTS) at commencement of services, and must successfully complete the DOD Information Assurance Awareness prior to access to the information systems and then annually thereafter in accordance with personnel security standards listed in AR 25-2 (Information Assurance), an appropriate background investigation will be conducted prior to accessing the government information systems."

6. **For Contracts that Require an OPSEC Standing Operating Procedure/Plan.** This standard language text is for contractor employees with an area of performance for classified contracts or if the contract employee has access or responsibility to protect critical information. The Contractor, in collaboration with RA OPSEC Officer, shall develop an OPSEC Standard Operating Procedure (SOP)/Plan within 90 calendar days of contract award per AR 530-1 (Operations Security). **Proposed language:** "The Contractor shall develop an OPSEC SOP/Plan within 90 days of contract award. The OPSEC SOP/Plan must be reviewed and approved by the RA OPSEC Officer. The SOP/Plan will include the government's critical information, why it needs to be protected, where it is located, who is responsible for it and how to protect it. In addition, the contractor shall identify an individual who will be an OPSEC Coordinator."

7. **For Contracts that Require OPSEC Training.** Per AR 530-1, (Operations Security) contractor employees must complete Level I OPSEC Training within 30 calendar days of contract award. **Proposed language**: "All new contractor employees will complete Level I OPSEC Training within 30 calendar days of their reporting for duty. Additionally, all contractor employees must complete annual OPSEC awareness training. The contractor shall submit certificates of completion for each affected contractor and subcontractor employee, to the COR or to the contracting officer (if a COR is not assigned), within 5 calendar days after completion of training. OPSEC awareness training is available at the following websites: https://www.iad.gov/ioss/ or http://www.cdse.edu/catalog/operations-security.html; or it can be provided by the RA OPSEC Officer in presentation form which will be documented via memorandum."

8. **For Information assurance (IA)/information technology (IT) training.** This standard language text is for contract employees who need network access and/or working IA/IT functions. **Proposed language**: "All contractor employees and associated sub-contractor employees must complete the DoD IA awareness training before issuance of network access and annually thereafter. All contractor employees working IA/IT functions must comply with DoD and Army training requirements in DoDD 8570.01, DoD 8570.01-M and AR 25-2 within six months of employment."

9. **For information assurance (IA)/information technology (IT) certification.** Per DoD 8570.01-M , DFARS 252.239.7001 and AR 25-2, the contractor employees supporting IA/IT functions shall be appropriately certified upon contract award. The baseline certification as stipulated in DoD 8570.01-M must be completed upon contract award. **Proposed language:** "All contractor employees supporting IA/IT functions shall be appropriately certified upon contract IAW DoD 8570.01-M, DFARS 252.239-7001 and AR 25-2. The baseline certification as stipulated in DoD 8570.01-M must be completed upon contract award."

10. **For Contractors Authorized to Accompany the Force.** DFARS Clause 252.225-7040, Contractor Personnel Authorized to Accompany U.S. Armed Forces Deployed Outside the United States. The clause shall be used in solicitations and contracts that authorize contractor personnel to accompany US Armed Forces deployed outside the US in contingency operations; humanitarian or peacekeeping operations; or other military operations or exercises, when designated by the combatant commander. **Proposed language**: "All contractor employees shall ensure the following AT/OPSEC requirements are met prior to deploying personnel authorized to accompany U.S. Armed Forces outside the United States; to include compliance with laws, regulations, pre-deployment requirements, and required training in accordance with combatant command guidance."

11. **For Contracts Requiring Performance or Delivery in a Foreign Country.** DFARS Clause 252.225-7043, Antiterrorism/Force Protection for Defense Contractors Outside the US. The clause shall be used in solicitations and contracts that require performance or delivery in a foreign country. This clause applies to both contingencies and non-contingency support. **Proposed language:** "All non-local contracting personnel will comply with theater clearance requirements and allows the combatant commander to exercise oversight to ensure the contractor's compliance with combatant commander and subordinate task force commander policies and directives."

12. **For Contracts That Require Handling or Access to Classified Information.** This clause involves access to classified information, i.e. "Confidential," "Secret," or "Top Secret". **Proposed language**: "Contractor shall comply with AR 380-67 (Personnel Security Program) and Homeland Security Presidential Directive 12 (Policy for a Common Identification Standard for Federal Employees and Contractors) as well as FAR 52.204-2, Security Requirements. Additionally, Contractors must comply with - (1) The Security Agreement (DD Form 441), including the National Industrial Security Program Operating Manual (DoD 5220.22-M); any revisions to DOD 5220.22-M, notice of which has been furnished to the contractor. For classified contracts, the DD Form 254 will be attached with the contract."

13. **Will be escorted in areas where they may be exposed to classified and/or sensitive materials and/or sensitive or restricted areas.** The contractor will coordinate with the COR and/or the facility security office for access when required. (Use when security clearances are not required, i.e. facility repair or construction). **Proposed language**: "All contract employees, including subcontractor employees who are not in possession of the appropriate security clearance or access privileges, will be escorted in areas where they may be exposed to classified and/or sensitive materials and/or sensitive or restricted areas."

14. (FOR CLASSIFIED CONTRACTS ONLY) **Contractor Company to obtain a Facility Clearance and individual clearances at the appropriate level. Proposed language:** "The Prime Contractor Company must have a Facility Clearance (FCL) at the appropriate level (IAW the NISPOM DOD 5220.22-M and AR 380-49) prior to the start of the contract awarded period of performance. Contractor personnel performing work under this contract must have the required security clearance, per AR 380-67, at the appropriate level at the start of the period of performance. Security Clearances and FCL requirements are required to be maintained for the life of the contract IAW the DD Form 254 attached to the contract. If no FCL, the supporting Government Contracting Activity will sponsor the prime contract company in obtaining the FCL."

15. **Pre-screen candidates using E-Verify Program. Proposed language:** "The Contractor must pre-screen Candidates using the E-verify Program (http://www.uscis.gov/e-verify) website to meet the established employment eligibility requirements. The Vendor must ensure that the Candidate has two valid forms of Government issued identification prior to enrollment to ensure the correct information is entered into the E-verify system. An initial list of verified/eligible Candidates must be provided to the COR no later than 3 business days after the initial contract award." *When contracts are with individuals, the individuals will be required to complete a Form I-9, Employment Eligibility Verification, with the designated Government representative. This Form will be provided to the Contracting Officer and shall become part of the official contract file.

16. **For contract requiring armed security guards.** This standard language text is for contractor employees with an area of performance within an Army controlled installation, facility or area. The Physical Security Officer must or will review the PWS/SOW with the Contracting Officer (KO) for accuracy and completeness of AR 190-11 requirements. **Proposed language:** "All contractor and all associated sub-contractors employees shall comply with applicable installation, facility and area commander installation/facility policies and procedures on storing weapons and ammunition IAW AR 190-11 (provided by government representative)."

17. **Threat Awareness Reporting Program**. For all contractors with security clearances. Per AR 381-12 Threat Awareness and Reporting Program (TARP), contractor employees must receive annual TARP training by a CI agent or other trainer as specified in 2-4b. **Proposed language**: "All new contractor employees will complete annual Threat Awareness and Reporting Program (TARP) Training provided by a Counterintelligence Agent, IAW AR 381-12 . The contractor shall submit certificates of completion for each affected contractor and subcontractor employee(s) or a memorandum for the record, to the COR or to the contracting officer (if a COR is not assigned), within 5 calendar days after completion of training. Authorized web-based TARP training for CAC card holders is available at the following website: https://www.us.army.mil/suite/page/655474

APPENDIX D

GIS Deliverable CD

APPENDIX E

Installation EDR Survey Reports

APPENDIX F

Compiled Research Log

Document Location (name/type/location)	Document Date	Document Name	Author	Description of Information (type, general subject and PFAS relevance)
Administrative Record	June-2003	Site Assessment at AAFES Station Building 200	General Physics Corporation	Site and Remediation history pertinent to possible
Administrative Record	November-2008	Site Status Update	Plexus Scientific Corporation	Site and Remediation history pertinent to possible
Administrative Record	Unknown	Spill Incident Databasefile	Unknown	Site and Remediation history pertinent to possible
Administrative Record	November-2009	Procedure for Obtaining Letter of Approval for Groundwater Discharge to	NYCDEP	Information detailing groundwater discharge
Administrative Record	February-2009	Brooklyn NYCDEP/BCS Discharge Permit	City of New York	Discharge Permit
Administrative Record	April-2010	Brooklyn NYCDEP/BCS Discharge Permit	City of New York	Discharge Permit
Administrative Record	April-2011	Brooklyn NYCDEP/BCS Discharge Permit	City of New York	Discharge Permit
Administrative Record	November-2008	Flow to NYCDEP Sewer	O'Brien & Gere	Analytical Data detailing Groundwater discharge amounts
Administrative Record	July-2007	Fort Hamilton U.S. Army Garrison Building 200,	NYSDEC	Site and Remediation history pertinent to possible
Administrative Record	May-2011	Fort Hamilton Army Environmental Restoration	US Army	Site and Remediation history pertinent to possible
Administrative Record	September-2017	Fort Hamilton Spill Prevention, Control, and Countermeasure Plan with	US Army Environmental Command	Site and Remediation history pertinent to possible AOPI
Administrative Record	July-2015	Monitoring Wells & IRP Area Map	Zantech	Site specific information detailing monitoring well locations
Administrative Record	July-2018	Cultural Resources Map	Zantech	Site History information pertinent to the Installation
Administrative Record	Unknown	Current Assets File	US Army	Location details pertinent to the Installation
Administrative Record	February-2001	Intergrated Cultural Resources Management Plan (ICRMP) for Fort Hamilton	Panamerican Consultants, Inc.	Site History information pertinent to the Installation
Administrative Record	September-2011	Storm Water Management Plan Fort Hamilton, NY	U.S. Army Public Health Command	Fort Hamilton discharge permit information
Administrative Record	July-2018	US Army Garrison Fort Hamilton Installation Map	Fort Hamilton	Building location information
Historical documents collected during site visit folder	July-1982	Master Plan - General Site Map	Illegible	Provided dates of land transfers, including the transfer of the VA Hospital in 1945.
Historical documents collected during site visit	June-1927	Department of the Army - Easement for Public Highway	The Secretary of the Army	Property Easement for what is now the Belt Parkway from Fort Hamilton

Document Location (name/type/location)	Document Date	Document Name	Author	Description of Information (type, general subject and PFAS relevance)
Historical document collected during Site Visit	October-1962	Department of the Army - Easement for Road, Street, and Bridge	The Secretary of the Army	Property Easement for land used for Verrazano Bridge construction from Fort Hamilton

Notes:
AAFES - Army Air Force Exchange Service
AFFF - aqueous film forming foam
AOPI - Area of Potential Interest
AST - Above Ground Storage Tank
BCS - Brooklyn Community Services
ICRMP - Integrated Natural Resources Management Plan
IRP - Installation Restoration Program
NA - not available
NYC - New York City
NYCDEP - New York City Department of Environmental Protection
NYSDEC - New York State Department of Environmental Conservation
PFOA - perfluorooctanoic acid
PFOS - perfluorooctane sulfonate
UST - Underground Storage Tank
VA - Veteran Affairs

APPENDIX G

Compiled Interview Logs

ARCADIS Design & Consultancy for natural and built assets

Interview Log

Installation: Fort Hamilton **State:** New York

Date/Time: 17 September 2018 0930
Interviewer(s): Ankit Gupta, Matt Blower, Aubrey Thomas
Other Attendees: None

Person(s) Interviewed

Name	Title/Rank/Role	Time at Installation (or Other Affiliation)	Time in Current Role	Previously Held Roles (and Time)	Contact Phone/Email	Other Notes
Nicholas Protopsaltis	Env. Chief	Since 15 MAY 2016	Since 15 MAY 2016	NONE	718-630-4134	NONE
Nanda Thalasila	Env. Engineer	9 months	9 months	—	nanda.k.thalasila.civ@mail.mil	Mostly helps with compliance here.

Potential Areas of Potential Interest Discussed

Identified by current assets file:

Facility numbers:

- 106
- 0127W
- 127
- 126
- 103

ARCADIS Design & Consultancy for natural and built assets

General Knowledge Discussed

- No new information regarding AFFF knowledge at Fort Hamilton. No knowledge of AFFF usage here.
- No new knowledge or information about chromium plating operations. No current or historical chromium plating operations at Fort Hamilton.
- Vehicle Maintenance shops
  - Fac # 106 - NYARNG operations
  - Fac # ~~0127~~ 0127W - ~~the~~ Hazardous Waste. Operated by Baseops
  - Fac # 103 - NYARNG operations
  - Fac # 127 - Maintanence shop operated by LRC (Logistics Readiness Center)
  - Fac # 126 - Operated by Baseops. Hazardous Waste
- Confirmed that there are no landfills on location.

ARCADIS Design & Consultancy for natural and built assets

Documents Obtained

None during interview

Data Gaps or Items for Follow-Up

☐ List of materials used @ LRC building to be provided by N. Protopsaltis

ARCADIS Design & Consultancy for natural and built assets

Interview Log

Installation: Fort Hamilton **State:** New York

Date/Time: 17 September 2018 1100
Interviewer(s): Matt Blower, Aubrey Thomas
Other Attendees: Ankit Gupta

Person(s) Interviewed

Name	Title/Rank/Role	Time at Installation (or Other Affiliation)	Time in Current Role	Previously Held Roles (and Time period)	Contact Phone/Email	Other Notes
Andrew Carman	Fire inspector	13 years	13 years	NA	718-630-4961	Regulatory duties included.

Potential Areas of Potential Interest Discussed

Installation-wide

ARCADIS Design & Consultancy for natural and built assets

Installation: Fort Hamilton   Interviewee: Andrew Carman   Date: 17 September 2018

General Knowledge Discussed

- Battalion Chief Steven San Filippo for ~~NYCFD~~ FDNY in charge of foam, will call soon.
- No training using AFFF here. FDNY comes here to look at new construction, has seen demo's. No live fires.
- Had residential fire department sometime prior to bridge. (~1959) predates AFFF Fort Hamilton had agreement with the city when bridge (Verrazano Bridge) came up (mid 1960's?)
- No helicopter landing (regularly), however ~~random~~ (?) seldom landings, no crashes.
- Suppression Systems: 4 stove hood systems. Museum (carbon dioxide or FM25) only chemical based on-post. Everything else is water based/sprinkler system
- No mutual aid agreement. They have coverage with these ref. document
  → ~~NYC~~ *NYC Administrative Code 2-201, 2-202 → Stipulates responsibility to FDNY
  → NYC Charter ch 19, 487 edition? Sets boundaries for protection. Focuses on EMS side of the deal
- local fire houses probably would not have record of AFFF use, larger (Staten Island) would ~~have~~
- Former residential fire department ~~operations~~ (museum), unconfirmed size or operations.

<u>Call Steven San Filippo:</u> see other log.

ARCADIS Design & Consultancy for natural and built assets

Installation: Fort Hamilton Interviewee: Andrew Carman Date: 17 September 2018

Documents Obtained

None

Data Gaps or Items for Follow-Up

- Richard Sethna is responsible for suppression system inspection information
- Confirm with Justin Bott dates of Verrazano Bridge
- Nearby PFAS release; Hypothetical if tanker accident on belt
- Collect references from NYC Administrative Code and NYC Charter for details regarding the fire response/EMS services agreement between Fort Hamilton and FDNY.

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Interview Log

Installation: Fort Itelmiten **State:** New York

Date/Time: 17 September 2018 1120
Interviewer(s): Andy Calman, AG, MB, AT
Other Attendees: Niche

Person(s) Interviewed

Name	Title/Rank/Role	Time at Installation (or Other Affiliation)	Time in Current Role	Previously Held Roles (and Time period)	Contact Phone/Email	Other Notes
Battalion Chief Steven SanFilippo	Battalion Chief in charge of AFFF.	40 years	Since 2005, 13 years	FDNY	(718) 999-0393 Steven.SanFilippo@FDNY.nyc.gov	In charge of FDNY Foam (AFFF)

Potential Areas of Potential Interest Discussed

Installation-wide

ARCADIS Design & Consultancy for natural and built assets

Installation: Fort Hamilton Interviewee: Steven SanFilippo Date: 17 September 2018

General Knowledge Discussed

- Confirms that FDNY has ~~not~~ utilized AFFF on post within his career (~40 years)

- No time that AFFF was utilized on-post, or no immediately surrounding areas. (in last 40 yrs that he can tell)
- No knowledge of car fires.
- Would not use AFFF on drills, only active incidents
- Any local firehouses ~~to~~ carry a foam, but not Class B AFFF
  - ↳ they use C6 foam
  - ↳ National foam creating universal ~~foam~~ Green foam.
- NYS ban chemicals out of fire fighting foams, proposed. May ban C6 too.
- 249, 242 (↑ surrounding FDs) just 2 or 3 five-gallon containers

- No fire training areas near here. FDNY trains in Staten Island or at their fire academy.
- Predicts that they will have to incinerate AFFF when comes time to change their inventory.
- 19 depts ~~FDs~~ or that carry the 3 diff foams (AFFF, high-expansive foams, universal) carry more supposed to keep 50 quantity of each. To distribute to FDs.

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Installation: FORT Hamilton Interviewee: Steven SanFilippo Date: 17 September 2018

Documents Obtained

None

Data Gaps or Items for Follow-Up

- Provide depot's (5 fire cases) within 5 miles of installations that have AFFF,

- ~~All~~ AFFF SDSs (currently used)

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Interview Log

Installation: Ft. Hamilton **State:** NY

Date/Time: 09/17/2018 ; 1:30 PM
Interviewer(s): Ankit Gupta
Other Attendees:

Person(s) Interviewed

Name	Title/Rank/Role	Time at Installation (or Other Affiliation)	Time in Current Role	Previously Held Roles (and Time period)	Contact Phone/Email	Other Notes
RICHARD SETTINO	PROJECT MGR	15 yrs	10 yrs	ALT PROJECT MGR	718 630 4575 richard.w.settino.ctr@mail.mil	

Potential Areas of Potential Interest Discussed

⊛ → Fire suppression systems — Installation wide
— 4 stovehood systems
— Safety officer

see →

⊛ → Building 105 — Civil Support team
— Nuclear, chemical & biological response
— Minor operator level maintenance

→ Building 103 — NYARNG — Shop Manager

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Installation: Fort Hamilton Interviewee: Richard Settino Date: 17 September 2018

General Knowledge Discussed

* Building 127 — Since 1955 or so
  - Maintenance Facility
  - Will obtain list of chemicals
* Building 200 — Gas Station & Snacks shop, used to be 3 maintenance bays

- VA is pre-1964, before bridge.
- VA performs x-rays, photo?
- MTA rebuilt all new redbrick buildings in response to bridge land.

* Building 106 - A wash facility. No vehicles have been washed there (or regularly) This is NYARNG operated. Loading dock.

* Building 107 - LRC. Binder on the wall with list of chemicals

* Building 127W - Haz mat containers for pickup (light bulbs, used oil) Not used for vehicle maintenance.

* Building 126 - Pest Management Shop. Base ops. Have always been stored here in no career.
  - no leaks here
  - only keep what they need, no bulk storage. Have SDS's for all.
  - Cutter is a weedride
  - Since 2008, quantity (types, volume) has been reduced
  - Fort Hamilton received monthly & annual lists.
  - Since 2015, decreases. Could have possibly had PFAs in prior lists
  - Weedrides are only thing that is sprayed in mass, other areas are case specific.

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Installation: Fort Hamilton Interviewee: Richard Settino Date: 17 September 2018

Documents Obtained

None during interview.

Data Gaps or Items for Follow-Up

- Send us SDS for Cutter weedicide.
- Follow up with Nick about PUP prior to 2016. Dr Miller as back up same.
- Send us list of fire suppression systems on post.
- Ask Nick for list of chemicals in Building 127 (vehicle maintanence)

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Interview Log

Installation: Fort Hamilton **State:** New York

Date/Time: 17 September 2018 1500
Interviewer(s): Ankit Gupta, Matt Blover
Other Attendees: –

Person(s) Interviewed

Name	Title/Rank/Role	Time at Installation (or Other Affiliation)	Time in Current Role	Previously Held Roles (and Time period)	Contact Phone/Email	Other Notes
Mr. Gregory Austin	NYARNG Senior Environmental Analyst	2 years at NYARNG	2 years	23 years	(518) 786-4318	EPASS Inspections @ Ft. Hamilton - Compliance/NEPA/Clean-up guy

Potential Areas of Potential Interest Discussed

New York Army National Guard presence at Fort Hamilton.
- → FMS12
- → Civil support team in Building 105
- → Building 106 loading dock & 2 storage rooms

ARCADIS Desi[illegible]nsultancy for i[illegible]nd built[illegible]

Installation: Fort Hamilton Interviewee: Mr. Gregory Austin Date: 17 September 2018

General Knowledge Discussed

(Field Maintenance Shop, 12)

FMS 12, Facility # 103

→ Been here since 2012

→ Performs vehicle maintenance on trucks, humvees. Very minor repairs, oil changes.

→ ~~Prior to 2012~~ (#)

→ Vehicle wash rack behind FMS, no detergents used on wash racks, used occasionally, maintained by Garrison.

↑ NYARNG policy that no chemicals used in wash racks.

Civil Support team, Building 105

→ Been here since 2007

→ Operate as civil response team

→ civilian vehicles & staff on standby

→ Richard Setting indicated that Bldg 105 conducted vehicle maintenance. Mr. Austin states no knowledge of major vehicle work conducted there.

→ No fire fighting equipment/response @ Bldg 105

Building 106

→ Loading Dock; 2 storage rooms, some oil drums and vehicle parts.

Military Motorpool

→ Mostly ARNG vehicles, serves as military storage areas. All work conducted in maintanence bays.

Leasing agreement between NYARNG and Fort Hamilton.

Empire Shield - Security detachment: No hazardous wastes or AFFF
- Security police.

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Installation: FT Hamilton Interviewee: Mr. Greg Austin Date: 17 September 2018

Documents Obtained

None during call

Data Gaps or Items for Follow-Up

- List of lubricants/chemicals used at ARNG bldgs @ FT Hamilton
- SOP for wash Racks (NYARNG)
- Follow up with Kathy Hutchinson about lease agreement.

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Interview Log

Installation: Fort Hamilton **State:** New York

Date/Time: 17 September 2018 1400
Interviewer(s): AG, MB, AT
Other Attendees: None

Person(s) Interviewed

Name	Title/Rank/Role	Time at Installation (or Other Affiliation)	Time in Current Role	Previously Held Roles (and Time)	Contact Phone/Email	Other Notes
Justin Batt	Museum Curator	About 7 years combined	7 years	NA	(718) 630-4349 justin.m.batt.civ@mail.mil	Museum has only been here since 1980

Potential Areas of Potential Interest Discussed

VA Hospital, Verrazano Bridge

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General Knowledge Discussed

- Museum has been here since 1980, not much history collected before that.
- Has land transfer map. Ends 1962.
  - → Shows transfer October 1945 VA Hospital
  - ~~→ Shows~~ (A1)
- Narrus Bridge is Verranzano Bridge. Bridge ~~aquisit~~ aquisition/transfer dated to 1962 in leasing document.
- Able to conclude that Residential Fire Department prior to 1969 at least. ~~2 photos of fire department are prev to late~~ (A1)
- Images from before WWII
- Base housing demolition, houses rebuilt where old housing was.
- Built housing on top of old WWII barracks.
- Does not recall any fires on-post (or historically) during document research
- Does not think any chromium plating operations would have occurred.
- ~~Public Affairs~~ Never heard of historical landfills, WWTP's, photo processing.

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Documents Obtained

None dunney interview

Data Gaps or Items for Follow-Up

- He will email us land transfer figure and legend (Redevelopment Plan)

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Interview Log

Installation: Fort Hamilton **State:** NY

Date/Time: 09/17/18
Interviewer(s): ~~Aubrey Thomas~~, Matt Blower, Amit Gupta
Other Attendees:

Person(s) Interviewed

Name	Title/Rank/Role	Time at Installation (or Other Affiliation)	Time in Current Role	Previously Held Roles (and Time)	Contact Phone/Email	Other Notes
Craig Seba	~~Craig Seba~~ IG:INS Manager	18 years	18 years	–	Craig.S.seba.ctr@mail.mil	

Potential Areas of Potential Interest Discussed

Installation wide, GIS layers, easements.

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General Knowledge Discussed

- TBT A, B, Bridge easement GIS files are in his possession, he will send to Arcadis. Will send shapefiles.
- PWS well shown to be located in the middle of the installation likely inaccurately placed.
- No potable well GIS files available for areas outside the post.
- Discussed OPSEC requirements for figures.
- Pesticide - Sprayed a lot for West Nile virus. Large increase in spraying around installation. GIS layers display locations of catch basins.

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Documents Obtained

None during the site visit.

Data Gaps or Items for Follow-Up

- ☐ Check w/ Nick Protopsaltis on OPSEC requirements for figures
- ☐ Ask for GIS layer for catch basins, storm water discharges.
- ☐ Craig to check on GIS files for herbicide + Pesticide location maps.

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Interview Log

Installation: Fort Hamilton **State:** New York

Date/Time: 17 September 2018 1300
Interviewer(s): Matt Bikner, Audrey Thomas (AT)
Other Attendees: None

Person(s) Interviewed

Name	Title/Rank/Role	Time at Installation (or Other Affiliation)	Time in Current Role	Previously Held Roles (and Time period)	Contact Phone/Email	Other Notes
Kathy MAE. Kathryn Hutchinson	Real Property Officer	since 2005 13 years	since 2005	Real Property at Fort Totten Army Reserves	(718) 630-4487 MAE.K.Hutchinson.civ@mail.mil	
Deborah DeVito	Administrative Officer	45 years	45 years	NA	(718) 630-4744 deborah.a.devito4civ@mail.mil	

Potential Areas of Potential Interest Discussed

- Verrazano Bridge land
- VA Hospital land
- ~~Base Ops~~ (AT) Base housing demolition.

ARCADIS Design & Consultancy for natural and built assets

Installation: Fort Hamilton Interviewee: Kathy Hutchinson Date: 17 September 2018

General Knowledge Discussed

- Allowed MTA to use land under the bridge but Ft Hamilton still owns it. (it was an easement).
- Performed a Fort Hamilton title search, will give us a copy of search results as applicable (VA Hospital)
- 1962, MTA utilized land for bridge construction. Easement in 1962.
- Confirmation with coworker Debbie Dentz (who has been here 45 years) that no fire responses here. Emergency response from department on 92nd & 5th Administration office
- Began working here in 2005, before that there were not well kept records real estate
- VA Hospital information will show up in title search.
- Nick will have NEPA documents.
- Belt Parkway is also on installation land, easement exists for road use.
- Easement for sewage treatment line. DOT tied line sewage treatment facility into their system.
- NYC has easement for 1.9 acres.

ARCADIS Design & Consultancy for natural and built assets

Installation: Fort Hamilton Interviewee: Kathy Hutchinson Date: 17 September 2018

Documents Obtained

Easements associated with Belt Parkway

Easement associated with Verranzano Bridge land.

Data Gaps or Items for Follow-Up

- Obtain a copy of the updated map that accounts for additional land on other side of Belt Parkway, wharf (east)
- obtain all 4 of the easements
  - → Belt Parkway ✓
  - → Verranzano Bridge 35 x 40 acre easement ✓
  - → sewage treatment, DOT tied line sewage treatment facility into their system easement for DOT to use their line.
  - → NYC has easement for 1.9 acres

Follow up with Craig about easement GIS layers

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