NOVEMBER 2020

# FINAL
# PROJECT MANAGEMENT PLAN
# PFAS PHASE I REMEDIAL INVESTIGATION

## Fairchild Air Force Base

Spokane County, Washington

**U.S. Army Corps of Engineers**
**Seattle District**

**U.S. Air Force**
**Civil Engineer Center**

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# Project Management Plan

## Fairchild Air Force Base
## Spokane County, Washington

*Prepared for:*

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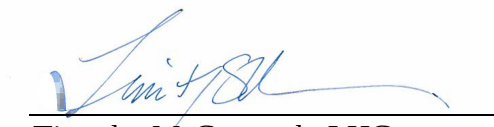
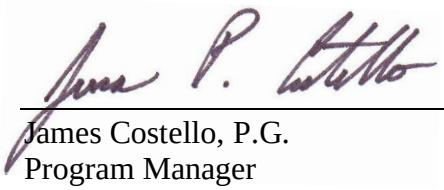


11/03/2020

Timothy McCormack, LHG — Date
Project Manager



11/03/2020

James Costello, P.G. — Date
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November 2020
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## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AFB | Air Force Base |
| AFCEC | Air Force Civil Engineer Center |
| AFFF | Aqueous Film Forming Foam |
| AHA | Activity Hazard Analysis |
| APP | Accident Prevention Plan |
| bgs | Below ground surface |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CLIN | Contract Line Item |
| COR | Contracting Officer Representative |
| CSM | Conceptual Site Model |
| DO | Delivery Order |
| DQO | Data Quality Objective |
| EA | EA Engineering, Science, and Technology, Inc., PBC |
| EDD | Electronic Data Deliverable |
| ERPIMS | Environmental Restoration Program Information Management System |
| FAFB | Fairchild Air Force Base |
| KO | Contracting Officer |
| MPS | Milestone Payment Schedule |
| No. | Number |
| ORP | Oxidation-reduction potential |
| PFAS | Per- and polyfluoroalkyl substances |
| PM | Project Manager |
| PMP | Project Management Plan |
| PMR | Project Management Review |
| PWS | Performance Work Statement |
| QA | Quality Assurance |
| QA/QC | Quality Assurance/Quality Control |
| QC | Quality Control |
| QCM | Quality Control Manager |
| RAB | Restoration Advisory Board |
| RI | Remedial Investigation |

## LIST OF ACRONYMS AND ABBREVIATIONS (continued)

| | |
|---|---|
| RPM | Remedial Project Manager |
| SI | Site Inspection |
| SSHO | Site Safety and Health Officer |
| SSHP | Site Safety and Health Plan |
| TDS | Total dissolved solids |
| USAF | United States Air Force |
| UFP-QAPP | Uniform Federal Policy-Quality Assurance Project Plan |
| U.S. | United States |
| USACE | United States Army Corps of Engineers |
| USEPA | United States Environmental Protection Agency |

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# 1. INTRODUCTION

This document presents the Project Management Plan (PMP) for completion of a Phase I Remedial Investigation (RI) to determine the nature and extent of per- and polyfluoroalkyl substances (PFAS) contamination at Fairchild Air Force Base (FAFB) and the surrounding privately-owned off-base areas that may be contaminated with PFAS in regional groundwater as a result of releases of Aqueous Film Forming Foam (AFFF) to the environment during past base operations.

## 1.1 AUTHORITY

This PMP was prepared by EA Engineering, Science, and Technology, Inc., PBC (EA) for the United States Army Corps of Engineers (USACE) Seattle District, under Contract Number (No.) W912DQ-17-D-3015, Delivery Order (DO) No. W912DW20F2055. The work is being executed as a firm-fixed price, performance-based DO in accordance with the Performance Work Statement (PWS) dated 11 June 2020. The PMP is a required project deliverable and outlines all deliverables, DO schedule, technical approach, resources, and milestones to be used in the planning, execution, and completion of the work outlined in the PWS (Appendix A). This document will be updated periodically, as required, to reflect USACE Contracting Officer Representative (COR)-approved revisions to the contract performance schedule, payment milestones, and resource requirements.

## 1.2 INSTALLATION DESCRIPTION

FAFB is located in northwestern Washington, approximately 12 miles west of the city of Spokane, in Spokane County, and encompasses 4,300 acres. The installation is comprised of one major runway supported by numerous taxiways and support facilities, a medical clinic, housing units, and an elementary school. The City of Airway Heights lies northeast of FAFB. The Airway Heights water systems serves 1,572 customers with a service population of approximately 8,425.

## 1.3 PURPOSE AND SCOPE

The purpose of this project is to complete a Phase I RI at FAFB in locations identified during the AFFF Site Inspection (SI) that were recommended for further investigation. The Phase I RI will consist of site characterization to include delineation of the nature and extent of PFAS contamination resulting from past AFFF releases, and to develop a conceptual site model (CSM).

EA is scoped to complete the Phase I RI to (1) develop a comprehensive understanding of the vertical and lateral extent of PFAS contamination in the soil, groundwater, surface water, and sediment, as applicable, resulting from past PFAS use, (2) determine the source-strength of residual soil contamination within unsaturated source zones, and (3) to identify potential exposure pathways, develop a CSM, and recommend sampling requirements for follow-up RI efforts.

To achieve these objectives at FAFB, EA plans to complete the following activities:

- Records review
- Installation of new monitoring wells
- Soil samples from soil borings
- Sampling and analysis of groundwater, surface water, soils, and sediment
- Data validation and interpretation of all analytical results
- Generation of reports, including table, figures, and analysis
- Development of a CSM demonstrating all potential pathways and receptors.

This work is being conducted pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), with regulatory coordination, as appropriate, with the applicable State regulatory agency and United States Environmental Protection Agency (USEPA) region. This PMP outlines the technical approach, resources, and schedule for the planning, execution, and completion of performance objectives. It provides information on project organization; schedule, deliverables, and payment; safety and quality control (QC). Information that could potentially change or require updates during project execution are provided as appendices, such as the project organization chart, project schedule, deliverables and document distribution, and payment milestones.

The major tasks specific to FAFB defined in the PWS (Appendix A, Amendment 2, 11 June 2020), and identified as contract line items (CLINs) in the DO award, are as follows:

- CLIN 0006 – Fairchild Work Plan Documents (Task 14)
- CLIN 0007 – Fairchild Install Monitoring Wells and Collect Groundwater Samples (Task 15)
- CLIN 0008 – Fairchild Install Soil Borings and Collect Soil Samples (Task 16)
- CLIN 0009 – Fairchild Phase I Remedial Investigation Report (Task 17)
- CLIN 0010 – Contractor Manpower Reporting
- CLIN 0019 – Fairchild Additional Monitoring Well Installation and Sampling (Event 1) (Task 18)
- CLIN 0020 – Fairchild Additional Monitoring Well Installation and Sampling (Event 2) (Task 19)
- CLIN 0021 – Fairchild Additional Monitoring Well Installation and Sampling (Event 3) (Task 20)
- CLIN 0022 – Fairchild Additional Monitoring Well Sampling (Event 1) (Task 21)
- CLIN 0023 – Fairchild Additional Monitoring Well Sampling (Event 2) (Task 22)
- CLIN 0024 – Fairchild Additional Soil Sampling (Event 1) (Task 23)
- CLIN 0025 – Fairchild Additional Soil Sampling (Event 2) (Task 24)
- CLIN 0026 – Fairchild Sediment and Surface Water Sampling (Task 25)
- CLIN 0027 – Fairchild Base Access Requirement – 15 Day Quarantine (per COVID-19) (Task 26)

CLIN 0006 through CLIN 0010 are part of the base DO award; Optional CLINs 0019 through 0027 have also been awarded and will be executed as needed and authorized by USACE.

## 1.4 BACKGROUND

Based on guidance from the June 10, 2016, memorandum from the Secretary of Defense, the United States Air Force (USAF) has adopted a proactive policy on managing PFAS investigations utilizing the CERCLA process. FAFB has been identified to have released PFAS to the local groundwater aquifer which is used as a source of drinking water by local private landowners and residences. As such, local receptors such as on-base water supplies, off-base municipal and rural drinking water supply wells, and private residential wells may be impacted.

During the SI Phase at FAFB, several known or suspected AFFF release areas were investigated. The Phase I RI will include further investigation of AFFF release locations that exceeded PFAS screening levels in any media (e.g. groundwater, surface water, soil, and sediment), to accomplish RI objectives. The SI investigated a total of five known or potential PFAS release sites including fire training area FT-01 (FT004), an KC-135 aircraft crash location from March of 1987 (SS008), a B-52 crash location from 1994 (RS002), the Fire Station Building (RS001), and the calibration area. All five of these SI sites will be investigated further in the Phase I RI as potential contributors of PFAS impacts to the regional groundwater aquifer. Table 1 summarizes the five sites to be investigated as part of the FAFB Phase I RI.

**Table 1-1. AFFF Release Areas**

| Area/IRP Site/SWMU | Name/Description | Site Background | SI Findings |
|---|---|---|---|
| FT004P | AFFF Area 1/ FTA FT01 | The former FTA was used after 1970 through approximately 1991. During this period, an estimated 125 gallons or more of AFFF were used during each training exercise. After each exercise, the remaining water, fuel, and foam were drained into an oil/water separator that discharged effluent water into a low area east of the training location. | Exceedances of PFAS screening levels in subsurface soil and groundwater. |
| RS003P | AFFF Area 2/ Calibration Area | AFFF was sprayed onto an old taxiway during equipment and AFFF calibration testing where it flowed south to an unpaved area. | Exceedances of PFAS screening levels in surface soil and groundwater. |
| SS008P | AFFF Area 3/ Aircraft Crash Location SS5008 | An unknown quantity of AFFF was used to extinguish a jet fuel (JP-4) fire in March 1987 that resulted from the crash of a KC-135 aircraft in a grassy field near buildings 2005 and 2007. | Exceedances of PFAS screening levels in groundwater. |

| Area/IRP Site/SWMU | Name/Description | Site Background | SI Findings |
|---|---|---|---|
| RS002P | AFFF Area 4/ B-52 Crash Location 1994 | An unknown quantity of AFFF was released onto a grassy field approximately 900 feet southwest of the control tower while extinguishing a JP-4 fuel fire following the crash of a B-52 in 1994. | Exceedances of PFAS screening levels in surface soil and groundwater. |
| RS001P | AFFF Area 5/ Fire Station 1 (Building 3) | Calibration tests using AFFF were conducted on the paved area directly south of the fire engine garage. The paved area drains through a gap in the curb onto a grassy area between the pavement and a wall that divides the fire station from the airfield. | Exceedances of PFAS screening levels in surface and subsurface soil, and groundwater. |

## 1.5 PERFORMANCE OBJECTIVES

All tasks, deliverables, and milestones will be completed to obtain approval or acceptance by the USACE and stakeholders to achieve performance objectives. Project stakeholders include the Installation, Air Force Civil Engineer Center (AFCEC), USACE Seattle District, USEPA Region 10, and Washington Department of Ecology. The performance objectives and standards for the DO are summarized in Tables 1-2 (base award) and 1-3 (options) below.

**Table 1-2. Performance Objectives and Standards – Base**

| CLIN | Description | Objective | Standard |
|---|---|---|---|
| 0006A | Project Management Plan (PMP) | Identifies the goals of the project and project organization. | Review and concurrence by FAFB and AFCEC, USACE approval. |
| 0006B | Accident Prevention Plan (APP)/Site Safety and Health Plan (SSHP) | Coordinate with FAFB, USACE, and stakeholders to develop plan. | Review and concurrence by stakeholders, USACE approval. |
| 0006C | Uniform Federal Policy-Quality Assurance Project Plan (UFP QAPP) | Identifies QA/QC procedures for all analytical and field work activities. | Review and concurrence by stakeholders, USACE approval. |
| 0006D | Project Planning Meetings | Coordinate with stakeholders, produce a well-constructed plan for field work prior to arriving onsite, maximize efficiency of investigation. | Successful coordination between stakeholders, USACE approval. |
| 0007A | Initial Groundwater Sampling of Existing Wells (100 wells) | Determine presence of PFAS contamination in groundwater and support identification of future groundwater monitoring well locations. | USACE review of sampling procedure and data validation. |
| 0007B | Synoptic Groundwater Level Measurements of Existing Wells (100 wells) | Develop groundwater potentiometric surface and determine flow directions. | USACE verification of performance. |

| CLIN | Description | Objective | Standard |
|---|---|---|---|
| 0007C | Install New Groundwater Monitoring Wells (50 wells) | Coordinate locations with stakeholders and install monitoring wells for data collection. Determine presence of PFAS contamination in groundwater. | USACE verification of installation and initial performance. |
| 0007D | Conduct Groundwater Sampling of New and Existing Wells (100 wells) | Determine presence of PFAS contamination in groundwater. | USACE review of sampling procedure and data validation. |
| 0008 | Install Soil Borings and Collect Soil (60 soil borings) | Coordinate locations with stakeholders and install soil boring for sampling. Determine presence of PFAS contamination in soil and groundwater. | USACE verification of installation and initial performance. USACE review of sampling procedure and data validation. |
| 0009 | Phase I RI Report | Summarize investigation results and make recommendations about further action. | USACE/stakeholder approval (including regulatory involvement). |
| 0010 | Contractor Manpower Reporting | Submit annual reports. | USACE acceptance. |

**Table 1-3. Performance Objectives and Standards – Optional**

| Option-CLIN | Description | Objective | Standard |
|---|---|---|---|
| 0019 | Additional Monitoring Well Installation and Sampling (20 wells) (Event 1) | Coordinate locations with stakeholders and install monitoring wells for data collection and sampling. Determine presence of PFAS contamination in groundwater. | USACE verification of installation and initial performance. USACE review of sampling procedure and data validation. |
| 0020 | Additional Monitoring Well Installation and Sampling (15 wells) (Event 2) | Coordinate locations with stakeholders and install monitoring wells for data collection and sampling. Determine presence of PFAS contamination in groundwater. | USACE verification of installation and initial performance. USACE review of sampling procedure and data validation. |
| 0021 | Additional Monitoring Well Installation and Sampling (15 wells) (Event 3) | Coordinate locations with stakeholders and install monitoring wells for data collection and sampling. Determine presence of PFAS contamination in groundwater. | USACE verification of installation and initial performance. USACE review of sampling procedure and data validation. |
| 0022 | Additional Monitoring Well Sampling (25 wells) (Event 1) | Determine presence of PFAS contamination in groundwater. | USACE review of sampling procedure and data validation. |
| 0023 | Additional Monitoring Well Sampling (25 wells) (Event 2) | Determine presence of PFAS contamination in groundwater. | USACE review of sampling procedure and data validation. |
| 0024 | Additional Soil Sampling (24 borings) (Event1) | Coordinate locations with stakeholders and install soil boring for sampling. Determine presence of PFAS contamination in soil. | USACE review of sampling procedure and data validation. |

| Option-CLIN | Description | Objective | Standard |
|---|---|---|---|
| 0025 | Additional Soil Sampling (24 borings) (Event 2) | Coordinate locations with stakeholders and install soil boring for sampling. Determine presence of PFAS contamination in soil. | USACE review of sampling procedure and data validation. |
| 0026 | Sediment and Surface Water Sampling (10 sediment, 10 surface water) | Coordinate locations with stakeholders and collect samples. Determine presence of PFAS contamination in surface water and sediment. | USACE review of sampling procedure and data validation. |
| 0027 | Base Access Requirement – 15 Day Quarantine (per COVID-19) | Meet FAFB access requirements. | Access to FAFB to complete field work. |

## 1.6 PLAN ORGANIZATION

This PMP is organized as follows:

**Section 1** presents the introduction, including authority, purpose and scope, background, performance objectives, and plan organization.

**Section 2** summarizes the technical approach for the DO, specific to FAFB, by CLIN.

**Section 3** presents the project organization, including roles and responsibilities, subcontract management, and progress reporting.

**Section 4** presents the project schedule, deliverables, and payment milestones.

**Section 5** provides an overview of the safety and quality control measures to be implemented during the project.

**Appendix A** presents the PWS for the DO.

**Appendix B** provides the project organization chart.

**Appendix C** presents the project schedule.

**Appendix D** presents the communications plan, including the document distribution list.

**Appendix E** presents the milestone payment schedule.

# 2. PROJECT ORGANIZATION

This section presents the project organization for the PFAS Phase I RI at FAFB, including roles and responsibilities, subcontract management, and progress reporting.

## 2.1 PROJECT TEAM AND STAKEHOLDERS

The following organizations will be instrumental in the successful completion of this project. The project team will include:

### 2.1.1 USACE Seattle District

USACE Seattle District is responsible for all contractual responsibilities including contracting and work/invoice approval/authorization. USACE Seattle District will assist the EA Team with the planning and execution of the DO. The USACE Project Manager (PM), or a designated USACE Seattle District representative, is also responsible for reviewing DO deliverables, participating in site visits, and attending meetings as appropriate.

### 2.1.2 AFCEC

AFCEC is responsible for providing support to the contractors, facility access to the installation and surrounding community and distributing data necessary to complete the work scope activities. Additionally, AFCEC is responsible for the review and approval of DO deliverables, participating in site visits, and attending meetings as appropriate.

#### *2.1.2.1 Fairchild AFB Remedial Project Manager*

The FAFB Remedial Project Manager (RPM) is responsible for providing access to the installation and distributing the data necessary to complete the work scope activities.

### 2.1.3 EA

EA is the prime contractor responsible for implementation of the work scope activities. EA will also direct subcontractor activities to ensure safe, efficient, and quality execution of the TO. EA is also responsible for conducting installation coordination, data gathering/evaluation, and report preparation.

#### *2.1.3.1 Anderson Environmental Contracting, LLC*

Anderson Environmental Contracting, LLC will be a subcontractor to EA and will be responsible for completing monitoring well drilling, installation, and development, and will also be responsible for providing direct-push technology soil boring and soil sampling services.

#### *2.1.3.2 Eurofins Lancaster Laboratories Environmental*

Eurofins Lancaster Laboratories Environmental will be a subcontractor to EA and will be the primary laboratory responsible for analytical lab testing of all collected media samples in accordance with the Uniform Federal Policy (UFP)-Quality Assurance Project Plan (QAPP).

#### *2.1.3.3 SGS Group*

SGS Group will be a subcontractor to EA and will be the back-up laboratory responsible for analytical lab testing of all collected media samples in accordance with the UFP-QAPP.

#### *2.1.3.4 Synectics*

Synectics will be a subcontractor to EA and be responsible for all data review and validation of laboratory analytical results according to the UFP-QAPP.

#### *2.1.3.5 Waste Disposal – To Be Determined*

A waste disposal company will be a subcontracted by EA and will be responsible for the collection, transportation, and disposal of all investigation derived waste.

#### *2.1.3.6 Surveying – To Be Determined*

A surveying company will be subcontracted by EA and will be responsible for the completion and validation of all location and elevation survey work completed at FAFB.

## 2.2 EA ROLES AND RESPONSIBILITIES

The organizational structure is provided in Appendix B, along with the names of the individuals assigned to each role. Roles and responsibilities of key EA management personnel are described below. Contact information for all key personnel (not only EA) is provided in Table 2-1.

### 2.2.1 Program Manager

The Program Manager will have the responsibility of long-term resource allocation and acquisition, signing and negotiating contracts, and communicating with USACE on a programmatic level.

### 2.2.2 Project Manager

The PM has the responsibility to manage successful completion of the DO and tasks within budget and schedule and to the satisfaction of USACE and will serve the role of Contract Manager as well. The PM reports directly to the Program Manager on budgetary, technical, and scheduling issues. The PM will be responsible for preparing cost, schedule, and status reports, as well as other documents required by the contract and for approving technical submittals. The PM will make key technical decisions, with input from the project team and with concurrence

from USACE. These decisions will be based on performance objectives, risk-based evaluation, regulatory acceptance, and cost. The PM has the authority to assign technical staff. The PM approves labor, subcontractor, and other direct cost expenditures. The PM has the authority to stop work to resolve technical, safety, and regulatory issues, if necessary. The PM oversees competitive selection and supervision of subcontractors. The PM will coordinate with the Program Manager on subcontractor pre-screening and scope assignments. The PM holds the authority to select and terminate subcontractors, as necessary.

### 2.2.3 Task Manager

The Task Manager supports the Project Manager with DO execution and is responsible for management of Phase I RI activities at FAFB. Field personnel and subcontractors will report directly to the Task Manager for all field work coordination and the Task Manager shall be responsible for keeping the Project Manager informed of all field activities.

### 2.2.4 Site Safety and Health Officer

The Site Safety and Health Officer (SSHO) is responsible for developing and/or review and approval of the APP/SSHP. The SSHO works closely with the PM and Task Manager to ensure all health and safety policies and provisions are followed by subcontractors, suppliers, and support personnel and provide training and medical surveillance monitoring. The SSHO has the authority to stop, amend, or curtail work if unsafe or unhealthy conditions exist. The SSHO will be responsible for conducting safety briefings, maintaining a log of site visitors, maintenance and disposal of personal protective equipment, and evaluating reported hazardous conditions and develop corrective actions in consultation with the EA Certified Industrial Hygienist. The SSHO will also be responsible for communicating health and safety issues to the FAFB RPMs, and will also ensure that all field activities maintain adherence with any base-related health and safety policies and procedures.

### 2.2.5 Quality Control Manager

The Quality Control Manager (QCM) has the responsibility to manage the QC program. The QCM works closely with the PM to ensure costs and schedule are on track and that QC is being conducted in accordance with the contract and program requirements. The QCM also directs the review of project deliverables, conducts periodic project audits, and recommends solutions to any QC issues that may arise.

### 2.2.6 Program Chemist

The Program Chemist oversees the chemistry program for this TO. The Program Chemist establishes project-specific data quality objectives (DQOs), reviews/approves project-specific sampling and analytical program, and reviews deliverables related to chemistry and data validation (e.g., UFP-QAPP, chemical data quality reports). The Program Chemist coordinates with laboratories and validators to resolve data issues, including implementation of corrective action when necessary.

### 2.2.7 Support Personnel

EA support personnel will include some or all of the following: engineers, geologists, scientists, chemists, data analysts, Geographic Information Systems technicians, word processors, and technical editors, as required to complete the requirements of the DO. A geologist and engineer meeting the requirements in the PWS (Appendix A) will be available for support field work.

**Table 2-1. Key Personnel Contact Information**

| Name | Organization (Title) | Email | Telephone |
|---|---|---|---|
| Karl Kunas | USACE (Program Manager and COR) | Karl.J.Kunas@usace.army.mil | (206) 764-3448 |
| Briana Niestrom | USACE (Project Manager) | Briana.C.Niestrom@usace.army.mil | (206) 764-3498 |
| Dan Carlson | USACE (Program Chemist) | Daniel.J.Carlson@usace.army.mil | (206) 764-6899 |
| Kris Addis | USACE (Geologist) | Kristin.L.Addis@usace.army.mil | (206) 316-3992 |
| Anthony (Chris) Morris | AFCEC (Program Manager) | anthony.morris@us.af.mil | (210) 395-0691 |
| Megan Riccobono | FAFB (Remedial Project Manager) | megan.riccobono.1@us.af.mil | (509) 247-2450 |
| James Wilkinson | FAFB (Senior Remedial Project Manager) | James.wilkinson.13@us.af.mil | (801) 586-5765 |
| Kathrine Stringham | Hill AFB (Remedial Project Manager) | kathrine.stringham@us.af.mil | (509) 247-2381 |
| James Costello | EA (Program Manager) | jcostello@eaest.com | (443) 717-4674 |
| Timothy McCormack | EA (Project Manager) | tmccormack@eaest.com | (425) 518-0361 |
| Garrett Lee | EA (Task Manger and Engineer) | glee@eaest.com | (206) 452-5699 |
| Rick Read | EA (Site Safety and Health Officer) | rread@eaest.com | (206) 452-5305 |
| Jon Ritterling | EA (Quality Control Manger) | jritterling@eaest.com | (402) 350-8624 |
| Brenda Nuding | EA (Program Chemist) | bnuding@eaest.com | (808) 256-8268 |
| Jonathan Reeve | EA (Geologist) | jreeve@eaest.com | (206) 452-5358 |
| David Nazy | EA (Geologist) | dnazy@eaest.com | (306) 789-7382 |
| NOTE: Qualifications of key personnel will be provided in the UFP-QAPP. | | | |

## 2.3 MONTHLY PROGRESS REPORTING

EA will submit monthly progress reports by the 15th day of each month, which will include completed activities for the prior month, issues related to progress and corrective actions (if any), activities for the coming two (2) months, regulatory meetings, completed milestones for payment, and an updated schedule (e.g., baselined tracking Gantt chart). The monthly progress reports will be submitted electronically to the USACE-Seattle District PM, FAFB RPM, and AFCEC PM.

## 2.4 MEETINGS

All meetings will be coordinated by EA to include all required personnel to ensure a productive and informative meeting. All meetings will be scheduled as teleconference calls using Microsoft Teams, including a separate call-in number and code for those without Teams functionality. EA

will be responsible for submitting the minutes within one week of each meeting to all attendees and key personnel. The minutes shall include at a minimum, a summary of the topics of the meeting, key issues discussed and their disposition, list of meeting attendees with contact information (email address and telephone numbers), and any other pertinent information discussed at the meeting. The following meetings will be required as part of the DO:

- Project Kickoff Meeting -– Completed on 24 July 2020 with key personnel from USACE – Seattle District and EA. Discussed submittal schedule, electronic deliverable online file sharing, and completed introductions of the project team.

- Post-Award Technical Meetings (Scoping meetings) – Two scoping meetings will be coordinated by USACE and will include representatives from USACE, AFCEC, EA, USEPA, and the Washing Department of Ecology to discuss the technical approach for onsite work. The first scoping meeting will occur September 2020 prior to submittal of the Draft UFP-QAPP and will only include USACE, AFCEC, and EA. The second meeting will include the regulators and will be held after submittal of the Draft-Final UFP-QAPP.

- Project Management Review Meetings – Will be coordinated by EA to include USACE and/or AFCEC. These will be completed bi-weekly or as needed to achieve contractual performance objectives. Bi-weekly Project Teleconferences – Regulators may be added to these meetings as needed.

- Field Work Kickoff Meeting – EA will complete a kickoff meeting with the AFCEC RPMs and available USACE, AFCEC, USEPA, and/or Washington Department of Ecology representatives at FAFB prior to completing field work. This will include a walk-through of the work sites and any FAFB entry requirements will be completed prior to the kickoff meeting.

- Restoration Advisory Board (RAB) Meetings – EA will support AFCEC RPM with preparations, reservations, mailings, and attend two RAB meetings each year.

- Public Meetings – EA will be support USACE and AFCEC with materials and attendance at one public meeting each year. Additional teleconference meetings with the public will as be supported by EA as needed.

## 2.5 COMMUNICATIONS PLAN

The Communications Plan presents the strategy for all internal and external communication and defines the stakeholders for the PFAS Phase I RI at FAFB. The Communications Plan also describes how the project team will communicate with the stakeholder(s), each other, and includes the document distribution list for the project deliverables. The Communications Plan is provided in Appendix D.

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# 3. PROJECT APPROACH

This section presents the technical approach for the PFAS Phase I RI at FAFB, by task, per the assumptions for each stated in the PWS (Appendix A) and this PMP. Each sampling location or new monitoring well location will be discussed and approved by the project stakeholders (USACE, AFCEC, USEPA, and Washington State Department of Ecology) prior to completing each phase of fieldwork. The planning, scheduling, and execution of all project work will be a highly collaborative effort between these stakeholders.

## 3.1 CLIN 0006 – WORK PLAN DOCUMENTS (TASK 14)

### 3.1.1 CLIN 0006A, Project Management Plan

EA will submit a Draft PMP to USACE, respond to USACE comments, resolve comments, and submit a Final PMP. The PMP will be updated as needed. For example, as options are funded and exercised, the PMP may be updated to add milestones and define the project schedule for the options.

### 3.1.2 CLIN 0006B, Accident Prevention Plan /Site Safety and Health Plan

EA will prepare an APP/SSHP for the activities that may be conducted at the FAFB to complete the contracted work. The APP/SSHP will address all occupational safety and health hazards. Activity hazard analyses (AHA) will be developed for each activity and address elements that are specific to operations at FAFB.

### 3.1.3 CLIN 0006C, Uniform Federal Policy – Quality Assurance Project Plan

EA will prepare a UFP-QAPP that documents the DQOs and quality assurance (QA)/quality control (QC) procedures for all potential PFAS investigation activities at FAFB. To the maximum extent practical, EA will utilize and adopt material from existing UFP-QAPPs to expedite approval by USAF, regulators, and other stakeholders. If necessary, EA will update procedures and methods described in existing UFP-QAPPs to current requirements. The UFP-QAPP will cover project organization, DQO process, sample collection, sample documentation and custody procedures, analytical methods, standard operating procedures, QA/QC requirements, and data validation measures.

### 3.1.4 CLIN 0006D, Project Planning Meetings

EA conducted a virtual kick-off meeting with USACE on 24 July 2020. The meeting was used as a forum to exchange information, confirm general project approach, lines of communication, execution logistics, goals, and completion requirements. EA prepared and submitted meeting minutes within a week of the meeting. Bi-weekly meetings between USACE, AFCEC, and EA will continue until all FAFB work plan documents are finalized. There will be two scoping meetings, the first will only include USACE, AFCEC and EA, and the second will also include the regulators. The first scoping meeting is scheduled in conjunction with the 22 September

2020 bi-weekly meeting. The second has not yet been scheduled, but will occur before the submittal of the Final UFP-QAPP.

## 3.2 CLIN 0007 – INSTALL MONITORING WELLS AND COLLECT GROUNDWATER SAMPLES (TASK 15)

### 3.2.1 CLIN 0007A, Initial Groundwater Sampling of Existing Wells

EA will complete groundwater sampling at each of the 100 existing monitoring well locations at FAFB. This information will be provided to USACE, AFCEC, and the regulators for review and discussion to determine the most beneficial placement for the installation of the 50 new monitoring wells as described in Section 3.2.3. Groundwater samples will be analyzed for the following field parameters: ORP, pH, temperature, TDS, conductivity, dissolved oxygen, and turbidity. Groundwater samples will be analyzed for PFAS. Preliminary results will be shared with USACE and AFCEC as they become available. Upon completion of data validation, Level IV reports with QA/QC results will be provided to USACE, AFCEC, and regulatory agencies as part of the Phase I RI Report (CLIN 0009). The location of each monitoring well will be surveyed for horizontal and vertical control. The payment milestone deliverable for this sub-CLIN will be an electronic data deliverable (EDD) to USACE and AFCEC.

### 3.2.2 CLIN 0007B, Synoptic Groundwater Level Measurement of Existing Wells

Synoptic groundwater level measurements will be collected for each of the 100 existing monitoring wells. EA will install 100 pressure transducers and subsidiary equipment at each existing groundwater monitoring well and perform an initial synoptic groundwater level measurement to establish a groundwater potentiometric surface contour map and groundwater flow direction for the project area. The results of the measurements will be used for decisions on the locations of the new monitoring wells. EA will submit the groundwater level data in the form of groundwater contour maps, to USACE, AFCEC, and the regulators to allow for discussion and agreement on implications for future fieldwork.

### 3.2.3 CLIN 0007C, Install New Groundwater Monitoring Wells

Monitoring wells will be installed in locations selected and approved by the stakeholders to characterize the vertical and horizontal extent of the PFAS contamination in regional groundwater. A total of 50 groundwater monitoring wells will be installed at FAFB or outside the base boundary to a planned depth of up to 450 feet below ground surface (bgs). Total well depth is expected to vary between 15 to 100 feet bgs on base and to 120 to 450 bgs off base. If appropriate, well pairs may be installed for monitoring wells on FAFB. Monitoring wells will be installed in ten separate mobilizations. Each new well will include pressure transducers, and a dedicated 240 horsepower, single phase well pump with a three (3) prog plug. Data from pressure transducers will be used to evaluate impacts from base pumping wells and off-base wells to inform placement of additional wells. Water levels will be recorded at an interval of 4 hours for all transducers. Vertical flowmeter logging and natural gamma logging will be completed in the open bore holes of each new monitoring well, as well as at 50 of the existing

monitoring wells that do not have previous gamma logging data (100 total). Aquifer pumping tests will be completed at a minimum of three new monitoring well locations, and slug testing will be completed at each new monitoring well. The location of each new monitoring well will be surveyed for horizontal and vertical control. The Air Force will be responsible for obtaining any access agreements needed to install monitoring wells on non-AF property. During drilling, subsurface materials will be accurately logged by a qualified field geologist or engineer. The payment milestone deliverable will be a Well Completion Report submitted to USACE, as well as an EDD to USACE and AFCEC.

### 3.2.4 CLIN 0007D, Conduct Groundwater Sampling of New and Existing Monitoring Wells

EA will complete groundwater sampling at each of the 50 new monitoring wells and at 50 of the existing monitoring well locations at FAFB (100 total). Groundwater samples will be analyzed for the following field parameters: ORP, pH, temperature, TDS, conductivity, dissolved oxygen, and turbidity. Groundwater samples will be analyzed for PFAS. Preliminary results will be shared with USACE and AFCEC as they become available. Upon completion of data validation, Level IV reports with QA/QC results will be provided to USACE, AFCEC, and regulatory agencies as part of the Phase I RI Report (CLIN 0009). The payment milestone deliverable for this CLIN will be an EDD to USACE and AFCEC.

## 3.3 CLIN 0008 – INSTALL SOIL BORINGS AND COLLECT SOIL SAMPLES (TASK 16)

EA will collect one (1) surface (0.0 to 0.5 feet bgs) and four (4) subsurface samples (0.5 feet bgs to bedrock) at 12 soil boring locations per site (60 total). The synthetic precipitation leaching procedure PFAS analytical technique will be used for sample preparation and analysis. After sampling, each borehole will be backfilled and abandoned using bentonite fill. All soil boring locations will be surveyed for horizontal and vertical control. Preliminary results will be shared with USACE and AFCEC as they become available. Upon completion of data validation, Level IV reports with QA/QC results will be provided in the Phase I RI Report (CLIN 0009). The payment milestone deliverable for this CLIN will be an EDD to USACE and AFCEC.

## 3.4 CLIN 0009 – PHASE I REMEDIAL INVESTIGATION REPORT (TASK 17)

Following the collection of all field data, EA will prepare and submit a Phase 1 RI Report for review and approval. The Phase I RI Report will include a summary of results of field investigation activities to characterize the site, sources of contamination, nature and extent of contamination, contaminant fate and transport, CSMs including extent, potential exposure pathways, and human and ecological receptors. The Phase I RI Report will also include all required supporting documentation (e.g., bore logs, waste manifests, supporting calculations, etc.) and analytical information (e.g., required data validation and usability reports, data packages, etc.).

## 3.5 CLIN 0010 – CONTRACTOR MANPOWER REPORTING

EA will report all required contractor manpower in accordance with PWS (Appendix A) requirements. Government fiscal year annual reports for will be submitted electronically no later than 31 October of each calendar year. This CLIN is not included in the milestone payment schedule (MPS) in Appendix E since there are no associated payment milestones.

## 3.6 OPTIONAL ITEMS

### 3.6.1 CLIN 0019, Additional Monitoring Well Installation and Sampling (Event 1) (Task 18)

If deemed necessary by the project team and authorized by USACE, EA will install up to 20 additional monitoring wells in locations selected and approved stakeholders, collect samples, and analyze samples using the same procedures used for CLIN 0007. Each new well will include pressure transducers, and a dedicated 240 horsepower, single phase well pump with a three (3) prog plug. Data from pressure transducers will be used to evaluate impact from base pumping wells and off-base wells to inform placement of additional wells. Water levels will be recorded at an interval of 4 hours for all transducers. All additional monitoring wells will be surveyed for horizontal and vertical control. The Air Force and USACE will be responsible for obtaining offsite access agreements if any of the monitoring wells are to be installed outside of FAFB.

### 3.6.2 CLIN 0020, Additional Monitoring Well Installation and Sampling (Event 2) (Task 19)

If deemed necessary by the project team and authorized by USACE, EA will install up to15 additional monitoring wells in locations selected and approved by stakeholders, collect samples, and analyze samples using the same procedures used for CLIN 0007. Each new well will include pressure transducers, and a dedicated 240 horsepower, single phase well pump with a three (3) prog plug. Data from pressure transducers will be used to evaluate impact from base pumping wells and off-base wells to inform placement of additional wells. Water levels will be recorded at an interval of 4 hours for all transducers. All additional monitoring wells will be surveyed for horizontal and vertical control. The Air Force and USACE will be responsible for obtaining offsite access agreements if any of the monitoring wells are to be installed outside of FAFB.

### 3.6.3 CLIN 0021, Additional Monitoring Well Installation and Sampling (Event 3) (Task 20)

If deemed necessary by the project team and authorized by USACE, EA will install up to15 additional monitoring wells in locations selected and approved by stakeholders, collect samples, and analyze samples using the same procedures used for CLIN 0007. Each new well will include pressure transducers, and a dedicated 240 horsepower, single phase well pump with a three (3) prog plug. Data from pressure transducers will be used to evaluate impact from base pumping wells and off-base wells to inform placement of additional wells. Water levels will be

recorded at an interval of 4 hours for all transducers. All additional monitoring wells will be surveyed for horizontal and vertical control. The Air Force and USACE will be responsible for obtaining offsite access agreements if any of the monitoring wells are to be installed outside of FAFB.

### 3.6.4 CLIN 0022, Additional Monitoring Well Sampling (Event 1) (Task 21)

If deemed necessary by the project team and authorized by USACE, EA will collect up to 25 additional groundwater samples from existing monitoring wells and analyze samples using the same procedures used for CLIN 0007.

### 3.6.5 CLIN 0023, Additional Monitoring Well Sampling (Event 2) (Task 22)

If deemed necessary by the project team and authorized by USACE, EA will collect up to 25 additional groundwater samples from existing monitoring wells and analyze samples using the same procedures used for CLIN 0007.

### 3.6.6 CLIN 0024, Additional Soil Sampling (Event 1) (Task 23)

If deemed necessary by the project team and authorized by USACE, EA will collect up to 24 additional soil borings and analyzing the samples for PFAS using the same procedures used for CLIN 0008. All additional soil borings will be surveyed for horizontal and vertical control. AFCEC and USACE will be responsible for obtaining offsite access agreements if any of the soil borings are to be completed outside of FAFB.

### 3.6.7 CLIN 0025, Additional Soil Sampling (Event 2) (Task 24)

If deemed necessary by the project team and authorized by USACE, EA will collect up to 24 additional soil borings and analyzing the samples for PFAS using the same procedures used for CLIN 0008. All additional soil borings will be surveyed for horizontal and vertical control. AFCEC and USACE will be responsible for obtaining offsite access agreements if any of the soil borings are to be completed outside of FAFB.

### 3.6.8 CLIN 0026, Sediment and Surface Water Sampling (Task 25)

If deemed necessary by the project team and authorized by USACE, EA will collect ten (10) sediment samples and ten (10) surface water samples at stormwater outfalls or drainage features adjacent to PFAS contamination sites and analyze the samples for PFAS. The sampling locations will be determined by stakeholders and be surveyed for horizontal and vertical control. Preliminary results will be shared with USACE and AFCEC as they become available. Upon completion of data validation, Level IV reports with QA/QC results will be included in the Phase I RI Report (CLIN 0009). The payment milestone deliverable for this CLIN will be an EDD to AFCEC and USACE.

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# 4. SCHEDULE, DELIVERABLES, AND PAYMENT

This section presents the project schedule, deliverables, and payment milestones for the PFAS Phase I RI at FAFB.

## 4.1 PROJECT SCHEDULE

The notice to proceed was received on 16 July 2020. The anticipated project schedule for the subject DO is provided in Appendix C. The generalized schedule provided in Appendix C will be refined as scoping meetings and the UFP-QAPP development occurs. The project schedule will be maintained and updated at least monthly and will be submitted along with the Monthly Progress Reports. The USACE PM will be notified of potential schedule delays as soon as they are identified.

## 4.2 DELIVERABLES

Deliverables for the subject DO include the following work plan documents: this PMP, the UFP-QAPP, and the APP/SSHP. Document distribution is listed in Appendix D. Draft versions of all documents will be submitted to AFCEC and USACE. Draft final and final versions will be submitted to AFCEC, USACE, and applicable regulatory agencies, as required and depending on the document. Deliverables will be provided in both hard copy and electronic format. The numbers of copies listed in Appendix D are considered the minimum required.

### 4.2.1 File Sharing Site

A web-based project folder will be created to act as a single access point repository for all contract documentation. The online file sharing website will be maintained by EA and will include all meeting minutes, submitted work plan documents, the most current project schedule, the most current MPS, monthly progress reports, and all project specific information requested by USACE or AFCEC. The file sharing site platform will be SharePoint and/or Microsoft Teams. Only USACE, AFCEC, and EA will have access and editing privileges for the file sharing site and the site will maintain active through the life of the project.

### 4.2.2 Electronic Data Deliverables

Electronic data deliverables will comply with the Environmental Restoration Program Information Management System (ERPIMS) data requirements, including but not limited to all sampling data, remediation system identification data, remediation technology performance data, relevant QA/QC data, lithology, groundwater, monitoring well locations, well construction, well maintenance, and/or abandonment information. The ERPIMS data will be recorded and entered in accordance with the latest ERPIMS Data Loading Handbook using the latest version of the ERPIMS software utility (ERPTools). EA will upload an initial ERPIMs submittal schedule for approval within 30 calendar days of contract award date (16 July 2020).

## 4.3 PAYMENT MILESTONES

The MPS is provided in Appendix E. This MPS will be in effect for the duration of the DO, unless circumstances suggest a change is warranted and the change is acceptable to USACE. Changes must be submitted in writing to the Contracting Officer (KO) and only the KO may change or authorize changes to the MPS.

The MPS consists of an overall milestone completion table as shown in Appendix E. The MPS provides performance metrics for USACE acceptance of milestone completion and associated payment with each milestone. The MPS has been constructed to allow tracking of interim milestones for FAFB, based on assumptions and the PWS (Appendix A). The MPS will be updated, as required, and incorporated into the PMP update as additional CLINs are awarded. The MPS will be updated monthly and provided as an attachment to the Monthly Progress Report.

# 5. SAFETY AND QUALITY CONTROL

This section provides an overview of the safety and QC measures to be implemented for the PFAS Phase I RI at FAFB.

## 5.1 SAFETY

EA is committed to a safe and healthy working environment for its employees, subcontractors, clients, and other stakeholders. EA will establish and insist upon safe work practices at all times. A designated member of EA's on-site team will serve as the SSHO and act as safety oversight, perform emergency notification, and conduct daily safety briefings. All accidents will be reported. All personnel onsite have the duty and authority to stop work until the issue or concern is resolved. An APP/SSHP will be prepared in accordance with USACE EM-385-1-1. All onsite activities will adhere to the approved APP/SSHP.

## 5.2 QUALITY CONTROL

All members of the project team are responsible for QC related to their work assignment. Individual team members are expected to employ QC procedures during execution of their normal duties. The EA QC program includes detail checking and independent/senior technical review. Detail checking is used to verify information in project deliverables for correctness, completeness, and technical accuracy. Independent technical review is an evaluation of the significant opinions, conclusions, and recommendations that are produced during the project work and presented in deliverables. The procedures used to develop project results are reviewed to confirm the validity and suitability of results. Independent technical reviews are completed by senior EA personnel that are pre-qualified, including annual re-certification.

On-site QC will be performed by the representative designated by the QCM to ensure that project processes and systems meet the project QC requirements. Through a continual improvement process, project staff at all levels will be encouraged to provide recommendations for improvements in established work processes and techniques. Where the improvement would necessitate a change to the work plan, a field change request will be initiated and approved by USACE prior to implementation.

All analytical QC and QA activities shall be completed in accordance with the UFP-QAPP. The UFP-QAPP will also include guidance for all data verification, data validation, data qualification schema, and data usability assessment methodology.

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# Appendix A

# Performance Work Statement

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# PERFORMANCE WORK STATEMENT

## Remedial Investigations

## at

## Mountain Home Air Force Base
## and
## Fairchild Air Force Base

## US Army Corps of Engineers

**Contract: TBD**

**11 June 2020**

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# 1 SCOPE AND PURPOSE

The U.S. Army Corps of Engineers (USACE), Seattle District has been designated as the service center to conduct a Phase I Remedial Investigation (RI) at multiple Air Force (AF) Installations, for the Air Force Civil Engineering Center (AFCEC). These two AF Installations are Mountain Home Air Force Base located near Mountain Home, Idaho, and Fairchild Air Force Base located near Spokane, Washington. The Environmental Remediation Services Contractor shall furnish all services, materials, supplies, plant, labor, studies, management, travel, and other resources as required to successfully complete the Phase I RIs as specified in this Performance Work Statement (PWS). The Contractor will be required to conduct all field and office activities required to successfully complete the Phase I RI as required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Required activities include records review, monitoring well and soil boring installations, sampling and analysis of groundwater, surface water, soils, and sediment (if required); data validation and interpretation; and generation of reports including tables, figures, and analysis. A Conceptual Site Model (CSM) noting potential pathways will be required and may be updated from the Site Inspection (SI) CSM or developed, as needed. The CSM shall encompass PFAS release locations installation-wide to acquire a holistic understanding of the PFAS release, comingling of contamination interaction with legacy contamination, geologic and hydrogeologic conditions, and migration in the environment. Human Health and Ecological Risk Assessments will not be performed in this Phase I RI Contract. The Contractor shall be responsible for additional activities in support of this contract, such as but not limited to, assisting the Installation in public affairs and right-of-entry agreements.

The Contractor shall be responsible for obtaining and maintaining any registration or certification as required by the various Federal, State, and Local regulatory agencies, and any other registrations, certifications, licenses, permits, warrants, or other credentials or permissions required to perform the required tasks. The Contractor shall perform to the standards in this Performance Work Statement (PWS).

The Phase I RI will consist of site characterization efforts to include delineation of the nature and extent of per- and polyfluoroalkyl substances (PFAS) contamination resulting from past aqueous film-forming foam (AFFF) releases, and update or development of a CSM. Based on the CSM resulting from Phase I, subsequent RI efforts will consist of any additional sampling necessary to quantify human health and ecological risks, and preparation of the corresponding baseline risk assessment reports. Delineation of the nature and extent of PFAS contamination as part of the Phase I RI shall include the lateral and vertical extent of PFAS in all PFAS-impacted media (e.g., soil, groundwater, surface water, and sediment).

Services conducted under this contract for the Phase I RI shall be sufficient (1) to develop a comprehensive understanding of the vertical and lateral extent of PFAS contamination in soil, groundwater, sediment, and surface water, as applicable, resulting from past PFAS use, (2) to determine the source-strength of residual soil contamination within unsaturated source zones, and (3) to identify potential exposure pathways, update or develop a CSM, and recommend sampling requirements for follow-on RI efforts.

This contract will be awarded as a firm-fixed price contract. The Contractor shall provide necessary and authorized resources to perform this work to applicable engineering, safety, and construction standards, in the timeliest manner possible, and with optimal cost containment. Table 1 presents the Phase I RI

milestones with details regarding the performance standards for each milestone. The Contractor may propose a revision of the milestones and/or interim milestones to reflect their PMP, Project Schedule, and Milestone Payment Schedule (MPS) (see PWS Sections 6.3.1, 6.3.2, and 6.3.3). Interim milestones will only be accepted if they represent significant progress toward milestone completion, and if completion of these interim steps can be measured and demonstrated. All milestones must have a defined means of demonstrating completion in order to facilitate certification and approval.

The Government shall evaluate the Contractor's performance under this contract in accordance with the Quality Assurance Surveillance Plan (QASP), which is included as Appendix C. This plan is primarily focused on what the Government must do to ensure the Contractor has performed the work in accordance with the performance standards. It defines how the performance standards will be applied, the frequency of surveillance, and the minimum acceptable defect rate(s).

The period of performance shall be for a period of 36 months from contract award date.

## 2 BACKGROUND - AFFF RELEASE AREAS

AFFF Release Areas were investigated in the Site Inspection phase conducted in accordance with CERCLA at each Air Force Base. Areas of Interest (AOIs) identified below have been determined to have an AFFF release that requires additional investigation. The following areas were included in the SI and were recommended for further investigation in a RI:

**Mountain Home AFB**

| Area/IRP Site/SWMU | Name/Description | Site Background | Assumptions | Comments |
|---|---|---|---|---|
| FT008P | AFFF Area 1 / FTA FT-08 | Unlined FTA consisting of a 125-foot diameter burn area used from 1962 until, 1986. Unknown quantity of AFFF was used during training exercise and spray testing, and runoff from the training activities likely infiltrated directly into soil. | Exceedances of PFAS screening levels in surface soil and groundwater. | Subsurface soil was also sampled – results below screening levels. |
| EP301P | AFFF Area 5 / Historical Wastewater Lagoons | Lagoons used until the waste wastewater treatment plant began operation in 1997, and may have received PFAS-contaminated effluent from the base storm drain system. | Exceedances of PFAS screening levels in groundwater. | Sediment was also sampled – results below screening levels. |

**Fairchild AFB**

| Area/IRP Site/SWMU | Name/Description | Site Background | SI Findings | Comments |
|---|---|---|---|---|
| FT004P | AFFF Area 1 / FTA FT01 | The former FTA was used after 1970 through approximately 1991. During this period, an estimated 125 gallons or more of AFFF were used during each training exercise. After each exercise, the remaining water, fuel, and foam were drained into an oil/water separator that discharged effluent water into a low area east of the training location. | Exceedances of PFAS screening levels in subsurface soil and groundwater. | Surface soil was also sampled – results below screening levels |
| RS003P | AFFF Area 2 / Calibration Area | AFFF was sprayed onto an old taxiway during equipment and AFFF calibration testing where it flowed south to an unpaved area. | Exceedances of PFAS screening levels in surface soil and groundwater. | Subsurface soil was also sampled – results below screening levels |
| SS008P | AFFF Area 3 / Aircraft Crash Location SS008 | An unknown quantity of AFFF was used to extinguish a jet fuel (JP-4) fire in March 1987 that resulted from the crash of a KC-135 aircraft in a grassy field near buildings 2005 and 2007. | Exceedances of PFAS screening levels in groundwater. | Surface and subsurface soil was also sampled – results below screening levels |
| RS002P | AFFF Area 4 / B-52 Crash Location 1994 | An unknown quantity of AFFF was released onto a grassy field approximately 900 feet southwest of the control tower while extinguishing a JP-4 fuel fire following the crash of a B-52 in 1994. | Exceedances of PFAS screening levels in surface soil and groundwater. | Subsurface soil was also sampled – results below screening levels. |

| Area/IRP Site/SWMU | Name/Description | Site Background | SI Findings | Comments |
|---|---|---|---|---|
| RS001P | AFFF Area 5 / Fire Station 1 (Building 3) | Calibration tests using AFFF were conducted on the paved area directly south of the fire engine garage. The paved area drains through a gap in the curb onto a grassy area between the pavement and a wall that divides the fire station from the airfield. | Exceedances of PFAS screening levels in surface and subsurface soil, and groundwater. | - |

Additional information about each of these areas is available in the base Final SI reports (see Section 4).

# 3 AUTHORITIES, RESPONSIBILITIES, AND GOVERNING GUIDANCE

## 3.1 Authorized Service Center (USACE – Seattle District)

The Contracting Officer (KO), USACE – Seattle District has fully designated responsibility for execution of this contract on behalf of the Air Force (AF), and specifically the Air Force Civil Engineer Center (AFCEC). In turn, the KO has designated the Contracting Officer's Representative (COR) as the official technical manager with approval authority on all technical matters. The COR does not have the authority to direct the Contractor on contractual changes. The COR will ensure Contractor compliance with the contract through surveillance, routine meetings, evaluation of reports, and assurance that performance objectives are met prior to making payments. The KO is the official line of communication with the Contractor concerning legal and contractual matters. The KO is the only person with authority to negotiate and enter into contracts and to obligate funds.

## 3.2 Responsibilities

The implementation of this contract requires cooperation between the Contractor, the AFCEC Restoration Project Manager (RPM), the AFCEC Program Manager (PM), and USACE – Seattle District in order to achieve the performance objectives. The Contractor may assume the following:

- The AF, as the primary client, has established its requirements in the solicitation and this PWS. The AF will:
    - Facilitate regulatory interactions to achieve regulatory acceptance/concurrence
    - Respond to inquiries from a variety of sources to include congressional inquiries, public inquiries, media inquiries, other federal government inquiries, and coordinating these with Air Base Wing officials, as appropriate
    - Plan, program, budget, and execute funding for this contract.
- The AFCEC RPM will:
    - Provide access for Contractor's services at the project sites;

- The USACE-Seattle District
    - Will be responsible for executing the contract and overseeing the technical and administrative aspects of the contract and will:
        - Facilitate interactions between AFCEC, Contractor and regulatory entities
        - Respond to inquiries from the AFB, AF and AFCEC;
        - Assist the AF/AFCEC in planning, programming, budget, and execution of funding for this contract.

- The Contractor shall:
    - Adhere to the terms of the contract and achieve performance objectives
    - Ensure high quality technical performance and end products
    - Manage project risk and proactively communicate with stakeholders regarding issues and remedies
    - Track and report contract performance
    - Provide support to the USACE and AFCEC in response to inquiries from a variety of sources to include congressional inquiries, media inquiries, and other federal government inquiries
    - Ensure protection of human health and the environment during contract performance
    - Meet all applicable regulatory requirements associated with environmental restoration during contract performance
    - Ensure adequate base access requirements are completed, per Section 3.3 of this PWS
    - Obtain and monitor assigned security badges and Common Access Cards (CACs) (used by both prime Contractor and subcontractor personnel) for the duration of this contract. All security badges, CACs and/or passes shall be returned to the AFB point-of-contact (POC) upon expiration of the badge/CAC, upon completion of the project, or when possession of the badge/CAC is no longer necessary (e.g., upon removal of contractor personnel from specific projects.

## 3.3 Base Access Requirements

### 3.3.1 Mountain Home AFB

To obtain base access, the Contractor will need to complete an SFS 30 Installation Entry Request which requires the information identified in this section. However, it should be emphasized that all base entry requests require at a minimum 2-weeks for processing. Due to the large number of entries that will likely be submitted for this particular project, it is recommend that they be submitted as soon as possible.

All Contract personnel requiring on-site access to perform contract requirements shall submit the following information to the project manager and designated POC: a) Employee name, b) Driver's license number and issuing state (or other Security Officer approved form of identification only if employee has no driver's license), and c) Inclusive dates the employee requires access to Mountain Home AFB to perform duties under this contract.

In accordance with Engineering Regulation, ER 380-1-18, Section 4, foreign nationals who work on Corps of Engineers contracts or task orders shall be approved by the HQUSACE Foreign Disclosure Officer or higher before beginning work on the contract or task order. This regulation includes subcontractor employees. (NOTE: exceptions to the above requirement include foreign nationals who perform janitorial and or ground maintenance services). Submit to the Division and District Contract Office, the names of all foreign nationals proposed for performance under this contract or task order, along with documentation to verify that he or she was legally admitted into the United States and has authority to work and or go to school in the US. Such documentation will include a US passport, Certificate of US citizenship (INS Form N-560 or N-561), Certificate of Naturalization (INS Form N-550 or N-570), foreign passport with 1-551 stamp or attached INS Form 1-94 indicating employment authorization, Alien Registration Receipt Card with photograph (INS Form 1-151 or 1-551), Temporary Resident Card (INS Form 1-688), Employment Authorization Card (INS Form I-688A), Reentry Permit (INS Form 1-327), Refugee Travel Document (INS Form 1-571), Employment Authorization Document issued by the INS which contains a photograph (INS Form I-688B).

These entry requirements are subject to change and should be checked prior to attempted entry to the base.

### 3.3.2 Fairchild AFB

Typical guidelines for access to the base are getting a pass for 1 - 14 days (then renewal) at the visitor center at the entrance. Alternately, personnel can apply for a one (1) year semi-permanent pass well in advance. Both require a sponsor to sign/vouch for personnel, such as the RPM at the base. The required ID for obtaining a pass is a “REAL ID” driver's license and/or a valid passport. Short term visitors must be escorted while on base.

#### 3.3.2.1 (OPTIONAL) Fairchild AFB COVID-19 Base Access Requirements

Current base access requirements as of the writing of this PWS are altered due to the COVID-19 situation. Until further notice, the current requirements for base access include the stipulation that personnel traveling from beyond 150 miles from the base, must be quarantined for 15 days prior to entry to the base. There may be requirements for testing and a doctors certification (letter). These requirements do not apply if personnel live/originate from within 150 miles of the base.

These entry requirements are subject to change and should be checked prior to attempted entry to the base.

### 3.4 Regulatory Agency

Generally speaking, PFAS compounds are not regulated under CERCLA at this time, however, some regulatory involvement is expected. The designated AFCEC Team member (e.g., the base RPM) serves as the sole point of contact between the Contractor and the regulatory agencies. The Contractor shall discuss major issues with the AFCEC RPM, the AFCEC PM, and USACE PM before regulatory agencies are contacted. Any contact with the regulatory agencies will be initiated by the designated AFCEC Team member, and an AFCEC Team member will be present for any meetings, teleconferences, or any other contact with the regulatory agency in relation to this contract.

### 3.5 Applicable Documents and Governing Guidance

Conduct of this project shall be in accordance with CERCLA and as amended by the Superfund Amendments and Reauthorization Act (SARA) and appropriate Resource Conservation and Recovery Act

(RCRA) guidance as it pertains to the Installation's regulatory requirements. Work performed shall follow the requirements of the National Oil and Hazardous Substances Contingency Plan (NCP). In addition, all work performed under this contract shall follow the guidance and policy outlined in *Management Guidance for the Defense Environmental Restoration Program,* (Office of the Deputy Under Secretary of Defense, Sept 2001 or most recent version) and all applicable guidance documents. All definitions not specifically addressed in Section 5 shall be defined as referenced in *Management Guidance for the Defense Environmental Restoration Program,* (Office of the Deputy Under Secretary of Defense, Sept 2001 or most recent version).

The Contractor shall identify and comply with all applicable federal, state, and local statutes; AF/Military/ instructions, manuals, handbooks, regulations, guidance, and policy letters; Executive Orders (EOs); American Petroleum Institute (API) Codes; National Association of Corrosions Engineers (NACE); National Fire Protection Association (NFPA); Steel Structures and Painting Council (SSPC); National Electrical Code (NEC); Uniform Fire Code (UFC); and International Building Code (IBC) including all changes and amendments in effect on the date of issuance of this contract. It is the Contractor's responsibility to identify and comply with all applicable requirements. In addition, the Contractor shall refer to the current versions of the Department of Defense (DoD) Policy and Guidelines for Acquisitions Involving Environmental Sampling or Testing and the United States AF Construction Management Implementation Guide.

The Contractor shall conduct PFAS related activities in accordance with all guidelines and references identified in Table 1. As these policies are refined and updated, the Contractor shall be responsible for accommodating those updates.

**Table 1: Guidelines and References**

| Reference Publication | Date of Publication |
|---|---|
| USEPA Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA | October 1988 |
| USEPA Guidance for Conducting Remedial Investigations https://www.epa.gov/superfund/superfund-remedial-investigationfeasibility-study-site-characterization | Various dates |
| OSWER Directive 9272.0-17: Implementation of the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP) at Federal Facility Hazardous Waste Sites | June 7, 2005 |
| Department of Defense (DoD), Department of Energy (DOE) Consolidated Quality Systems Manual (QSM) for Environmental Laboratories, version 5.3 or most current version | 2019 |
| Department of Defense, General Data Validation Guidelines, Environmental Data Quality Workgroup, most current version | 11/4/2019 |
| Air Force Instruction (AFI) 32-7020 | 12 March 2020 |

| Reference Publication | Date of Publication |
|---|---|
| Air Force Guidance Memorandum Establishing Aqueous Film Forming Foam (AFFF)-Related Waste Management Implementation Guidance, AFGM 2019-32-01 | September 2019 |
| Assistant Secretary of Defense Memorandum, Investigating Per- and Polyfluoroalkyl Substances within the Department of Defense Cleanup Program | October 2019 |
| Assistant Secretary of Defense Memorandum, Establishing a Consistent Methodology for the Analysis of Per- and Polyfluoroalkyl Substances in Media Other than Drinking Water | November 2019 |
| EPA RSL Calculator for Risk Assessment https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search | NA |
| EPA Risk Assessment Guidance (RAGS) https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part | NA |

The Contractor shall identify and comply with all applicable site documents including Preliminary Assessments, Site Inspections, Records of Decision (RODs), ROD Amendments, Statements of Basis (SoBs), Explanation of Significant Differences (ESDs), RCRA Permits and subsequent modifications, and other Decision Documents.

Mountain Home AFB is under a Federal Facilities Agreement (FFA) with the EPA and the Idaho Department of Environmental Quality (IDEQ). All technical documents shall require a review by both the EPA and the IDEQ to include, but not limited to, work plans, the UFP-QAPP, the Accident Prevention Plan/Site Safety and Health Plan and the Remedial Investigation Report. In accordance with the FFA, the regulators have 30 days to review and comment on any document submitted, and may have an additional 20 days if written notice is submitted to the AF. Any comments submitted by the EPA and IDEQ must be reviewed by the Contractor. If applicable, the Contractor shall update the respective document in accordance with these comments.

The Contractor is solely responsible for reviewing all publicly available information and forming their independent professional conclusions/interpretations of site conditions and requirements to meet the objectives of this contract. The information provided in this PWS is not intended as a substitute for complete analysis of technical data available, nor is it intended to be a guide on how the Contractor should address achievement of the contract objectives.

## 4 GOVERNMENT-FURNISHED INFORMATION, EQUIPMENT, AND PROPERTY

The Contractor shall properly account for and manage all new and existing Government Furnished Equipment (GFE) and/or Government Furnished Property (GFP) procured and utilized at the Installations in accordance with the applicable Federal Acquisition Regulation (FAR). Remediation systems may or may not be listed as GFE and/or GFP. The Contractor is responsible for providing all other supplies and equipment, not already installed, required to meet the objectives of this contract. All AF-owned property

used for investigation purposes must be maintained by the Contractor in accordance with applicable maintenance requirements. The Contractor is responsible for proper return or disposal of excess or unserviceable equipment or materials as required during the duration of this contract. It is not expected that any GFE or GFP will be provided to the Contractor for this contract. Government Furnished Information (GFI) will include:

**Mountain Home:**

- Mountain Home AFB Site Inspection Report
- Mountain Home AFB 2018 Annual Long-Term Monitoring Report, Sites SD024 and SS011
- Mountain Home AFB Draft Final Remedial Investigation Report Site SD024; 06 May 2019
- Mountain Home AFB Federal Facilities Agreement

## Fairchild AFB:

- Fairchild AFB Site Inspection Report
- Final Site Inspection Addendum and Time Critical Removal Action Report – Aqueous Film Forming Foam (AFFF) Release Areas

The above reports, as well as all publicly viewable reports from AFCEC, can be found at the following website: https://ar.afcec-cloud.af.mil/Search.aspx

# 5 GENERAL DEFINITIONS

### 5.1.1 DERP Manual

Definitions as Described in the Defense Environmental Restoration (DERP) Manual Number: 4715.20 shall also apply to this PWS.

### 5.1.2 Site Inspection

As defined in support 300.5 of the NCP.

### 5.1.3 Facility

Defined in Section 9601 of CERCLA.

### 5.1.4 Site

In general, the “Site” is the location where a contaminant release has occurred and includes the lateral and vertical extent of contamination including; source of contamination and areas where contamination has migrated or has the potential to migrate in soil, sediments, surface water, or groundwater, prior to initiation of this contract. The “Site” will be defined for all locations to be addressed under this PWS.

# 6 MANAGEMENT, PLANNING, AND REPORTING

The Contractor shall implement a full range of construction and engineering activities as required to meet objectives of this contract and in accordance with all applicable Installation, regulatory, and site requirements. The Contractor shall supply all labor, equipment, and materials necessary to accomplish

the work. The Contractor shall perform management and planning functions, including performance measurement and fund status reporting.

Requirements include efficient management of this contract including the submission of accurate, on-time, quality contract deliverables and timely identification and solution of impediments to successful project execution. Technical requirements include early involvement in the process to allow for the development of the most cost-effective and technically sound approach or solution. The Government will rely on the Contractor's expertise in recognizing and addressing problematic issues and successful execution of this contract. The Contractor shall perform all work in accordance with federal, state, and local statutes and regulations. Remedies shall conform to environmental permits, decision document requirements, or other legal requirements and regulatory approval or concurrence.

### 6.1 Project Management Plan (PMP)

The Contractor shall develop and maintain a detailed PMP. The PMP shall include the technical approach, the project organization, personnel and management, the project's resources and project tasks corresponding to the Contract Line Item Numbers (CLINs) for this contract. The PMP shall be maintained throughout the duration of the contract and updated as necessary. See Section 8 for further description on PMP requirements.

#### 6.1.1 Project Web Site.

The Contractor shall maintain a web-based project folder to include (but not limited to):

- Information on meetings, documents submitted, Sub-CLIN details, objectives status as agreed to in the PMP, current topics associated with the contract, basic stats/objectives, stakeholder POC contact information, calendar of events/meetings/objectives, analytical results/reports, 3D conceptual models, reports, studies, links to Administrative Record/Information Repository records, links to associated appropriate reference documents, state and federal policy guidance and key performance indicator metrics tracking.

The web-based project folder is intended to be a single access point repository for all contract documentation. The web-based project folder shall be accessible to stakeholders during the life of the contract. At close-out, all documentations on the web-based project folder will be transferred to and delivered to the USACE and the AF. Periodic format adjustments during the life of the contract may be required to ensure consistency and will be provided by the COR. Stakeholders will be provided with appropriate security password restrictions. The Contractor shall provide a Contractor's Progress, Status, and Management Report (CPSMR) as described below.

### 6.2 Schedules

The Contractor shall maintain a detailed working schedule that facilitates the management of the project work and provides the capability for early identification of potential schedule impacts. The schedule shall include negotiated baseline dates and current schedule projections. The current schedule shall be maintained and updated at least monthly to accurately reflect program progress and provide realistic forecast projections. The Contractor shall be capable of providing schedule updates at either a detail level or a summary level as agreed by the KO. The submittal shall be provided in electronic form to the USACE PM, the AFCEC PM, and the AFCEC RPM. Monthly schedule updates that reflect actual schedule progress can be submitted in Gantt chart format as part of the monthly progress report.

The Contractor shall provide an IMS for tracking work progress as described below.

### 6.2.1 Integrated Master Schedule (IMS)

The Contractor shall prepare and submit an IMS for approval. Sites associated with each objectives/task must be noted in the schedules. The schedule shall be provided to the USACE PM in electronic format consistent/compatible with DoD software, currently Microsoft™ Project, and in portable document file (.pdf). Updated and revised schedules shall be submitted to the USACE PM with monthly status reports with changes clearly identified by the Contractor.

## 6.3 Cost and Status Reporting

### 6.3.1 Contractor's Progress, Status, and Management Report

The Contractor shall prepare and submit a monthly CPSMR. The CPSMR shall be used to review and evaluate the overall progress of the project, along with any existing or potential problem areas. The report shall be prepared in a format coordinated with the COR. The CPSMR shall also be used to indicate whether efforts for each site are on target for meeting the Contractor's proposed performance objective.

The CPSMR shall include a summary of the events that occurred during the reporting period, discussion of performance, identification of problems, proposed solutions, corrective actions taken, outstanding issues, and payments made toward the MPS to date.

### 6.3.2 Milestone Payment Schedule

The Contractor must complete a MPS, based on table 1 (or a new government approved project milestones table), and identify performance milestones, metrics, and the associated payment schedule on a site by site basis. The number of performance milestones per site should be limited to a reasonable number based on the scope and anticipated duration of the work at the site. The Contractor is limited to one (1) invoice submitted to USACE per month; however, this invoice must itemize the performance milestones and costs for each site or grouping associated with the invoice.

Performance milestones shall be based on the completion of a definable and measurable step or task considered integral and necessary to the achievement of the performance objectives and shall demonstrate payment is appropriate. USACE and AF approval of the documentation supporting the completion of the performance milestone is required for payment (i.e., the performance metric). Where regulatory acceptance/concurrence is required for this documentation, USACE acceptance will occur following regulatory acceptance/concurrence. For milestones where regulatory acceptance/concurrence is required and regulatory acceptance/concurrence cannot be obtained, the USACE and AF will evaluate the Contractor's documents to determine if they are legally and technically acceptable to warrant payment for achieving that milestone. The Contractor shall propose deliverables and payment milestones as part of the MPS. The MPS will be included as part of the PMP. Final decisions regarding the adequacy of milestone and deliverable completion resides with the COR, with appropriate acceptance/concurrence of necessary site remediation documentation by regulators, consistent with applicable regulatory drivers of this PWS. In general, performance milestones should be associated with the completion of final document versions only, not working copies or drafts.

Management and overhead type costs (program/project management, monthly reporting, mobilization costs, etc.) that do not provide measureable program advancement are not appropriate performance milestones/payments. These types of costs/expenses should be allocated into site, site grouping, or other

related milestones/payments that provide demonstrable value to the program. **Performance milestones shall not represent a "progress" payment or a monthly payment for level of effort expended. Completing site mobilization/demobilization, accomplishment of field activities, or submittal of a monthly status report are examples of <u>unacceptable</u> performance milestones.**

A milestone is required in the MPS for preparation of the Work Plan Documents, which are some of the first deliverables required upon contract award. These documents apply to both sites and the contract as a whole, and shall not include indirect costs associated with the sites in this contract.

Table 1. Project Milestones

| Milestone | Description |
|---|---|
| Task 1: Work Plan Documents - Mountain Home AFB | Final Work Plan Documents, to include the Project Management Plan (PMP), Uniform Federal Policy - Quality Assurance Project Plan (UFP-QAPP), and Accident Prevention Plan/Site Safety and Health Plan shall be approved prior to the start RI fieldwork. PWS Section 8.1.1 outlines Work Plan Documents for MHAFB. Submittal and government acceptance of the Final Work Plan Documents is required for milestone completion. |
| Task 16: Work Plan Documents - Fairchild AFB | Final Work Plan Documents, to include the Project Management Plan (PMP), Uniform Federal Policy - Quality Assurance Project Plan (UFP-QAPP), and Accident Prevention Plan/Site Safety and Health Plan shall be approved prior to the start RI fieldwork. PWS Section 8.2.1 outlines Work Plan Documents for MHAFB. Submittal and government acceptance of the Final Work Plan Documents is required for milestone completion. |
| Tasks 2-4 & 6-13: Substantial Completion of RI fieldwork for Mountain Home AFB to include any optional items. | Work to include install monitoring wells and collect groundwater samples, install soil borings and collect soil samples, and surface water sampling. Completion and government acceptance of the work specified in PWS sections 8.1.2 thru 8.1.4, and 8.1.6 thru 8.1.13 are required for milestone completion. |
| Tasks 17-18 & 20-22: Substantial Completion of RI fieldwork for Fairchild AFB to include any optional items. | Work to include install monitoring wells and collect groundwater samples, install soil borings and collect soil samples, and surface water sampling. Completion and government acceptance of the work specified in PWS sections 8.2.2 thru 8.2.3, and 8.2.5 thru 8.2.12 are required for milestone completion. |
| Task 5: Phase 1 RI Report - Mountain Home AFB | Final Phase 1 RI report completion. PWS section 8.1.5. Submittal and government acceptance of final RI report is required for milestone completion. |
| Task 19: Phase 1 Remedial Investigation Report - Fairchild AFB | Final Phase 1 RI report completion. PWS section 8.2.4. Submittal and government acceptance of final RI report is required for milestone completion. |

### 6.3.3 Invoices

Contractor shall submit identified progress payment requests upon accomplishing the Project Milestones presented in the MPS. The MPS shall form the basis for payment for each SUB- CLIN.

The schedule of SUB-CLINs will be based upon milestones for completion of each phase required for each site-specific SUB-CLIN.

The schedule shall be limited in the number of milestones per SUB-CLIN. The number of milestones will be based upon the administrative phase, level of effort, complexity and frequency, and will be based upon the number of phases required to achieve approved project objectives. For complexities of this site, the contractor may propose additional milestones, as appropriate, within a SUB-CLIN. Milestone payments will be made upon the successful completion of each phase for each SUB-CLIN. The MPS is intended to provide structure for making appropriate payments, while allowing flexibility such that payments to the Contractor are not unreasonably withheld due to unanticipated variations in the path to Project Completion. Payments will be made to the Contractor upon 1) verification that the corresponding Acceptance Criteria has been satisfactorily completed, and 2) submission of a properly prepared invoice. The MPS may be revised only by written agreement of the Government and Contractor.

The Contractor invoices shall include payments for all milestones that were satisfactorily completed during the billing period. It is understood that some of the Project Milestones presented in the Task & Milestone Schedule may be eliminated or modified based on how the Contractor proposes to proceed so as to achieve Project Completion efficiently. Acceptance and approval by the COR shall constitute acceptance of the work associated with each item of the MPS. A copy of the invoice will be provided to the COR, the AF and the KO.

### 6.3.4 Progress (Monthly) Reports

By the 15th working day of each month, the Contractor shall electronically submit a monthly report to the USACE-Seattle District PM, AFCEC RPM, and AFCEC PM summarizing contract progress through the end of the previous month. Failure to submit timely and complete monthly progress reports may result in payment withholding. Each report shall include the following information and formats:

- The Contractor shall utilize Microsoft™ Project or similar software to provide a visual tracking of all performance objectives s and appropriate sub elements that affect the schedule for all Sub-CLIN numbers. This shall be updated on a monthly basis or more frequently if condition require.
- Completed tasks in the previous month;
- Address problems encountered in completing the various tasks and any changes in scope or direction from the program baseline, including actual or potential schedule and cost impacts;
- Upcoming tasks for the next two (2) months;
- Regulatory meetings (completed or upcoming);
- Project the estimated cost at completion, in accordance with the Contract, if the Project Price is expected to be exceeded;
- Other pertinent information necessary to provide the AFCEC RPM and AFCEC PM information necessary to monitor the project success.

These requirements shall apply unless the KO provides the Contractor with specific written alternative instructions. Monthly reports shall be signed and dated by the senior project manager designated for the project.

## 6.4 Meetings, Conferences, Telecommunications

### 6.4.1 Meetings

The Contractor shall coordinate a post-award 'kick-off' meeting within 30 days of award. The Contractor shall coordinate Project Management Review (PMR) meetings or teleconferences with the USACE and AFCEC, as necessary, to achieve the contractual performance objectives in this PWS. A post-award meeting with the regulators, USACE and AFCEC to introduce technical approaches is also anticipated.

The Contractor shall be responsible for ensuring that the attendees are selected to provide the necessary level of expertise required by the purpose and scope of the meeting. Two (2) public Restoration Advisory Board (RAB) meetings per year will be required for Fairchild AFB only, as Mountain Home AFB does not have a RAB. The Contractor should anticipate presentation of one (1) or two (2) select work topics to be determined by the AFCEC RPM for each RAB. Additionally, the Contractor should support one (1) public meeting per year, for each AFB, and the creation of 10 posters for the meeting.

Within one (1) week of meeting completion, the Contractor shall be responsible for submitting the minutes which shall include at least a summary (not a transcript) of key issues discussed and their disposition, a list of meeting attendees with addresses and telephone numbers, and any other pertinent information discussed at the meeting. Copies of the final summary minutes shall be submitted and distributed to attendees and AF and USACE Project Managers.

The Contractor shall function as an integral team member in support of the AF mission, to include the sharing of information with other AF and USACE contractors and AF personnel, and cooperation with communities, regulators, and other government entities.

The frequency of meetings may change based on the status of the environmental restoration program. The USACE and AF will be present for all technical and public meetings with the regulatory agencies; however, the Contractor shall coordinate the meetings, provide logistical support (e.g., facilities, audio/visual), present materials, and lead technical discussions. The Contractor shall clearly identify themselves as "Contractors" in all situations involving stakeholders. The Contractor shall prepare, and submit for USACE and AF review and concurrence, any presentation materials and agendas for meetings.

### 6.4.2 Public Meetings and Hearings

The Contractor shall coordinate and attend teleconferences as necessary with the assigned Public Affairs Officer (PAO) to ensure the PAO is fully aware of all ongoing activities, public outreach status, compliance with applicable regulations, and potential issues that might impact the AF and its public image in accordance with Clause H029, Implementation of Disclosure of Information.

Examples of types of Public Affairs requirements include the presentation of technical information and logistical support (e.g., advertising, audio-visual, handouts, report(s), recordings, verbatim transcripts, poster boards, slides, synopses, etc.) for events and/or meetings in support of the government's position. All reports and other information generated under this contract shall become the property of the Government, and distribution to any other source by the Contractor is prohibited unless authorized by the COR.

The Contractor must utilize staff trained in public affairs to complement the technical staff on the project. These trained staff must attend all meetings with the public along with the appropriate technical staff. The credentials of the trained staff must be submitted to and approved by the USACE COR in advance of any meeting with the public. The minimum acceptable credentials of the trained staff will demonstrate effective communications experience and experience in building relationships with the stakeholders involved in cleanup activities or similar efforts.

The Contractor may be tasked to research, coordinate and provide responses for short-notice internal and external requests for information such as congressional inquiries and media requests as requested by the PAO or other applicable action officers. These inquiries may require the Contractor to provide the USACE and/or AF factual and responsive information within one (1) working day of the request.

### 6.4.3 Progress Meetings and Teleconferences

The Contractor will participate in telephone status meetings. These meetings are anticipated to occur on a bi-weekly basis, but depending on the amount of field activity, these could occur on a weekly basis. The purpose of the phone meetings is to ensure that all issues for work underway are addressed. Phone conferences are usually less than one (1) hour in length. Partnering teleconferences with regulators are anticipated to occur four (4) times per year, usually less than two (2) hours in length. Meeting minutes shall be submitted in accordance with Section 6.4.1, above.

### 6.4.4 Proprietary Information

All material gathered and/or developed in the performance of the tasks listed in this PWS shall be the property of the government and shall only be used by the Contractor and their subcontractors for the execution of this PWS. Additionally, all documents shall be delivered to the government with unlimited rights and without restrictions. The Contractor is not authorized any other use or distribution of said material without the specific written permission of the COR. After completion of the project, all materials shall be returned to AFCEC and USACE-Seattle District.

### 6.4.5 Record Keeping

The Contractor shall create and maintain in one (1) location written and electronic records sufficient to recreate each sampling, analytical, testing, and monitoring event. The Contractor shall maintain records of all activities outlined in the appropriate portion of the programmatic UFP-QAPP and its Installation-specific addenda supporting the generation of these sampling and analysis records. The Contractor shall also retain written calculations using information obtained from sampling, analysis government upon request. The Contractor shall retain records for a minimum of five (5) years.

### 6.4.6 Subsurface Documentation

The Contractor shall implement and maintain the AFB monitoring well and subsurface exploration directory, as depicted in the administrative record file, and as provided with any other supporting documents provided to the Contractor. This dynamic document shall incorporate information that will also be included in the Environmental Resources Program Information Management System (ERPIMS) submittals, coordinates/elevations, total depth, screen intervals, sampling intervals, Installation/abandonment dates, etc.

## 6.5 GIS/GeoBase Spatial Data (Mapping) Requirements

All final site data collected shall be in a geospatial data standard nomenclature. The data will be submitted to AFCEC, the Installation, and USACE for inclusion on their database. The Contractor will work to ensure all data have been validated and is accurate. The Contractor shall not establish new geographic information system (GIS) systems.

In furtherance of the environmental construction or restoration effort, the Contractor shall provide geospatial data and map(s) of Installation features (historical, existing, or planned) altered or constructed as required to meet the objectives of this contract.

Source data and product data remain the property of the United States government. The Contractor may be required to explain and demonstrate the company's process for protecting all geospatial data, including but not limited to, geometry, attributes, metadata, topologies, and relational database schemas and

operations used in association with this PWS. Further information about security and nondisclosure requirements should be obtained from the Installation Geospatial Integration Office (GIO).

The Contractor shall provide data to update the GIS and/or computer-aided design and drafting (CADD) files as required to meet the objectives of this contract. Source data and product data remain the property of the United States government.

The Contractor shall also ensure that GIS data are submitted in a format compatible with the AF GeoBase program, as outlined in the AF GeoBase Strategic Plan.

### 6.5.1 Metadata Requirements.

The National Spatial Data Infrastructure (NSDI) encompasses policies, standards, and procedures for organizations in the United States to cooperatively produce and share geospatial data. The Federal Geographic Data Committee (FGDC) has assumed leadership in the evolution of the NSDI in cooperation with the Department of Defense and other federal agencies, state and local governments, academia, and the private sector. The FGDC has developed standards for collecting common information describing the content, quality, condition, and other characteristics of map and imagery data. These standards are collectively known as the "Content Standards for Digital Geospatial Metadata". Executive Order 12906 "Coordinating Geographic Data Acquisition and Access: The National Spatial Data Infrastructure," requires all federal agencies to use the FGDC Standard to document all geospatial data that they produce (beginning in 1995).

#### 6.5.1.1 Products Requiring Metadata Collection.

The Contractor will collect and report metadata on all delivered products, including intermediate products such as breaklines, etc.

#### 6.5.1.2 Helpful Metadata References with Internet Addresses.

Information concerning FGDC's "Content Standards for Digital Geospatial Metadata" is available on the Internet at: http://www.fgdc.gov/standards/standards_publications/index_html. The FGDC's "Draft Content Standards for Digital Orthoimagery" product can be found on the Internet at: http://www.fgdc.gov/standards/projects/FGDC-standardsprojects/orthoimagery/orth_299.pdf

#### 6.5.1.3 Required Metadata Format and Data Elements.

Metadata will be submitted in an ArcXML based format capable of being utilized by ESRI's ArcGIS and at a minimum will include the following data elements:

- Identification Information
- Contact Information
- Time Period
- Data Quality
- General Information
- Attribute Accuracy
- Positional Accuracy
- Source Information
- Process Steps
- Spatial Reference

- General Information
- Horizontal Coordinate System
- Vertical Coordinate System
- Metadata Reference
- Metadata Date

### 6.6 Notification Requirements

The Contractor is required to notify the USACE KO and COR of critical issues that may affect the contract performance and/or human health and the environment. The types of issues that require notification include, but are not limited to, health risks, spills, Notices of Violation (NOVs) (received or anticipated), and changes in critical personnel, and finding unexploded ordnance (UXO). As an example, if unanticipated UXO were discovered during field activities, the Contractor would be required to immediately stop work, report the discovery to the AFCEC RPM, KO and COR, and implement the appropriate safety precautions. Field activities shall not continue until clearance was received from the AFCEC and installation POCs and USACE KO. On critical issues, verbal notification should be made immediately, followed by written notification as PWS as practical.

### 6.7 Permits

The Contractor shall develop, coordinate, apply and pay fees for, comply with, and/or modify all federal, state, local, and other applicable permits, right-of-entry agreements, easements, licenses, and certificates required to meet the objectives of this contract. The Contractor shall maintain a library of these documents at the Contractor's site office as well as the corporate facility handling each contract. The Contractor shall comply with all applicable permit conditions.

### 6.8 Photo Documentation

The Contractor shall prepare digital photographic documentation, as required to meet the objectives of this contract. The Contractor shall include dated photographic documentation of site(s) and building(s) under investigation, field activities, and sample locations. The Contractor shall upload all photographs to the Contractor's web-based project folder. Photography of any kind must be coordinated through the USACE COR, AFCEC RPM and with the installation PA representative. All photos must be digitally dated and must have installation PA approval prior to publishing.

### 6.9 Off-Installation, Remote and/or Austere Sites

The Contractor will be required to perform work as specified at off-Installation, and possibly remote and/or austere locations. The Contractor shall be responsible for all personnel, security, supplies, equipment, and infrastructure (including, but not limited to, potable water, utility systems, housing, dining, transportation, and medical care) when there are no facilities and services available. This may occasionally include providing these facilities and services to a limited number of government personnel or other contractor personnel present or visiting to oversee or assess the work.

### 6.10 General Requirements during Field Activities

The Contractor shall comply with all applicable federal, state, installation and any other applicable regulations concerning safety during site characterization and remedial activities, including, but not limited to, drilling, sampling, construction, and remediation and operations activities. All installation safety officials, AFCEC, USACE, and Contractor employees shall be authorized to stop fieldwork that is being conducted in an unsafe manner until the deficiency is properly addressed to ensure worker safety.

All activities requiring Contractor access to the Installation (e.g., drilling operations, sample collections, well development and testing, surveying, demolition, construction, operations and maintenance, etc.) or affecting other Installation activities shall be coordinated with the AFCEC RPM and appropriate Installation personnel and/or the AFCEC RPM before implementation. Work will be implemented in a manner that minimizes disruption of Installation mission and operations.

The Contractor shall coordinate worksite activities with all applicable AF and USACE personnel to ensure the protection of human health and the environment; the prevention of damage to property, utilities, materials, supplies, and equipment; and the avoidance of work interruptions. The Contractor shall provide physical security to work areas by furnishing security equipment and personnel. The Contractor shall perform emergency response to situations arising from project activities. The Contractor shall perform emergency repairs to facilities, systems, improvements, or utilities damaged in the course of executing contract requirements. The Contractor shall comply with all local, state, federal and military law and guidance covering security activities. The Contractor must comply with Occupational Safety and Health Administration (OSHA) safety and health regulations, USACE EM-385-1-1, and all local safety office requirements. The Contractor is required to provide the KO copies of any OSHA report(s) submitted during the duration of the contract.

For environmental services, all on-site workers (Contractor and subcontractor) performing hazardous operations, including working with hazardous materials, must have completed the OSHA 1910.120 Hazardous Waste Operations and Emergency Response (HAZWOPER) training and/or other applicable training, plus annual refresher courses. The Contractor shall maintain documentation supporting training records and have the Accident Prevention Plan (APP) and Site Safety and Health Plan (SSHP) on site, available for workers, USACE, AF, and/or regulatory review.

The Contractor shall be responsible for any damage caused to property of the United States (Federal property) by the activities of the Contractor under this contract and shall exercise due diligence in the protection of all property located on the premises against fire or damage from any and all other causes. Any property of the United States damaged or destroyed by the Contractor incident to the exercise of the privileges herein granted shall be promptly repaired or replaced by the Contractor to a condition satisfactory to the USACE COR or reimbursement is made by the Contractor sufficient to restore or replace the property to a condition satisfactory to the USACE COR in accordance with FAR Clause 52.245-2.

### 6.11 Environment, Safety & Health

Prior to the start of any fieldwork, the USACE COR must accept the Contractor's Accident Prevention Plan/Site Safety and Health Plan (APP/SSHP). The APP/SSHP shall be prepared in accordance with USACE EM-385-1-1. In addition, the USACE COR must accept any changes to the APP/SSHP prior to commencing work covered by the changes. This document shall be a separate deliverable from the UFP-QAPP.

## 7 CHEMISTRY REQUIREMENTS

### 7.1 Chemistry Requirements

The Contractor shall be responsible for the quality of all required chemistry services performed. The Contractor shall ensure that all chemistry-related tasks are conducted in accordance with the programmatic UFP-QAPP and its Installation-specific addenda. The Contractor shall identify a Project

Chemist as key personnel in the programmatic UFP-QAPP. The Project Chemist will act as a POC on all chemistry-related issues and shall be responsible for ensuring that all Data Quality Objectives (DQOs) are met.

### 7.1.1 Quality Assurance

The Contractor shall develop project specific DQOs to ensure data of adequate quality are collected to support project decisions. DQOs shall be developed in consensus with the restoration project team and in accordance with the UFP-QAPP and USEPA QA/G4, Guidance on Systematic Planning Using the Data Quality Objective Process (most recent version) and documented in the programmatic UFP-QAPP and/or its Installation-specific addenda. The Contractor shall ensure that all requirements specified in the programmatic UFP-QAPP and its Installation-specific addenda are met. If not met, the Contractor may be required to re-accomplish sampling at the Contractor's expense.

The Contractor shall conduct audits, administer an approved performance evaluation sample program or participate in the AFCEC program, verify and validate data, and perform corrective actions in accordance with the programmatic UFP-QAPP. Data verification, data validation, data qualification schema, and data usability assessment methodology shall be described in the UFP-QAPP.

### 7.1.2 Laboratory Selection

The Contractor shall select two (2) laboratories, a primary and a back-up, with analytical capabilities sufficient for the methods specified in the programmatic UFP-QAPP and its Installation-specific addenda with adequate throughput capacity to handle the project's analytical workload during all field activities. The Contractor shall ensure that each laboratory is accredited under the DoD Environmental Laboratory Accreditation Program (ELAP) to DoD QSM, version 5.3 or most current, and meets all federal requirements. Accredited laboratories can be found here: (https://www.denix.osd.mil/edqw/accreditation/accreditedlabs/).

The Contractor may establish an on-site laboratory at the project site if determined necessary by the Contractor. However, on-site test laboratories shall also be accredited under the DoD ELAP and meet all state and federal requirements, including state certification, where appropriate.

During laboratory selection, it is recommended the Contractor confirm sampling container types, sizes, and initial volume requirements; standards containing both branched and linear isomers are used, when commercially available; chemical derivation of the ion transitions; and reagent or ultra-pure water used in the laboratory is confirmed to be free of PFAS.

### 7.1.3 Analytical Requirements

All laboratory services shall be in accordance with the analytical requirements described below and be conducted in accordance with the approved programmatic UFP-QAPP and its Installation-specific addenda. The UFP-QAPP shall include SOPs for field sampling and laboratory analytical procedures. Samples shall not be collected or submitted for analysis until the UFP-QAPP and addenda are approved.

PFAS analysis for all matrices (i.e., groundwater, surface water, soil, and sediment) shall be performed by a DoD ELAP accredited laboratory using a liquid chromatography tandem mass spectrometry (LC/MS/MS) method that is on the laboratory's DoD ELAP scope of accreditation and is compliant with the requirements in the DoD QSM (version 5.3 or most current) for Environmental Laboratories, Table B-15. All PFAS analytes in **Table 2** must be reported. All compounds to be reported must be on the laboratory's DoD

ELAP scope of accreditation. The DoD QSM allows for commercial PFAS standards that are available as salts providing the measured mass is corrected to the neutral acid concentration. Results shall be reported as the neutral acid with appropriate CAS number. The preferred nomenclature of the target analyte for reporting purposes will be the conjugate acid (i.e., sulfonic acid instead of sulfonate). Laboratories should be capable of converting concentrations from the conjugate base to the conjugate acid based on the molecular weight, as necessary based on stock standards purchased. As data is referenced in project reports, the text shall refer to the base conjugates (i.e., sulfonate instead of sulfonic acid) with associated concentrations displayed as the acid conjugate, with a note to clarify the differences. If analytes that are not listed in the DoD QSM are requested, laboratory in-house control limits must be approved by USACE and AFCEC.

**Table 2: PFAS Analyte List**

| Chemical | CASRN | Acronym |
|---|---|---|
| 4:2 Fluorotelomer sulfonic acid | 75124-72-4 | 4:2 FTS |
| 6:2 Fluorotelomer sulfonic acid | 27619-97-2 | 6:2 FTS |
| 8:2 Fluorotelomer sulfonic acid | 39108-34-4 | 8:2 FTS |
| N-ethyl perfluorooctanesulfonamidoacetic acid | 2991-50-6 | NEtFOSAA |
| N-methyl perfluorooctanesulfonamidoacetic acid | 2355-31-9 | NMeFOSAA |
| Perfluorobutanesulfonic acid | 375-73-5 | PFBS |
| Perfluorobutanoic acid | 375-22-4 | PFBA |
| Perfluorodecanesulfonic acid | 335-77-3 | PFDS |
| Perfluorodecanoic acid | 335-76-2 | PFDA |
| Perfluorododecanoic acid | 307-55-1 | PFDoA |
| Perfluoroheptanoic acid | 375-85-9 | PFHpA |
| Perfluoroheptanesulfonic acid | 375-92-8 | PFHpS |
| Perfluorohexanesulfonic acid | 355-46-4 | PFHxS |
| Perfluorohexanoic acid | 307-24-4 | PFHxA |
| Perfluorononanoic acid | 375-95-1 | PFNA |
| Perfluorononanesulfonic acid | 68259-12-1 | PFNS |
| Perfluorooctanesulfonamide | 754-91-6 | PFOSA |
| Perfluorooctanesulfonic acid | 1763-23-1 | PFOS |
| Perfluorooctanoic acid | 335-67-1 | PFOA |
| Perfluoropentanoic acid | 2706-90-3 | PFPA |
| Perfluoropentanesulfonic acid | 2706-91-4 | PFPS |
| Perfluorotetradecanoic acid | 376-06-7 | PFTeDA |
| Perfluorotridecanoic acid | 72629-94-8 | PFTriDA |
| Perfluoroundecanoic acid | 2058-94-8 | PFUnA |

New or improved PFAS analytical methods are likely to come into existence in the near future. Prior to use for PFAS analysis, the laboratory must be DoD ELAP accredited, have the method and reported analytes on the laboratory's DoD ELAP scope of accreditation, and be in compliance with the version of the DoD QSM to which the laboratory is accredited.

There are no promulgated soil extraction methods in EPA publication, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, also known as SW-846. The laboratory shall process and analyze soil or sediment according to DoD QSM, Table B-15. The Contractor should evaluate laboratory

standard operating procedures for industry standard expectations. The entire soil or sediment sample received by the laboratory must be homogenized prior to subsampling. For low concentrations required to meet sensitivity needs, a larger initial volume sample size and three (3) serial extractions are required.

### 7.1.4 Analytical Data Management

The Contractor shall ensure that all hard copy and electronic data deliverables supplied by the laboratory are complete and adequate to support the quality and usability of the data. Stage 4 data packages shall be submitted to the USACE and AFCEC. Data packages shall include all information required to re-create the analysis, including correspondence with the laboratory regarding exceeding quality assurance/quality control (QA/QC) measurements and documentation of corrective actions. The Contractor shall meet ERPIMS data deliverable requirements as currently required by AFCEC. Hard copy (electronic PDF is acceptable and preferred) reports must be Level IV reports with QA/QC results, chromatographs, and manual integrations completed during analysis.

### 7.1.5 Data Validation

The Contractor shall be responsible for assessing the environmental data's quality by performing data validation against criteria established within the analytical method, the DoD QSM, the DoD General Data Validation Guidelines, and the UFP-QAPP. Validation shall be performed with 100% of data validated to Stage 2b and 10% of data additionally validated to Stage 4 with recalculation of appropriate data, including DoD QSM, Table-B15 requirements.

A data validation report shall be prepared, and shall sufficiently document the data validation procedure and provide a clear understanding of the representativeness of the data, for all samples taken in support of this contract. The results of the data validation shall be summarized in the associated technical report with supporting data validation reports included in an appendix. A data usability assessment of the validated data shall be performed. The results of the data usability assessment shall be included in the technical report, and shall identify the limitations of the data, and the effect qualified results have on the decisions being made for the project.

### 7.1.6 Electronic Data Deliverables

The Contractor shall comply with the ERPIMS data requirements for all usable field-derived data/information supported by ERPIMS data structure including, but not limited to, sampling data, remediation system identification data, remediation technology performance data, relevant QA/QC data, lithology, groundwater, monitoring well location, well construction, well maintenance, and/or abandonment information. After receipt of the contract, the Contractor shall submit an ERPIMS Data Submission Schedule within 30 days of award to establish the projected framework for ERPIMS data submissions. The Contractor shall record and enter usable field and laboratory data and submit this data as specified in the latest ERPIMS Data Loading Handbook (DLH) using the latest version of the ERPIMS software utility (ERPTools). The AFCEC ERPIMS Webpage located at http://www.afcec.af.mil/What-We-Do/Environment/Restoration/ERPIMS/Search/ offers the latest DLH, ERPTools client software, ERPIMS policy, Help Desk contact info, data submission requirements, ERPTools training schedules, and more.

ERPIMS data submissions are required within 90 days of sample collection unless a written waiver or extension is obtained from the KO in coordination with AFCEC Environmental Restoration Branch Chief. The Contractor shall be responsible for the accuracy and completeness of all data submitted. The Contractor shall ensure that any required corrections are accomplished within both the contract POP and

before funding expiration. The preferred procedure is for laboratories to use ERPTools to input/submit chemistry data for initial validation, import, and submission by the Prime Contractor. ERPTools training is available to prime and laboratory Contractors. All objectives that include analytical sampling shall include successful ERPIMS loading of all relevant ERPIMS data elements into the production database as a minimum acceptance criterion.

# 8 TASKS

The Contractor shall provide technical plans and reports, as well as various other deliverables. The Contractor shall complete these documents according to the most appropriate industry standard. In general, all deliverables shall be Installation-specific.

Deliverables are required under this contract to demonstrate contractual performance objectives are being met and that payment is appropriate. Most of these documents must be submitted for initial USACE and AF review followed by submittal to the regulatory agency. The Contractor must ascertain the number offices required for delivery to all relevant parties. The protocols described in this PWS, as well as relevant and appropriate USEPA and AFCEC guidance should be used in development of these plans as applicable. Collection methods for all sample media, water levels, water quality parameters, sample collection and handling, and analytical methods will be included in all project work plans and required reports. The Contractor may utilize existing plans in their entirety or prepare updates, revisions, or addenda to the existing plans, as appropriate, in lieu of developing new plans.

PFAS are present in a wide variety of commercial products including common household items (fabric softeners, sunscreens, low density polyethylene containers, Gore-Tex, cosmetics, moisturizing lotions, etc.). Given the low detection limits associated with PFAS analysis and the many potential sources of trace levels of PFAS, field personnel shall strictly adhere to the sampling equipment and protocols summarized in Appendix B. If in doubt about a particular product or item in contact with environmental media including well construction materials and sampling equipment, the Contractor shall collect and analyze a rinsate sample using laboratory-supplied PFAS-free water to verify the materials do not contain PFAS.

## 8.1 Mountain Home AFB Tasks

The Phase I RI will consist of site characterization efforts to include delineation of the nature and extent of PFAS contamination resulting from past aqueous film-forming foam (AFFF) use, and development of a conceptual site model (CSM). The CSM shall encompass PFAS release locations installation-wide to acquire a holistic understanding of the PFAS release, comingling of contamination interaction with legacy contamination, geologic and hydrogeologic conditions, and migration in the environment. Based on the CSM resulting from Phase I, subsequent RI efforts will consist of any additional sampling necessary to quantify human health and ecological risks, and preparation of the corresponding baseline risk assessment reports.

Delineation of the nature and extent of PFAS contamination as part of the Phase I RI shall include the lateral and vertical extent of PFAS to include PFOS, PFOA, and PFBS in all AFFF-impacted media (e.g., soil, groundwater, surface water, and sediment).

- In groundwater and surface water, delineation of PFOS and PFOA will be to EPA's Regional Screening Level (RSL) for Tapwater (HQ=0.1) of 0.04 µg/L (parts per billion [ppb]) and delineation of PFBS will be to EPA's RSL for Tapwater (HQ=0.1) of 40 µg/L (ppb).

- In soil and sediment, delineation of PFOS and PFOA will be to EPA's RSL for residential soil (HQ=0.1) of 0.13 mg/kg (parts per million [ppm]) and delineation of PFBS will be to EPA's RSL for residential soil (HQ=0.1) of 130 mg/kg (ppm).

There are five (5) AFFF release areas that were identified in the SI for further investigation, however only two (2) of these release areas will be addressed in this Phase I RI (see Section 2). These two (2) sites and any associated migration pathways are the basis for further investigation in this Phase I RI, and are listed again below:

- FT008P – SI AFFF Area 1 - Fire Training Area FT-08
- EP301P – SI AFFF Area 5 - Historical Wastewater Lagoons

### 8.1.1 Task 1 – Work Plan Documents

#### 8.1.1.1 Project Management Plan

The Contractor shall develop and maintain a detailed PMP. The PMP shall include the technical approach and the Integrated Master Schedule (IMS). In addition, the PMP shall specify the resources required for the planning, execution, and completion of the performance objectives. At a minimum, the PMP shall include the technical approach, the project organization, personnel and management, the project's resources and project tasks corresponding to the Contract Line Item Numbers (CLINs) for this contract, and an organization chart identifying the names of personnel and their involvement in the contract (including subcontractors by organization or person depending upon how prominent an individual is in the execution of the task), and communication/transition plan. The first draft of the PMP shall be due within thirty (30) calendar days of contract award (or lesser amount of days if agreed upon by the KO and the Contractor). The draft final PMP and subsequent revisions shall be subject to USACE and AF for review and approval. The final PMP shall be due within 14 calendar days of receipt of USACE and AF comments on the draft PMP. The PMP shall be maintained throughout the duration of the contract and updated as necessary.

#### 8.1.1.2 Uniform Federal Policy – Quality Assurance Project Plan

The Contractor shall prepare, for USACE and AF review and approval, an Installation-specific UFP-QAPP for this contract. The Contractor must implement, maintain, and comply with the approved programmatic UFP-QAPP and its Installation-specific addenda. This approved UFP-QAPP shall serve as the general work plan for this project.

The UFP-QAPP shall be written in the format specified in the Intergovernmental Data Quality Task Force Optimized UFP-QAPP Worksheets (March 2012) and in accordance with other USEPA and DoD guidance documents. The UFP-QAPP shall include an Investigation-Derived Waste (IDW) Management Plan in accordance with the AF guidance AFGM 2019-32-01 and Section 8.6, in addition to all federal and state regulations as appendices.

The Contractor shall develop project specific DQOs to ensure data of adequate quality are collected to support project decisions. DQOs shall be developed in consensus with the restoration project team and in accordance with the UFP-QAPP and USEPA QA/G4, Guidance on Systematic Planning Using the Data Quality Objective Process (most recent version) and documented in the project UFP-QAPP.

All laboratory services shall be conducted in accordance with the approved project UFP-QAPP.

Data validation shall be conducted on requirements presented in the UFP-QAPP, and performed by an independent, qualified, and experienced data validator in accordance with DoD General Data Validation Guidelines and any applicable Modules. 100 percent of the data shall be validated at a minimum of Stage 2B, and 10% of data shall be validated at Stage 4. The data validation standard operating procedure shall be included in the WP. Significant deviations from project requirements discovered during data validation shall be communicated with the project chemist and COR as part of the data validation process.

#### 8.1.1.3 Accident Prevention Plan/Site Safety and Health Plan

The Contractor shall prepare, for USACE and AF review and approval, an Installation-specific APP/SSHP (as a separate deliverable from the UFP-QAPP) for this contract and Installation-specific addenda. The Contractor must implement, maintain, and comply with the approved programmatic APP/SSHP and its Installation-specific addenda. The APP/SSHP shall be prepared in accordance with EM 385-1-1.

#### 8.1.1.4 Project Planning Meetings

The Contractor shall review the existing Mountain Home AFB Administrative Record, evaluate storm water and other conveyances to determine potential transport mechanisms, and provide a recommended Phase 1 RI technical approach.

The Contractor shall host two (2) initial project scoping sessions (a preliminary session with only USACE and Air Force stakeholders and a second session that includes regulatory stakeholders as well) to review the existing site information and define project data quality objectives.

The Contractor shall host two (2) additional scoping sessions for step-out well installation and/or sampling events after initial mobilization sample results, potentiometric maps, and well network optimization analysis have been developed to inform additional monitoring well and/or sampling locations. The Contractor shall amend pertinent sections of the UFP-QAPP to update the project plan if needed.

### 8.1.2 Task 2 – Install Monitoring Wells and Collect Groundwater Samples

#### 8.1.2.1 Monitoring Well Installation

The Contractor shall install six (6) groundwater monitoring wells at locations (on and/or off base) identified by stakeholders during scoping sessions to a planned depth of 500 feet below ground surface (bgs). The Air Force will be responsible for obtaining any access agreements needed to install monitoring wells on non-AF property. The Contractor shall plan to mobilize three (3) times for monitoring well installation based on project planning with stakeholders.

If it is determined groundwater monitoring wells are to be installed outside of the installation boundaries, these well installations cannot be installed until offsite access agreements have been completed by the Air Force and the USACE.

The Contractor shall document all subsurface soils during well installation by a qualified and experienced geologist (per Section 10.8.4) and recorded on standardized boring log forms. Soil classification shall follow ASTM D2488.

The Contractor shall drill a 12-inch borehole to 40-feet utilizing Air Rotary drilling techniques to install a 10-casing and grouting the casing in place, and going back into the same boring with an 8-inch air rotary rig drill down to 500-feet bgs. The wells shall be screened from 450 feet bgs to 490 feet bgs. A ten (10) foot sump shall be installed at the base of the well from 490 feet to 500 feet bgs. Screens shall be threaded flush-joint four (4) -inch diameter, Schedule 80 PVC, with 0.020 or 0.010-inch screen slot size depending on the well. Riser pipe shall be of like Schedule 80 PVC. Final stick-up of the PVC casing/riser shall be 2.5 feet above land surface except where the well is a flush-mount well. During well assembly, stainless-steel centralizers shall be placed on the blank casing just below and above the screen.

These depths may be adjusted by the Contractor's field geologist after consultation with the Air Force based on the geology encountered in the boring. This adjustment shall only occur with COR approval. The intent is to set the bottom of each well screen within the fractured basalt water bearing zone. Silica sand filter pack appropriate for the respective screen slot size shall be placed in the annulus from the base of the borehole to five (5) feet above the well screen. Bentonite chips and/or equivalent materials shall be used to fill the well annulus to approximately 40 feet bgs, and from 40 feet bgs to ground surface with cement bentonite grout. Well heads will be completed with two (2) ports, one (1) for groundwater discharge and one (1) for sounding depth to water measurements. A water level sounding pipe will be completed and extend to a depth that corresponds to the depth of the pump inlet for each respective well. The pump inlet pipe will consist of one (1) inch Schedule 80 PVC. The sounding pipe will consist of ¾ inch Schedule 80 PVC.

Except where the well is a flush-mount well, well surface completion shall consist of a twelve-inch protective steel monument casing around the PVC well casing/riser to a height of approximately three (3) feet above land surface (or about 0.5 feet above the top of the PVC well casing/riser). The protective casing shall extend a minimum of three (3) feet below land surface and be seated into the cement grout annular seal. The protective casing shall be within a three (3) feet by three (3) feet concrete pad a minimum of four (4) inches thick. The protective casing shall be equipped with a locking cap.

The Contractor shall install three (3) concrete-filled three (3)-inch diameter protective steel posts (bollards), such that they are equally spaced around and outside of the concrete pad for all wells. Flush mount completions will have well casing cut below grade and secured with locking well caps. Flush mounts will be completed with a traffic-rated, 12-inch, flush mount vaults set in concrete.

Newly installed groundwater monitoring wells will be developed to ensure proper hydraulic communication with the regional groundwater aquifer using mechanical surging, bailing and pumping methods. Use of bailers are permissible to remove higher volumes of sediment from the well prior to use of the pump, and as a final step in development to ensure the tail pipe is free of sediment accumulation at the bottom of the well. Development of all wells is not complete until removal of very fine-grained sediment in the filter pack, and nearby formation has occurred so that turbidity does not affect to groundwater samples, and so that silting of the well will not occur. Wells shall be developed no sooner than 48 hours and no later than seven (7) days after cement grout emplacement. Each newly installed well should be surged at various depths within the screened interval followed by evacuation of water until a turbidity of 10 nephelometric turbidity units (NTUs) is achieved. If 10 NTUs cannot be achieved, then a threshold of 50 NTU must be achieved or the well will not be considered viable.

The Contractor shall collect two (2) soil samples (one (1) surface 0.0 to 0.5 feet bgs and prior to encountering the basalt bedrock) with split spoon sampling techniques in each monitoring well boring

where stakeholders identify a need for soil data (assume for all newly installed wells for estimating purposes). Sampling for the 0.0 to 0.5 feet bgs interval may be done with a hand auger or other direct sample methodology.

The Contractor will provide services for installing six (6) dedicated groundwater pumps into the new groundwater wells. The groundwater pump to be used must have 1.5 Horsepower (HP), 240-volt, single phase, three (3) prong or equivalent. The conveyance piping will consist of one-inch Schedule 80 PVC and extend to the surface along with the sounding pipe and connect to the well cap.

The Contractor shall install a metal ID plate at each well with the well ID number. All well numbers will be provided by the AFCEC RPM and shall follow ERPIMS guidelines and not be a repeat of any number in the ERPIMS data base for Mountain Home AFB.

#### 8.1.2.1.1 Flowmeter and Gamma Logging of Monitoring Wells

The Contractor shall perform vertical flowmeter logging and gamma logging for the six (6) newly installed monitor wells. Flowmeter logging will be conducted in the open borehole to identify transmissive fractures or geologic units open to the borehole that are sources of water, with a concentration on identifying perched water zones above the main aquifer. If the formation is prone to collapse, then the logging can take place after the well has been installed. The Contractor shall perform gamma logging for the six (6) newly installed monitor wells, as well as to 25 (twenty-five) existing monitor wells where gamma logging has not been previously conducted (31 total).

#### 8.1.2.1.2 Survey of Newly Installed Groundwater Monitoring Wells

The Contractor shall survey horizontal and vertical elevations of the newly installed wells during performance of work under this PWS. The Contractor shall survey the vertical elevations of the ground surface near the wells, as well as the top of the inner well casing. Surveys shall be completed by a registered land surveyor.

All maps and associated data must comply with the latest version of Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE) available from the SDSFIE web site. These data will be organized using the current version of the standard approved by the Headquarters Air Force Geo Integration Office as the functional lead for installation mapping and visualization. The SDSFIE will determine file and feature class identification and definition, attribution, and valid domain values. When any geospatial information collected as a result of the contract includes information identified in the Common Installation Picture or recognized Mission Data Set, the Contractor will deliver data consistent with the established requirements for the data and will ensure functionality with the receiving system. Information must be collected at no less than 1:1200 scale for base cantonment areas and 1:4800 scale for larger undeveloped base areas. Spatial data will meet or exceed National Map Accuracy Standards at those scales. Metadata will be provided and will use Federal Geographic Data Committee Content Standards for Digital Geospatial Metadata for organization.

Geospatial data must be delivered in a geo-referenced Geographic Information System (GIS) format (feature-based file structures with one-to-one cardinality between spatial records and attribute records) which would include Environmental Systems Research Institute's shapefile and geodatabase formats. All attribute data as specifically outlined in the task order contract must be included either in the GIS data file or as a separate table with a SDSFIE key variable that may be used to relationally join the separate table

with the GIS data file. All geospatial data must be delivered in the World Geodetic System 1984 (WGS84) projection, UTM 11 Coordinate System, using feet or metric coordinate units. Vertical elevations shall be delivered in the North American Vertical Datum of 1988 (NAVD 88) projection. Further guidance on mapping units, coordinate systems and projections is available from the Installation GIO.

Mapping- or Survey-Grade Global Positioning Systems (GPS) or comparable traditional survey methods will be used to collect geospatial data. The use of mapping- or survey-grade GPS will depend on the precision requirements of the product data. Further information about precision requirements should be obtained from the installation GIO.

Source data and product data remain the property of the US Air Force. The Contractor may be required to explain and demonstrate the company's process for protecting all geospatial data, including but not limited to geometry, attributes, metadata, topologies, and relational database schemas and operations used in association with this Statement of Work. The Contractor may be required to sign a nondisclosure agreement attesting to the same before source data are released. Further information about security and nondisclosure requirements should be obtained from the installation GIO. Some installation map data, source, and/or product may be considered by the Air Force to be "sensitive, but unclassified." The intent of this clause is to prevent intentional or unintentional dissemination of "sensitive, but unclassified" information to include unauthorized access to the source and product data by any entity wishing to do harm to the USAF or U.S. Government while the data resides on the Contractor's computer network. The Contractor is not authorized to release this information to any third party without the explicit consent of the Headquarters Air Force Office of the Civil Engineer (AF/A7C) or its involved installation. All source information must be returned to the Air Force POC or destroyed upon completion of this project.

#### 8.1.2.2 Synoptic Groundwater Level Measurement

The Contractor shall install 42 pressure transducers, applicable cable, and application interface, into all existing groundwater monitoring wells. The Contractor shall perform an initial synoptic groundwater level measurement of 42 wells in order to establish an installation-wide baseline of groundwater flow. The Contractor shall present results of the measurements as scoping session materials to inform well installation location decisions, in addition to including the results as part of the Phase 1 RI report data.

After the installation of the six (6) new groundwater monitoring wells, the Contractor shall install pressure transducers, applicable cable, and application interface, into each newly installed well (in addition to the 42 wells in the paragraph above). After installation of these transducers the Contractor shall conduct a synoptic water level event three (3) months after the installation of the six (6) new groundwater monitoring wells, in addition to the 42 existing groundwater monitoring wells, for 48 wells.

#### 8.1.2.3 Groundwater Monitoring Well Sampling

The Contractor shall collect 42 monitoring well samples from existing wells and analyze the samples for PFAS in an initial sampling event to inform locations for new monitoring wells.

Once all of the six (6) newly installed wells have been developed, the six (6) newly installed wells shall be sampled and the samples analyzed for PFAS during one sampling event.

Six months after the six (6) newly installed wells are sampled, the Contractor shall collect groundwater samples from the six (6) newly installed groundwater monitoring wells, and 42 existing active groundwater monitoring wells.

The Contractor shall use low flow purge and sampling techniques in accordance with EPA and IDEQ guidance. Groundwater samples shall be analyzed for the following field parameters: oxidation-reduction potential (ORP), pH, temperature, total dissolved solids (TDS), conductivity, dissolved oxygen (DO), and turbidity.

### 8.1.3 Task 3 - Install Soil Borings and Collect Soil Samples

#### 8.1.3.1 Source Area Surface Soil Sampling

The Contractor shall collect 15 surface (0.0 to 0.5 feet bgs) soil samples and analyze the samples for PFAS. Contractor to survey all surface soil sampling locations in accordance with section 8.1.2.1.2.

#### 8.1.3.2 Subsurface Soil Sampling

The Contractor shall collect one (1) surface (0.0 to 0.5 feet bgs) and two (2) subsurface samples (0.5 to bedrock) from 36 soil borings and analyze the samples for PFAS. Assume for costing purposes the depth to basalt bedrock to be 15 feet bgs (although depth to basalt can vary from two (2) feet bgs to 25 feet bgs). The contractor shall backfill the boreholes and abandon using bentonite fill. Contractor to survey all soil boring locations in accordance with section 8.1.2.1.2.

The Contractor shall evaluate the potential for PFAS in soil to leach to groundwater at representative PFAS release areas using the analytical technique Synthetic Precipitation Leaching Procedure (SPLP) PFAS. The Contractor shall homogenize and split 12 of the soil boring samples that provide a representative range of soil PFAS concentrations, and send the splits to an analytical laboratory for SPLP PFAS analysis, by EPA Method 1312, or similar.

### 8.1.4 Task 4 - Surface Water Sampling

The Contractor shall collect four (4) surface water samples and analyze the samples for PFAS. The Contractor shall collect the samples in two (2) mobilizations to allow for step-out decisions based on earlier mobilizations as determined by stakeholders in the UFP-QAPP.

### 8.1.5 Task 5 – Phase 1 Remedial Investigation Report

The Contractor shall prepare and submit a Phase 1 RI Report for Government review and approval to include a summary of results of field investigation activities to characterize the site, sources of contamination, nature and extent of contamination, fate and transport of contaminants, AOI CSMs, and exposure CSMs, which includes potential exposure pathways and human and ecological receptors. The report format and content will be in accordance with EPA Guidance (EPA 1988) with the exception of risk assessment components not included in the scope of this Phase 1 RI Contract. The Phase 1 RI Report shall include all required supporting materials (e.g., borelogs, waste manifests, supporting calculations, etc.) and analytical information (e.g., required data validation and usability reports, data packages, etc.).

### 8.1.6 Task 6 (OPTIONAL) – Offsite Irrigation Well Sampling

Some offsite irrigation wells may require sampling; however, sampling of these wells cannot take place until offsite access agreements have been completed by the Air Force and USACE. Assume 10 irrigation wells will require sampling and analysis for PFAS during this effort. Groundwater sampling shall be conducted in accordance with above Section 8.1.2.3

### 8.1.7 Task 7 (OPTIONAL) – Additional Soil Sampling (1)

The Contractor shall collect one (1) surface soil (0.0 to 0.5 feet bgs) and two (2) subsurface soil samples (0.5 to bedrock) from 24 soil borings and analyze the samples for PFAS. Assume for costing purposes the depth to basalt bedrock to be 15 feet bgs (although depth to basalt can vary from two (2) feet bgs to 25 feet bgs). The contractor shall backfill the boreholes and abandon using bentonite fill. Contractor to survey all soil boring locations in accordance with section 8.1.2.1.2.

### 8.1.8 Task 8 (OPTIONAL) – Additional Soil Sampling (2)

The Contractor shall collect one (1) surface soil (0.0 to 0.5 feet bgs) and two (2) subsurface soil samples (0.5 to bedrock) from 24 soil borings and analyze the samples for PFAS. Assume for costing purposes the depth to basalt bedrock to be 15 feet bgs (although depth to basalt can vary from two (2) feet bgs to 25 feet bgs). The contractor shall backfill the boreholes and abandon using bentonite fill. Contractor to survey all soil boring locations in accordance with section 8.1.2.1.2.

### 8.1.9 Task 9 (OPTIONAL) – Additional Soil Sampling (3)

The Contractor shall collect one soil (1) surface (0.0 to 0.5 feet bgs) and two soil (2) subsurface samples (0.5 to bedrock) from 24 soil borings and analyze the samples for PFAS. Assume for costing purposes the depth to basalt bedrock to be 15 feet bgs (although depth to basalt can vary from two (2)feet bgs to 25 feet bgs). The contractor shall backfill the boreholes and abandon using bentonite fill. Contractor to survey all soil boring locations in accordance with section 8.1.2.1.2.

### 8.1.10 Task 10 (OPTIONAL) – Additional Monitoring Well Installation and Sampling (1)

The Contractor shall install an additional three (3) groundwater monitoring wells at locations (on and/or off base) identified by stakeholders during scoping sessions to a depth of 500 feet bgs. The groundwater monitoring wells shall be installed as noted in the above Section 8.1.2.1. Pressure transducers and dedicated well pumps shall be installed into these new wells. The type of groundwater pump to be used must have 1.5 Horsepower (HP), 240-volts, single phase, and three (3) prong or equivalent model. The groundwater monitoring wells shall be sampled per Section 8.1.2.3 above. Newly installed wells shall be surveyed in accordance with the above Section 8.1.2.1.2.

Should any of the groundwater monitoring wells to be installed be located outside of the installation boundaries, these wells cannot take place until offsite access agreements have been completed by the Air Force and the USACE.

Vertical flowmeter logging and gamma logging shall be performed at new wells as described in Section 8.1.2.1.1.

### 8.1.11 Task 11 (OPTIONAL) – Additional Monitoring Well Installation and Sampling (2)

The Contractor shall install an additional three (3) groundwater monitoring wells at locations (on and/or off base) identified by stakeholders during scoping sessions to a depth of 500 feet bgs. The groundwater

monitoring wells shall be installed as noted in the above Section 8.1.2.1. Pressure transducers and dedicated well pumps shall be installed into these new wells. The groundwater pump must have 1.5 Horsepower (HP), 240-volt, single phase, three (3) prong or equivalent. The groundwater monitoring wells shall be sampled per Section 8.1.2.3 above. Newly installed wells shall be surveyed in accordance with the above Section 8.1.2.1.2.

Should any of the groundwater monitoring wells to be installed be located outside of the installation boundaries, these wells cannot take place until offsite access agreements have been completed by the Air Force and the USACE.

Vertical flowmeter logging and gamma logging shall be performed at new wells as described in Section 8.1.2.1.1.

### 8.1.12 Task 12 (OPTIONAL) – Additional Monitoring Well Installation and Sampling (3)

The Contractor shall install an additional three (3) groundwater monitoring wells at locations (on and/or off base) identified by stakeholders during scoping sessions to a depth of 500 feet bgs. The groundwater monitoring wells shall be installed as noted in the above Section 8.1.2.1. Pressure transducers and dedicated well pumps shall be installed into these new wells. The groundwater pump must have 1.5 Horsepower (HP), 240-volt, single phase, three (3) prong or equivalent. The groundwater monitoring wells shall be sampled per Section 8.1.2.3 above. Newly installed wells shall be surveyed in accordance with the above Section 8.1.2.1.2.

Should any of the groundwater monitoring wells to be installed be located outside of the installation boundaries, these wells cannot take place until offsite access agreements have been completed by the Air Force and the USACE.

Vertical flowmeter logging and gamma logging shall be performed at new wells as described in Section 8.1.2.1.1.

### 8.1.13 Task 13 (OPTIONAL) – Additional Monitoring Well Installation and Sampling (4)

The Contractor shall install an additional three (3) groundwater monitoring wells at locations (on and/or off base) identified by stakeholders during scoping sessions to a depth of 500 feet bgs. The groundwater monitoring wells shall be installed as noted in the above Section 8.1.2.1. Pressure transducers and dedicated well pumps shall be installed into these new wells. The groundwater pump must have1.5 Horsepower (HP), 240-volt, single phase, three (3) prong or equivalent. The groundwater monitoring wells shall be sampled per Section 8.1.2.3 above. Newly installed wells shall be surveyed in accordance with the above Section 8.1.2.1.2.

Should any of the groundwater monitoring wells to be installed be located outside of the installation boundaries, these wells cannot take place until offsite access agreements have been completed by the Air Force and the USACE.

Vertical flowmeter logging and gamma logging shall be performed at new wells as described in Section 8.1.2.1.1.

## 8.2 Fairchild AFB Tasks

The Phase I RI will consist of site characterization efforts to include delineation of the nature and extent of PFAS contamination resulting from past aqueous film-forming foam (AFFF) use, and development of a conceptual site model (CSM). The CSM shall encompass PFAS release locations installation-wide to acquire a holistic understanding of the PFAS release, comingling of contamination interaction with legacy contamination, geologic and hydrogeologic conditions, and migration in the environment. Based on the CSM resulting from Phase I, subsequent RI efforts will consist of any additional sampling necessary to quantify human health and ecological risks, and preparation of the corresponding baseline risk assessment reports.

Delineation of the nature and extent of PFAS contamination as part of the Phase I RI shall include the lateral and vertical extent of PFAS to include PFOS, PFOA, and PFBS in all AFFF-impacted media (e.g., soil, groundwater, surface water, and sediment).

- In groundwater and surface water, delineation of PFOS and PFOA will be to EPA's Regional Screening Level (RSL) for Tapwater (HQ=0.1) of 0.04 µg/L (parts per billion [ppb]) and delineation of PFBS will be to EPA's RSL for Tapwater (HQ=0.1) of 40 µg/L (ppb).
- In soil and sediment, delineation of PFOS and PFOA will be to EPA's RSL for residential soil (HQ=0.1) of 0.13 mg/kg (parts per million [ppm]) and delineation of PFBS will be to EPA's RSL for residential soil (HQ=0.1) of 130 mg/kg (ppm).

There are five (5) AFFF release areas identified in the SI for further investigation. These sites and any associated migration pathways are the basis for further investigation in this Phase I RI, and are listed again below:

- FT004P – Site Inspection AFFF Area 1 – Fire Training Area FT01
- RS003P - Site Inspection AFFF Area 2 - Calibration Area
- SS008P - Site Inspection AFFF Area 3 - Aircraft Crash Location SS008
- RS002P - Site Inspection AFFF Area 4 - B-52 Crash Location 1994
- RS001P - Site Inspection AFFF Area 5 - Fire Station 1 (Building 3)

### 8.2.1 Task 14 – Work Plan Documents

#### 8.2.1.1 Project Management Plan

The Contractor shall develop and maintain a detailed PMP. The PMP shall include the Technical Approach, Integrated Master Schedule (IMS). In addition, the PMP shall specify the resources required for the planning, execution, and completion of the performance objectives. At a minimum, the PMP shall include the technical approach, the project organization, personnel and management, the project's resources and project tasks corresponding to the Contract Line Item Numbers (CLINs) for this contract, and an organization chart identifying the names of personnel and their involvement in the contract (including subcontractors by organization or person depending upon how prominent an individual is in the execution of the task), and communication/transition plan. The first draft of the PMP shall be due within thirty (30) calendar days of contract award (or lesser amount of days if agreed upon by the KO and the Contractor). The draft final PMP and subsequent revisions shall be subject to USACE and AF for review and approval. The final PMP shall be due within 14 calendar days of receipt of USACE and AF

comments on the draft PMP. The PMP shall be maintained throughout the duration of the contract and updated as necessary.

#### 8.2.1.2 Uniform Federal Policy – Quality Assurance Project Plan

The Contractor shall prepare, for USACE and AF review and approval, an Installation-specific UFP-QAPP for this contract. The Contractor must implement, maintain, and comply with the approved programmatic UFP-QAPP and its Installation-specific addenda. This approved UFP-QAPP shall serve as the general work plan for this project.

The UFP-QAPP shall be written in the format specified in the Intergovernmental Data Quality Task Force Optimized UFP-QAPP Worksheets (March 2012) and in accordance with other USEPA and DoD guidance documents. The UFP-QAPP shall include an Investigation-Derived Waste (IDW) Management Plan in accordance with the AF guidance AFGM 2019-32-01 and Section 8.6, in addition to all federal and state regulations as appendices.

The Contractor shall develop project specific DQOs to ensure data of adequate quality are collected to support project decisions. DQOs shall be developed in consensus with the restoration project team and in accordance with the UFP-QAPP and USEPA QA/G4, Guidance on Systematic Planning Using the Data Quality Objective Process (most recent version) and documented in the project UFP-QAPP.

All laboratory services shall be conducted in accordance with the approved project UFP-QAPP.

Data validation shall be conducted on requirements presented in the UFP-QAPP, and performed by an independent, qualified, and experienced data validator in accordance with DoD General Data Validation Guidelines and any applicable Modules. 100 percent of the data shall be validated at a minimum of Stage 2B, and 10% of data shall be validated at Stage 4. The data validation standard operating procedure shall be included in the WP. Significant deviations from project requirements discovered during data validation shall be communicated with the project chemist and COR as part of the data validation process.

#### 8.2.1.3 Accident Prevention Plan/Site Safety and Health Plan

The Contractor shall prepare, for USACE and AF review and approval, an Installation-specific APP/SSHP (as a separate deliverable from the UFP-QAPP) for this contract and Installation-specific addenda. The Contractor must implement, maintain, and comply with the approved programmatic APP/SSHP and its Installation-specific addenda. The APP/SSHP shall be prepared in accordance with EM 385-1-1.

#### 8.2.1.4 Project Planning Meetings

The Contractor shall review the existing Mountain Home AFB Administrative Record, evaluate storm water and other conveyances to determine potential transport mechanisms, and provide a recommended Phase 1 RI technical approach.

The Contractor shall host two (2) initial project scoping sessions (a preliminary session with only USACE and Air Force stakeholders and a second session that includes regulatory stakeholders as well) to review the existing site information and define project data quality objectives.

The Contractor shall host two (2) additional scoping sessions for step-out well installation and/or sampling events after initial mobilization sample results, potentiometric maps, and well network optimization analysis have been developed to inform additional monitoring well and/or sampling locations. The Contractor shall amend pertinent sections of the UFP-QAPP to update the project plan if needed.

### 8.2.2 Task 15 – Install Monitoring Wells and Collect Groundwater Samples

#### 8.2.2.1 Monitoring Well Installation

The Contractor shall install 50 groundwater monitoring wells at locations (on and/or off base) identified by stakeholders during scoping sessions to a depth of 450 feet bgs. Total well depth will vary between 15 to 100 feet bgs on base to 120 to 450 feet bgs off base. Assume 35 wells to be installed at less than 100 feet bgs, and 15 wells to be installed at greater than 100 feet bgs, but less than 450 feet bgs. Wells will be installed in alluvium or in weathered basalt, directly above competent basalt. When appropriate, well pairs will be installed for on-base wells. Due to the variability in the subsurface, proposed well locations, targeted completion depths and screened intervals will be approved during the UFP-QAPP creation by the technical project planning team.

The Air Force will be responsible for obtaining any access agreements needed to install monitoring wells on non-AF property. The Contractor shall mobilize three (3) times for monitoring well installation based on project planning with stakeholders.

The Contractor shall conduct aquifer pump testing in at least three (3) locations, and shall conduct slug testing on each newly installed well. The aquifer pump testing shall be a constant-rate pumping test to estimate the hydraulic properties of the aquifer system including: hydraulic conductivity, transmissivity and storativity.

The Contractor shall document all subsurface soils during well installation by a qualified and experienced geologist (per Section 10.8.4) and recorded on standardized boring log forms. Soil classification shall follow ASTM D2488.

**Alluvial wells (Shallow - <100 feet)**
The Contractor shall install wells in the alluvium using hollow-stem auger, sonic or air rotary drilling techniques. Anticipated depths of alluvial wells range from 10 feet to 100 feet bgs. All wells shall be constructed of 2-inch diameter Schedule 40 PVC casing and 0.010-inch to 0.020-inch slotted well screen. Assume the screened interval for each well to be 10 feet. The borehole annulus shall be filled with #10-20 or similar sandpack across the screened interval and to two (2) to three (3) feet above the top of screen. Centralizers shall be placed below the well screen and every 40 feet to the top of the screen.

**Basalt Wells (Deep - >100 feet)**
The Contractor shall drill a 12-inch borehole to 40-feet utilizing Air Rotary drilling techniques to install a 10-casing and grouting the casing in place, and going back into the same boring with an 8-inch air rotary rig drill down to 450-feet bgs. The wells shall be screened for a 40 foot interval . A five (5) foot sump shall be installed at the base of the well from 445 feet to 450 feet bgs (assuming a 450 foot deep well). Screens shall be threaded flush-joint four (4)-inch diameter, Schedule 80 PVC, with 0.020 or 0.010-inch screen slot size depending on the well. Riser pipe shall be of like Schedule 80 PVC. Centralizers shall be placed below the well screen and every 40 feet to the top of the screen.

These depths may be adjusted by the Contractor's field geologist after consultation with the Air Force based on the geology encountered in the boring. This adjustment shall only occur with COR approval. The intent is to set the bottom of each well screen within the fractured basalt water bearing zone. Silica sand filter pack appropriate for the respective screen slot size shall be placed in the annulus from the base of the borehole to five (5) feet above the well screen. Bentonite chips and/or equivalent materials shall be used to fill the well annulus to approximately 40 feet bgs, and from 40 feet bgs to ground surface with cement bentonite grout. Well heads shall be completed with two (2) ports, one (1) for groundwater discharge and, one (1) for sounding depth to water measurements. A water level sounding pipe will be completed and extend to a depth which corresponds to the depth of the pump inlet for each respective well. The sounding pipe will consist of ¾ inch Schedule 80 PVC.

All newly installed wells shall have a protective casing that extends a minimum of three (3) feet below land surface and is seated into the annular seal (i.e. all installed wells must be "flush mount" style). The protective casing shall be within a three (3) feet by three (3) feet concrete pad at a minimum of four (4) inches thick. The protective casing shall be equipped with a locking cap. All well monuments will be completed with a traffic-rated, flush mount vaults set in concrete.

Newly installed groundwater monitoring wells shall be developed using mechanical surging, bailing and pumping methods. Use of bailers are permissible to remove higher volumes of sediment from the well prior to use of the pump, and as a final step in development to ensure the tail pipe is free of sediment accumulation at the bottom of the well. Development of all wells is not complete until removal of very fine-grained sediment in the filter pack, and nearby formation has occurred so that turbidity does not affect to groundwater samples, and so that silting of the well will not occur. Wells shall be developed no sooner than 48 hours and no later than seven (7) days after cement grout emplacement. Each newly installed well should be surged at various depths within the screened interval followed by evacuation of water until a turbidity of 10 nephelometric turbidity units (NTUs) is achieved. If 10 NTUs cannot be achieved then a threshold of 50 NTU must be achieved or the well will not be considered viable.

The Contractor shall collect two (2) soil samples (one (1) surface 0.0 to 0.5 feet bgs and prior to encountering the basalt bedrock) utilizing split spoon sampling techniques in each monitoring well boring where stakeholders identify a need for soil data (assume for all newly installed wells for estimating purposes). Sampling for the 0.0 to 0.5 feet bgs may be done with a hand auger or other direct sample methodology.

The Contractor will provide services for installing dedicated groundwater pumps into the new groundwater wells exceeding 25 feet depth. The type of pump will depend on the depth of the well.

The Contractor shall install a metal ID plate at each well with the well ID number. All well numbers will be provided by the AFCEC RPM and shall follow ERPIMS guidelines and not be a repeat of any number in the ERPIMS database for Fairchild AFB.

#### 8.2.2.1.1 Flowmeter and Gamma Logging of Monitoring Wells

The Contractor shall perform vertical flowmeter logging and gamma logging for the 50 newly installed monitor wells. Flowmeter logging will be conducted in the open borehole to identify transmissive fractures or geologic units open to the borehole that are sources of water, with a concentration on identifying perched water zones above the main aquifer. The Contractor shall also perform gamma

logging for 50 existing monitoring wells (100 total) where gamma logging has not been previously conducted.

#### 8.2.2.1.2 Survey of Newly Installed Groundwater Monitoring Wells

The Contractor shall survey horizontal and vertical elevations of the newly installed wells during performance of work under this PWS. The Contractor shall survey the vertical elevations of the ground surface near the wells, as well as the top of the inner well casing. Surveys shall be completed by a registered land surveyor.

All maps and associated data must comply with the latest version of Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE) available from the SDSFIE web site. These data will be organized using the current version of the standard approved by the Headquarters Air Force Geo Integration Office as the functional lead for installation mapping and visualization. The SDSFIE will determine file and feature class identification and definition, attribution, and valid domain values. When any geospatial information collected as a result of the contract includes information identified in the Common Installation Picture or recognized Mission Data Set, the Contractor will deliver data consistent with the established requirements for the data and will ensure functionality with the receiving system. Information must be collected at no less than 1:1200 scale for base cantonment areas and 1:4800 scale for larger undeveloped base areas. Spatial data will meet or exceed National Map Accuracy Standards at those scales. Metadata will be provided and will use Federal Geographic Data Committee Content Standards for Digital Geospatial Metadata for organization.

Geospatial data must be delivered in a geo-referenced GIS format (feature-based file structures with one-to-one cardinality between spatial records and attribute records) which would include ESRI shapefile and geodatabase formats. All attribute data as specifically outlined in the task order contract must be included either in the GIS data file or as a separate table with a SDSFIE key variable that may be used to relationally join the separate table with the GIS data file. All geospatial data must be delivered in the WGS84 projection, UTM 11 Coordinate System, using feet or metric coordinate units. Vertical elevations shall be delivered in the NAVD88 projection. Further guidance on mapping units, coordinate systems and projections is available from the Installation GIO.

Mapping- or Survey-Grade GPS or comparable traditional survey methods will be used to collect geospatial data. The use of mapping- or survey-grade GPS will depend on the precision requirements of the product data. Further information about precision requirements should be obtained from the installation GIO.

Source data and product data remain the property of the US Air Force. The Contractor may be required to explain and demonstrate the company's process for protecting all geospatial data, including but not limited to geometry, attributes, metadata, topologies, and relational database schemas and operations used in association with this Statement of Work. The Contractor may be required to sign a nondisclosure agreement attesting to the same before source data are released. Further information about security and nondisclosure requirements should be obtained from the installation GIO. Some installation map data, source, and/or product may be considered by the Air Force to be “sensitive, but unclassified.” The intent of this clause is to prevent intentional or unintentional dissemination of “sensitive, but unclassified” information to include unauthorized access to the source and product data by any entity wishing to do harm to the USAF or U.S. Government while the data resides on the Contractor’s computer network. The Contractor is not authorized to release this information to any third party without the explicit consent of

the Headquarters Air Force Office of the Civil Engineer (AF/A7C) or its involved installation. All source information must be returned to the Air Force POC or destroyed upon completion of this project.

#### 8.2.2.2 Synoptic Groundwater Level Measurement

The Contractor shall perform an initial synoptic groundwater level measurement of 100 wells in order to establish an installation-wide baseline of groundwater flow, to provide the Contractor with necessary information to identify potential PFAS migration pathways, and to inform decisions for new monitoring well locations.

The Contractor shall install 100 pressure transducers, applicable cable, and application interface, or equivalent or better. The Contractor shall perform a synoptic groundwater level measurement of 100 wells in order to establish an installation-wide baseline of groundwater flow. The Contractor shall present results of the measurement as scoping session materials to inform well installation location decisions in addition to providing the results in the Phase 1 RI report. The Contractor shall perform the synoptic well gauging during summer and late winter months to reflect seasonal variation. Well gauging will provide the Contractor with necessary information to identify potential PFAS migration pathways and to inform step-out decisions for new monitoring well locations.

#### 8.2.2.3 Groundwater Monitoring Well Sampling

Prior to installing new groundwater monitoring wells the Contractor shall collect 100 monitoring well samples and analyze the samples for PFAS to help inform the placement of the new monitoring wells.

The Contractor shall then collect groundwater samples from the 50 newly installed groundwater monitoring wells, and from the 50 existing active groundwater monitoring wells.

The Contractor shall use low flow purge and sample technique in accordance with EPA and Washington Department of Ecology (WDOE) guidance. Groundwater samples shall be analyzed for the following field parameters: oxidation-reduction potential (ORP), pH, temperature, total dissolved solids (TDS), conductivity, dissolved oxygen (DO), and turbidity.

### 8.2.3 Task 16 – Install Soil Borings and Collect Soil Samples

The Contractor shall drill 12 borings from each of the five (5) source area locations (60 total borings), and collect one (1) surface and four (4) subsurface soil samples from each of the borings (300 total samples). The boring shall be advanced using a direct-push technology drill rig. The soil samples shall be analyzed for PFAS. Assume depth of each boring to be 15 feet bgs. The contractor shall backfill the boreholes and abandon using bentonite fill. If groundwater is encountered, a groundwater sample shall be collected using a temporary well screen and a peristaltic pump. Groundwater samples shall be analyzed for PFAS (assume 50 groundwater samples).

The Contractor shall evaluate the potential for PFAS in soil to leach to groundwater at representative PFAS release areas using lysimetry, as practical, or using an analytical technique such as SPLP PFAS.

If lysimetry is used, the Contractor shall install five (5) lysimeters within the footprint of known soil contamination. Lysimeters shall be installed with the screens to a maximum depth achievable using direct push technology, or immediately above the water table in the vadose zone, whichever is shallower. The

Contractor shall then collect porewater samples from five (5) of the installed lysimeters and analyze for PFAS in four (4) sampling events throughout the duration of field work (up to 20 total samples).

If SPLP analysis is used, the Contractor shall homogenize and split 30 of the soil boring samples that provide a representative range of soil PFAS concentrations, and send the splits to an analytical laboratory for SPLP PFAS analysis, by EPA Method 1312 or similar.

### 8.2.4 Task 17 – Phase 1 Remedial Investigation Report

The Contractor shall prepare and submit a Phase 1 RI Report for Government review and approval to include a summary of results of field investigation activities to characterize the site, sources of contamination, nature and extent of contamination, fate and transport of contaminants, area of interest (AOI) CSMs, and exposure CSMs, which includes potential exposure pathways and human and ecological receptors. The report format and content will be in accordance with EPA Guidance (EPA 1988) with the exception of risk assessment components not included in the scope of this Phase 1 RI Contract. The Phase 1 RI Report shall include all required supporting materials (e.g., borelogs, waste manifests, supporting calculations, etc.) and analytical information (e.g., required data validation and usability reports, data packages, etc.).

### 8.2.5 Task 18 (OPTIONAL) – Additional Monitoring Well Installation and Sampling (1)

The Contractor shall install an additional 20 groundwater monitoring wells at locations (on and/or off base) identified by stakeholders during scoping sessions to a depth of 450 feet bgs. Total depths will vary (assume average well depth of 250 feet bgs). The groundwater monitoring wells shall be installed as noted in the above Section 8.2.2.1. Pressure transducers and dedicated well pumps shall be installed into these new wells. The groundwater pump to be used must have 1.5 Horsepower (HP), 240-volt, single phase, three (3) prong or equivalent. The groundwater monitoring wells shall be sampled per Section 8.2.2.3 above.

Vertical flowmeter logging and gamma logging shall be performed at new wells as described in Section 8.2.2.1.1.

### 8.2.6 Task 19 (OPTIONAL) – Additional Monitoring Well Installation and Sampling (2)

The Contractor shall install an additional 15 groundwater monitoring wells at locations (on and/or off base) identified by stakeholders during scoping sessions to a depth of 450 feet bgs. Total depths will vary (assume average well depth of 250 feet bgs). The groundwater monitoring wells shall be installed as noted in the above Section 8.2.2.1. Pressure transducers and dedicated well pumps shall be installed into these new wells. The groundwater pump to be used must have 1.5 Horsepower (HP), 240-volt, single phase, three (3) prong or equivalent. The groundwater monitoring wells shall be sampled per Section 8.2.2.3 above.

Vertical flowmeter logging and gamma logging shall be performed at new wells as described in Section 8.2.2.1.1.

### 8.2.7 Task 20 (OPTIONAL) – Additional Monitoring Well Installation and Sampling (3)

The Contractor shall install an additional 15 groundwater monitoring wells at locations (on and/or off base) identified by stakeholders during scoping sessions to a depth of 450 feet bgs. Total depths will vary (assume average well depth of 250 feet bgs). The groundwater monitoring wells shall be installed as noted in the above Section 8.2.2.1. Pressure transducers and dedicated well pumps shall be installed into these new wells. The groundwater pump to be used must have 1.5 Horsepower (HP), 240-volt, single

phase, three (3) prong or equivalent. The groundwater monitoring wells shall be sampled per Section 8.2.2.3 above.

Vertical flowmeter logging and gamma logging shall be performed at new wells as described in Section 8.2.2.1.1.

### 8.2.8 Task 21 (OPTIONAL) – Additional Monitoring Well Sampling (1)

The Contractor shall collect an additional 25 groundwater samples from active groundwater monitoring wells and analyze them for PFAS. The groundwater monitoring wells shall be sampled per Section 8.2.2.3 above.

### 8.2.9 Task 22 (OPTIONAL) – Additional Monitoring Well Sampling (2)

The Contractor shall collect an additional 25 groundwater samples from active groundwater monitoring wells and analyze them for PFAS. The groundwater monitoring wells shall be sampled per Section 8.2.2.3 above.

### 8.2.10 Task 23 (OPTIONAL) – Additional Soil Sampling (1)

The Contractor shall collect one (1) surface soil (0.0 to 0.5 feet bgs) and two (2) subsurface soil samples (0.5 to groundwater) from 24 soil borings and analyze the samples for PFAS. Assume for costing purposes the depth to groundwater to be 25 feet bgs. The contractor shall backfill the boreholes and abandon using bentonite fill. Contractor to survey all soil boring locations in accordance with section 8.2.2.1.2.

### 8.2.11 Task 24 (OPTIONAL) – Additional Soil Sampling (2)

The Contractor shall collect one (1) surface soil (0.0 to 0.5 feet bgs) and two (2) subsurface soil samples (0.5 to groundwater) from 24 soil borings and analyze the samples for PFAS. Assume for costing purposes the depth to groundwater to be 25 feet bgs. The contractor shall backfill the boreholes and abandon using bentonite fill. Contractor to survey all soil boring locations in accordance with section 8.2.2.1.2.

### 8.2.12 Task 25 (OPTIONAL) – Sediment and Surface Water Sampling

The Contractor shall collect an additional 10 sediment and 10 surface water samples at stormwater outfalls or surficial drainage features/wetlands adjacent to source areas for PFAS contamination. Specific areas on-base and off-base will be identified during scoping sessions.

## 8.3 Additional General Support Tasks Required

| TASK | DESCRIPTION | FREQUENCY/DURATION/ASSUMPTIONS |
|---|---|---|
| Kick-off meeting | Project kick off meeting; introduction to key personnel, overview of project work, etc. | Assume one (1) meeting |
| RAB Meetings | Support AFCEC RPM for preparations, reservations, mailings, and attend RABs | RAB meetings (two (2) per year for Fairchild AFB only) |
| Bi-Weekly Status Telecons | Telecons between Contractor, AFCEC and USACE | Assume 20 per year |

| | | |
|---|---|---|
| Public meetings | Support preparation for public meetings with distribution of 10 posters. | Assume one (1) per year, per AFB |
| Maintain well directory | Any wells installed or abandoned will require an update to the Installation well directory | Updates should occur annually, at a minimum |
| Partnering/Working Meetings (including 2 site reconnaissance visits) | Meetings with AFCEC and USACE. | Assume eight (8) meetings |
| Miscellaneous PM and Tech support to USACE and AFCEC | General support/requests related to the ERP. | Assume miscellaneous, unscheduled support for requests; 100 labor hours per year. May include support for review of letters, AFCEC correspondence, etc. |
| Public Affairs | Assist PAO in addressing public concern by distributing mailers, attending a public meeting, and document preparation | Assume home office support of 80 hours for responding to inquiries, review of requests, etc. |
| Contractor Manpower Reporting | | Yearly |

### 8.4 Deliverable Submission Cycle

Major deliverables are defined as any document that must be submitted to the Regulatory Agency. All major deliverables specified in this PWS shall be submitted in three (3) phases unless otherwise stated. Submission requirements–including number of copies, distribution, and submission schedule–will be included with the Contractor's proposal and prior to award.

The first submission shall be considered as a draft document and shall be submitted for Government-only review. The Contractor shall respond to each comment in writing and shall make the appropriate revisions to the draft document. The Draft UFP-QAPP and Draft RI Report require a 72 day review by the Government. This includes a 30-day review by the project delivery team (PDT), revisions by the Contractor, a 21-day review by the USACE Environmental and Munitions Center of Expertise (EM CX), revisions by the contractor, and a 21-day backcheck review by the EM CX. The revised draft will be submitted as a draft-final document for regulatory review. The Contractor shall again respond to each comment in writing and shall make the appropriate revisions to the draft-final document. Responses from the Contractor to all regulatory agency comments and any associated revised document shall be reviewed by the Government before submittal to the agencies. Should a review meeting be scheduled, the minutes of the meeting shall contain the written record of the comments and responses provided by the Contractor. The revised draft-final document shall be submitted as the final document. However, these submittal requirements should in no way be construed to limit the number of regulatory submittals required in order for the Contractor to obtain regulatory approval.

The Contractor shall submit all plans, reports, and other deliverable documents in Draft, Draft-Final, and Final versions as appropriate for that specific document. All documents may not require submittal of all versions. Multiple versions of documents may be generated by the Contractor including:

- Draft Documents – Draft documents are internal documents that are submitted for USACE and/or AF review and approval. In all respects, draft documents shall be complete; substantively correct and consistent with applicable laws, regulations, Department of Defense/USACE/AF policies; in proper format; and free of grammatical and typographical errors. All draft documents shall be thoroughly screened through in-house peer/technical review during this phase of the review process. Draft documents shall not be submitted to regulatory agencies for review.

- Draft-Final Documents – In general, draft-final documents have undergone USACE and AF review, incorporation of government review comments, and are submitted to the appropriate regulatory agencies for review. A second version of the draft-final document incorporating initial regulatory comments and resubmitted for regulatory agency review may also be required prior to the submittal of the final document. Responses from the Contractor to all regulatory agency comments and any associated revised document shall be reviewed by the Government before submittal to the agencies. Note that some documents may initially be submitted to the regulatory agencies as final with any comments being incorporated into subsequent documents as appropriate (e.g., system status reports, monitoring reports, "data dumps").

- Final Documents – Final documents are the version of the document that has successfully incorporated all review comments and has received USACE, AF and regulatory concurrence. At least one (1) electronic copy of the final document consisting of original productivity software files and all quality control data, drawings, and GIS-type information, shall be provided to the USACE and AF. Electronic copies should be compatible with the current USACE and/or AF Microsoft™ Office Suite and GIS software versions. All figures shall be delivered in original application files GIS format as described in Section 6.5. In addition, an electronic version of the final document shall be submitted in a single portable document file (.pdf) format approved by the USACE and AF complete with electronic bookmarks.

The deliverables required for this contract shall be proposed by the Contractor and will be included in the Contractor's MPS. This sample deliverables list serves as an example of the types and number of documents that may be required to achieve the specific site objectives and will be transmitted to the regulatory agents, the Information Repository and the Administrative Record file. A general submittal table is provided below:

| **Document Name/Type** | **A** | **B** | **C** | **D[b]** | **TOTAL Electronic Copies** |
|---|---|---|---|---|---|
| Final Documents (PMP, Programmatic UFP-QAPP, Installation-specific Addenda, APP\SSHP, Remedial Investigation Report) | 3 | 2 | 3 | 1 | 9 |
| Analytical Data – EDD and Hard Copy (electronic PDF) | 2 | 1 | 1 | 1 | 5 |

Footnotes:
All submittals will be provided electronically unless otherwise indicated.
[b] If desired by the government, a CD copy of all Final Work Plans, Reports, Analytical Data Package and Data Summary Letter Report, otherwise electronic submittals are acceptable.

## SUBMITTAL RECIPIENTS "Key"

| | |
|---|---|
| A | Project Manager<br>CENWS<br>4735 East Marginal Way<br>Seattle, WA 98134 |
| B | AFCEC RPMs<br><br>**Mountain Home Air Force Base**<br>Remediation Project Manager, AFCEC/CZOM<br>1030 Liberator Street<br>Mountain Home AFB, Idaho<br><br>**Fairchild Air Force Base**<br>Remedial Project Manager, AFCEC/CZOM<br>100 W. Ent Street, Suite 320<br>Fairchild AFB, WA 99011<br><br>Remedial Project Manager, AFCEC/CZOM<br>7290 Weiner St<br>Hill AFB, UT 84056 |
| C | AFCEC PM<br>Bldg 171, 2261 Hughes Ave, Ste 155<br>Lackland AFB, TX 78236-9853 |
| D | **Mountain Home Air Force Base**<br>Environmental Protection Agency<br>825 Jadwin Ave, Ste 210<br>Richland, WA 99352<br><br>Site Remediation Program Manager<br>Waste and Remediation Division<br>Idaho Department of Environmental Quality<br>1410 N. Hilton<br>Boise, ID 83648<br><br>**Fairchild Air Force Base**<br>U.S. Environmental Protection Agency<br>1200 Sixth Avenue,<br>Suite 900 M/S ECL-115 Seattle, WA 98191-3140<br><br>WA Dept of Ecology<br>300 Desmond Drive<br>P.O. Box 47600<br>Olympia, WA 98504 |

### 8.4.1 Responses to Comments

The Contractor shall submit written responses for all written comments generated during the review of project deliverables. Copies of the comment responses shall be provided for all participants in the review process for each particular deliverable. Wherever practical, the minutes of review meetings may be used

as the vehicle to provide the written response.

# 9 SITE WORK

The Contractor shall perform site preparation, incidental characterization and field investigation, conservation, and waste handling as required to meet the objectives of this contract.

## 9.1 Conservation

Activities shall be planned and implemented in a manner that protects existing site utilities, structures, surface features, service operations, monitoring and other types of wells, and the general site environment. This includes the protection of trees, shrubs and other vegetation not in the affected zone from dust damage, soil compaction, and physical contact with machines and equipment. If appropriate, the Contractor shall conserve uncontaminated topsoil by removal, storage, or redistribution. All reasonable measures shall be taken to minimize and suppress fugitive emissions of dust, vapors, and other site materials during site work. All fill materials shall be tested, confirmed and verified to be non-contaminated. The Contractor shall conduct all operations and activities with the intent of reducing the amount of pollution generated. Specific areas to be focused on are generation of solid waste, use of hazardous materials, use of ozone depleting chemicals, generation of hazardous waste, and use of energy and water. During site work the Contractor shall plan, construct, operate, maintain, optimize, and decommission systems necessary to control storm water run-on and run-off; and transport surface water drainage to a treatment plant, discharge location, or any other appropriate destination.

## 9.2 Demobilization

The Contractor shall decontaminate equipment and facilities, decommission facilities as necessary, and restore the site. The Contractor shall remove any temporary facilities and implement erosion control measures such as seeding, mulch, sod placement, and erosion control fabrics; restore roads, structures and utilities; and plant trees, shrubbery, grasses and other vegetation. The Contractor shall document and report on activities and train government personnel to perform required maintenance, as requested.

## 9.3 Site Characterization

The Contractor shall perform work that characterizes environmental conditions incidental to as required to meet the objectives of this contract.

## 9.4 Site Preparation

The Contractor shall perform site work as necessary to prepare sites for construction activities. Security and access controls shall be implemented to prevent unauthorized entry to sites and to protect wildlife from site exposure. The Contractor shall survey existing utilities to determine adequacy and need for modifications to support site activities. The Contractor shall obtain appropriate approvals and shall construct connections or new systems for electrical power, water, sewer, gas distribution, telephone, and other utilities, as required, to meet the objectives of this contract.

## 9.5 Demolition

Any demolition activities shall be ancillary to other requirements. The Contractor shall demolish facilities, systems, and other improvements as required in this contract. The Contractor shall conduct demolition efforts in conjunction with such activities as new environmental construction, military family

housing, new construction, and site clearing from natural disasters if required to achieve the performance objectives of this contract. The Contractor shall perform surveys as part of demolition efforts.

### 9.6 Waste Management

Aqueous and solid IDW may be generated during activities at the AFB. A separate section of or attachment to the UFP-QAPP shall address the disposal requirements for IDW. The Contractor shall have a comprehensive knowledge of the management and disposal of all wastes that will potentially be generated and require disposal as well as the regulatory requirements for the state in which the work shall be performed. The Contractor shall be responsible for handling, transportation, and disposal of all Contractor-generated wastes to off-site treatment, storage and/or disposal facilities in accordance with the IDW procedures in operation at each AFB and AF guidance AFGM 2019-32-01. IDW generated off AF property shall be containerized, sampled, analyzed and properly disposed. Handling, transport, and disposal of these materials shall be performed in accordance with requirements mandated by all applicable federal, state, and local regulations. The Contractor shall provide all hazardous materials used and hazardous waste disposal documentation to the USACE COR and/or AFB POC, to ensure appropriate and efficient tracking of the Contractor's hazardous material purchases, inventories, use, and releases such as required by the Emergency Planning and Community Right-to-Know Act (EPCRA), Executive Orders, or any Installation reporting requirements.

The Contractor shall also comply with federal, state, and local requirements for any task involving the transportation and disposal of hazardous wastes and/or contaminated materials. This includes 40 Code of Federal Regulations (CFR) 260, 49 CFR 172, 173, 178, 179 and all other applicable local, state, and federal transportation regulations. The UFP-QAPP will address the disposal requirements for IDW. It also is necessary to comply with the regulations regarding listed hazardous waste at the AFB and the Contractor must ensure that there is a generator identification number. After IDW disposal, an IDW report addendum will be prepared to describe the disposal activities at each AFB and included in any site related reports.

The Contractor shall remove, render inert, destroy, recycle, and dispose of hazardous wastes and materials and provide all hazardous materials use and hazardous waste disposal documentation to the USACE COR and AFB POC or designated alternate. An AF representative will sign all hazardous waste manifests. The Contractor shall perform associated characterization work as required.

## 10 ADDITIONAL REQUIREMENTS

### 10.1 News Releases

Neither the Contractor nor the Contractor's personnel shall give out any news releases or conduct media interviews concerning the work performed under this PWS. All media inquiries should be directed to the AFB Public Affairs representative.

### 10.2 Community Relations

Community relations activities will be the responsibility of the AF. The Contractor shall support those activities, such as public meetings, in coordination with the AF, by providing necessary existing technical information to the AF. The Contractor shall not discuss the program with anyone that does not have an official "need to know" for the purpose of task completion. The Contractor shall not provide any press releases relating to this work without express written authorization from the AFB and AFCEC.

### 10.3 Administrative Record File

In addition to its own files and record maintenance requirements, and other special requirements contained in this PWS, the Contractor shall be responsible for providing documentation to the Installation's existing administrative record file in accordance with established procedures. For estimating purposes, assume one (1) unbound hard copy and one (1) CD-ROM.

### 10.4 Regulatory Interface

The AF has authority for all regulatory interactions pursued on behalf of the AF and the AFB. All interactions with regulatory agencies must be coordinated through the AF and the USACE. The AFCEC RPM will be present for all meetings with the Regulatory Agency and will be included in the review of all documents or other materials that may be presented to the Regulatory Agency.

### 10.5 Program Completion Requirements

The Contractor shall collaborate with the AFCEC PM, AFCEC RPM, USACE COR, and USACE PM on development of a discrete, measurable basis for verifying completion of each task or activity planned through program completion. This basis will be used to acquire the AF and USACE concurrence that the task completion has occurred and contractual obligations have been satisfied. At the conclusion of all assigned work, the Contractor shall submit project documentation as directed by the KO. Project completion forms shall be sent to the KO no later than four (4) months after completion of all work or the expiration of the Period of Performance of this contract.

### 10.6 Identification of New Site

If, during the course of site activities, the Contractor discovers contamination that appears to not be related to the existing sites the Contractor shall first notify the USACE-Seattle District Contracting Officer in writing and copy USACE-Seattle PM as well the AFCEC RPM, and AFCEC PM.

### 10.7 Other Provisions

Contractor shall notify USACE COR, assigned USACE project PM; AFCEC RPM; and the AF Authorized Representatives within three (3) business days of becoming aware of the occurrence of an event described below:

(1) Contractor or any agent or subcontractor receives notice of violation of any governmental enactment, requirement, or authorization, which relates to the performance of the PWS;

(2) Permits, licenses, or other governmental authorizations relating to implementation of the PWS are revoked or denied;

(3) Litigation is commenced or threatened concerning or impacting the PWS or any sites;

(4) Any other condition occurs or is threatened to occur which may have a materially adverse effect on the timely performance of the PWS, or the timely performance of any duties the Contractor or the AFB may have under any applicable law, regulation, ordinance, order, decree or plan;

(5) The AFB personnel are interfering or wrongfully preventing Contractor from performing its material duties and obligations under this PWS or to such an extent that the Contractor's costs are being adversely impacted.

### 10.8 Minimum Experience Needed for Key Personnel

The following are minimum experience requirements needed for each key personnel who performs work under this contract. The Contractor shall notify USACE of any changes in personnel from that specified in the project UFP-QAPP. Key personnel can perform multiple duties as long as they meet the requirements for each duty listed below, with the following exception: the Contract Manager may not be the same personnel fulfilling the duty of Quality Control Manager, or any functions relating to health and safety oversight for this contract. A contractor personnel shall not perform the role of more than two key personnel roles throughout this contract.

#### 10.8.1 Contract Manager

The Contract Manager is responsible for the performance of the work, this can be the same person as the project manager. The Contract Manager must have a minimum five (5) years experience as a Contract Manager on projects of similar size and complexity. The name of this person and an alternate who shall act for the Contractor when the manager is absent shall be designated in writing to the contracting officer. The contract manager or alternate shall have full authority to act for the Contractor on all contract matters relating to daily operation of this contract. The contract manager or alternate shall be available between the core hours of 9:00 a.m. to 3:30 p.m., Monday thru Friday except Federal holidays or when closure of the Government facility occurs for administrative reasons.

#### 10.8.2 Project Manager

The Offering Contractor shall designate one (1) individual as the PM. The Project Manager must have a minimum five (5) years experience as a Project Manager on projects of similar size and complexity. The PM will ensure that the performance of all acquisition and contract management activities related to this contract (including subcontracts, purchases, rental agreements, task orders, modifications, inventory lists, etc.) is in accordance with the contract terms and conditions. In addition, the PM shall be responsible for overall management and execution of each individual task order and ensuring compliance with all applicable federal, state, and local laws and regulations.

#### 10.8.3 Quality Control Manager

The Quality Control (QC) Manager is responsible for ensuring compliance with the requirements identified in the Scope of Work and plans to be completed as required by the scope of work. The QC Manager must be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of three (3) years experience in well installation/rehabilitation projects or a construction person with a minimum of seven (7) years in well installation/rehabilitation projects.

#### 10.8.4 Geologist

The Contractor shall provide a qualified geologist who shall be on site and responsible for all logging and sampling during all soil/rock drilling and sampling activities. A qualified geologist shall be on site and responsible for all monitoring well drilling, installation, development and testing activities. A qualified geologist is defined as having a baccalaureate degree in a geological science or from an accredited university and a minimum of three (3) years of experience with logging subsurface conditions in fractured basalt formations (similar to the Columbia River Basalt Group) and air rotary drilling in basalt formations. The qualifications of the on-site geologist shall be included in the Contractor work plans. A person meeting these requirements shall be dedicated to each activity.

### 10.8.5 Engineer

The Contractor shall provide a qualified Engineer(s) who shall be on site and responsible for assuring that all engineering support goals specified in the Task Order are attained. The Engineer shall have a college degree in civil engineering, environmental engineering, or related field from an Accreditation Board for Engineering and Technology (ABET) accredited college or university and shall have a minimum of five (5) years experience related to remedial investigations, feasibility studies, and design for PFAS projects. Specifically, the Engineer shall have experience with investigation, fate and transport, and conceptual site models for PFAS projects.

## 11 CONTRACTOR MANPOWER REPORTING

### 11.1 Contractor Manpower Reporting

The Office of the Assistant Secretary of the Army (Manpower & Reserve Affairs) operates and maintains a secure Army data collection site where the Contractor will report ALL Contractor manpower (including subcontractor manpower) required for performance of this contract. The Contractor is required to completely fill in all the information in the format using the following web address: https://ecmra.mil. The required information includes: (1) Contracting Office, Contracting Officer, Contracting Officer's Technical Representative; (2) Contract number, including task and delivery order number; (3) Beginning and end dates covered by reporting period; (4) Contractor name, address, phone number, e-mail address, identity of Contractor employee entering data; (5) Estimated direct labor hours (including sub-contractor); (6) Estimated direct labor dollars paid this reporting period (including sub-contractor); (7) Total payments (including subcontractor); (8) Predominant Federal Service Code (FSC) reflecting services provided by Contractor (and separate predominant FSC for each sub-contractor if different); (9) Estimated data collection cost; (10) Organizational title associated with the Unit Identification Code (UIC) for the Army Requiring Activity (the Army Requiring Activity is responsible for providing the contractor with its UIC for the purposes of reporting this information; (11) Locations where Contractor and sub-contractors perform the work (specified by zip code in the United States and nearest City, Country, when in an overseas location, using standardized nomenclature provided on website); (12) Presence of deployment or contingency contract language; and, (13) Number of Contractor and sub-contractor employees deployed in theater this reporting period (by country). As part of its submission, the Contractor will also provide the estimated total cost (if any) incurred to comply with this reporting requirement. Reporting period will be the period of performance not to exceed 12 months ending September 30 of each government fiscal year and must be reported by 31 October of each calendar year.*

*Note: Information from the secure web site is considered to be proprietary in nature when the contract number and Contractor identity are associated with the direct labor hours and direct labor dollars. At no time will any data be released to the public with the Contractor name and contract number associated with the data. For internal Army analysis, the reports and queries from the database shall not contain proprietary data.

## 12 SUSTAINABILITY REQUIREMENTS

### 12.1 Sustainability Requirements

Green Procurement is the purchase of environmentally preferable products and services and is known as sustainable acquisitions and Green Procurement. Practicing Green Procurement takes into consideration

economic facets, environmental considerations, and resource efficiency. Here are some of the benefits of Green Procurement:

- Prevents pollution and reduces environmental impact
- Increases Mountain Home AFB and Fairchild AFB energy independence
- Protects and conserves natural resources
- Minimizes waste
- Supports new markets and job creation
- Supports the USACE Campaign Plan and Sustainability Plan Goals
- Saves $$ by reducing waste
- It is a Federal mandate!

Some Mandatory Environmental Initiatives are as follows:

- Energy Star
- Federal Energy Management Program (FEMP)-Designated Products
- WaterSense
- BioPreferred/Biobased
- Environmentally Preferable Purchasing (EPP)
- Electronic Product Environmental Assessment Tool (EPEAT)
- Significant New Alternatives Policy (SNAP)
- Recovered Materials

FAR Part 23 requires Federal agencies to ensure that 95% of new contract actions require products that are:

- Energy-efficient
- Biobased
- Non-ozone depleting
- Water-efficient
- Environmentally preferable
- Made with recovered materials

The Contractor shall review and follow scope, purpose, applicability, and policy of FAR Part 23 and FAR 52.223-4 requirements, as they pertain to their specific contract requirements to meet sustainability acquisitions or Green procurement initiatives. Some examples of sustainability achievements are:

- Car-pooling to meeting from local offices
- Doubled-sided documents using recycled paper
- Submittal of documents through electronic methods
- Use of energy-efficient products
- Use of non-toxic or low-toxic products
- Reconditioned or remanufactured supplies or materials

## APPENDIX A: List of Acronyms

| | |
|---|---|
| AF | Air Force |
| AFB | Air Force Base |
| AFCEC | Air Force Civil Engineering Center |
| AFFF | Aqueous Film-Forming Foam |
| AFI | Air Force Instruction |
| AOI | Area of Interest |
| API | American Petroleum Institute |
| APP | Accident Prevention Plan |
| ASD | Assistant Secretary of Defense |
| bgs | Below Ground Surface |
| CAC | Common Access Card |
| CADD | Computer-aided Design and Drafting |
| CD | Compact Disc |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR | Code of Federal Regulations |
| CLIN | Contract Line Item Number |
| COR | Contracting Officer's Representative |
| CPSMR | Contractor's Progress, Status and Management Report |
| CSM | Conceptual Site Model |
| DLH | Data Loading Handbook |
| DoD | Department of Defense |
| DQO | Data Quality Objectives |
| EDD | Electronic Data Deliverable |
| EO | Executive Order |
| ELAP | Environmental Laboratory Accreditation Program |
| EM CX | Environmental and Munitions Center of Expertise |
| EPCRA | Emergency Planning and Community Right-to-Know Act |
| EPP | Environmental Preferable Purchasing |
| EPEAT | Electronic Product Environmental Assessment Tool |
| ERPIMS | Environmental Resources Program Information Management System |
| ESD | Explanation of Significant Differences |
| FAR | Federal Acquisition Regulations |
| FEMP | Federal Emergency Management Program |
| FFA | Federal Facilities Agreement |
| FGDC | Federal Geographic Data Committee |
| FS | Feasibility Study |
| FSC | Federal Service Code |
| FE | Government-Furnished Equipment |
| GFI | Government-Furnished Information |
| GFP | Government-Furnished Property |
| GIO | Geospatial Integration Office |
| GIS | Geographical Information System |
| HAZWOPER | Hazardous Waste Operations and Emergency Response |
| HDPE | High-Density Polyethylene |
| IBC | International Building Code |
| IDEQ | Idaho Department of Environmental Quality |

| | |
|---|---|
| IDW | Investigation-Derived Waste |
| IMS | Integrated Master Schedule |
| KO | Contracting Officer |
| LDPE | Low-Density Polyethylene |
| NA | Not Applicable |
| NACE | National Association of Corrosions Engineers |
| NCP | National Oil and Hazardous Substances Pollution Contingency Plan |
| NEC | National Electrical Code |
| NFPA | National Fire Protection Association |
| NOV | Notice of Violation |
| NSDI | National Spatial Data Infrastructure |
| OSHA | Occupational Safety and Health Administration |
| PAO | Public Affairs Office |
| .pdf | portable document file |
| PDT | Project Delivery Tea, |
| PM | Project Manager |
| PMP | Project Management Plan |
| PMR | Project Management Review |
| POC | Point of Contact |
| POP | Period of Performance |
| PVC | Polyvinyl Chloride |
| PWS | Performance Work Statement |
| QA/QC | Quality Assurance/Quality Control |
| OSD | Office of the Secretary of Defense |
| QSM | Quality Systems Manual |
| RAB | Restoration Advisory Board |
| RAGS | Risk Assessment Guidance for Superfund |
| RCRA | Resource Conservation and Recovery Act |
| RFP | Request for Proposal |
| RI | Remedial Investigation |
| ROD | Record of Decision |
| RPM | Restoration Project Manager |
| SARA | Superfund Amendments and Reauthorization Act |
| SB or SoB | Statement of Basis |
| SDSFIE | Spatial Data Standard for Infrastructure and Environment |
| SNAP | Significant New Alternatives Policy |
| SSHP | Site Safety and Health Plan |
| SSPC | Steel Structures and Painting Council |
| SI | Site Inspection |
| SWMU | Solid Waste Management Unit |
| UFC | Uniform Fire Code |
| UFP-QAPP | Uniform Federal Policy-Quality Assurance Program Plan |
| USACE | United States Army Corps of Engineers |
| USEPA | United States Environmental Protection Agency |
| UU/UE | Unlimited use/unrestricted exposure |
| WDOE | Washington Department of Ecology |

## APPENDIX B: Summary of Prohibited and Acceptable Items for PFAS Sampling

| Prohibited Items | Acceptable Items |
|---|---|
| Field Equipment | |
| Teflon® containing materials | High-density polyethylene (HDPE) materials |
| Low density polyethylene (LDPE) | Polyvinyl chloride (PVC) or acetate liners |
| Aluminum foil | Silicon tubing |
| Waterproof field books | Loose paper (non-waterproof) |
| Plastic clipboards, binders, or spiral hard cover notebooks | Aluminum field clipboards or with Masonite |
| | Sharpies®, pens |
| Post-It Notes | |
| Field Clothing and Personal Protective Equipment (PPE) | |
| New cotton clothing or synthetic water resistant, waterproof, or stain- treated clothing, clothing containing Gore-Tex™ | Well-laundered clothing, defined as clothing that has been washed 6 or more times after purchase, made of natural fibers (preferably cotton) |
| Clothing laundered using fabric softener | No fabric softener |
| Boots containing Gore-Tex™ | Boots made with polyurethane and polyvinyl chloride (PVC) |
| Tyvek® | Cotton Clothing |
| No cosmetics, moisturizers, hand cream, or other related products as part of personal cleaning/showering routine on the morning of sampling | Sunscreens - Alba Organics Natural Sunscreen, Yes To Cucumbers, Aubrey Organics, Jason Natural Sun Block, Kiss my face, Baby sunscreens that are "free" or "natural"<br>Insect Repellents - Jason Natural Quit Bugging Me, Repel Lemon Eucalyptus Insect repellant, Herbal Armor, California Baby Natural Bug Spray, BabyGanics Sunscreen and insect repellant - Avon Skin So Soft Bug Guard Plus – SPF 30 Lotion |
| Sample Containers | |
| LDPE or glass containers | HDPE or polypropylene |
| Teflon®-lined caps | Unlined polypropylene caps |
| Rain Events | |
| Waterproof or resistant rain gear | Gazebo tent that is only touched or moved prior to and following sampling activities |
| Equipment Decontamination | |
| Decon 90 | Alconox® and/or Liquinox® |
| Water from an on-site well | PFAS-free water from a tested source |
| Food Considerations | |
| All food and drink, with exceptions noted on the right | Bottled water and hydration drinks (i.e., Gatorade® and Powerade®) to be brought and consumed only in the staging area |

# Appendix B

# Project Organization Chart

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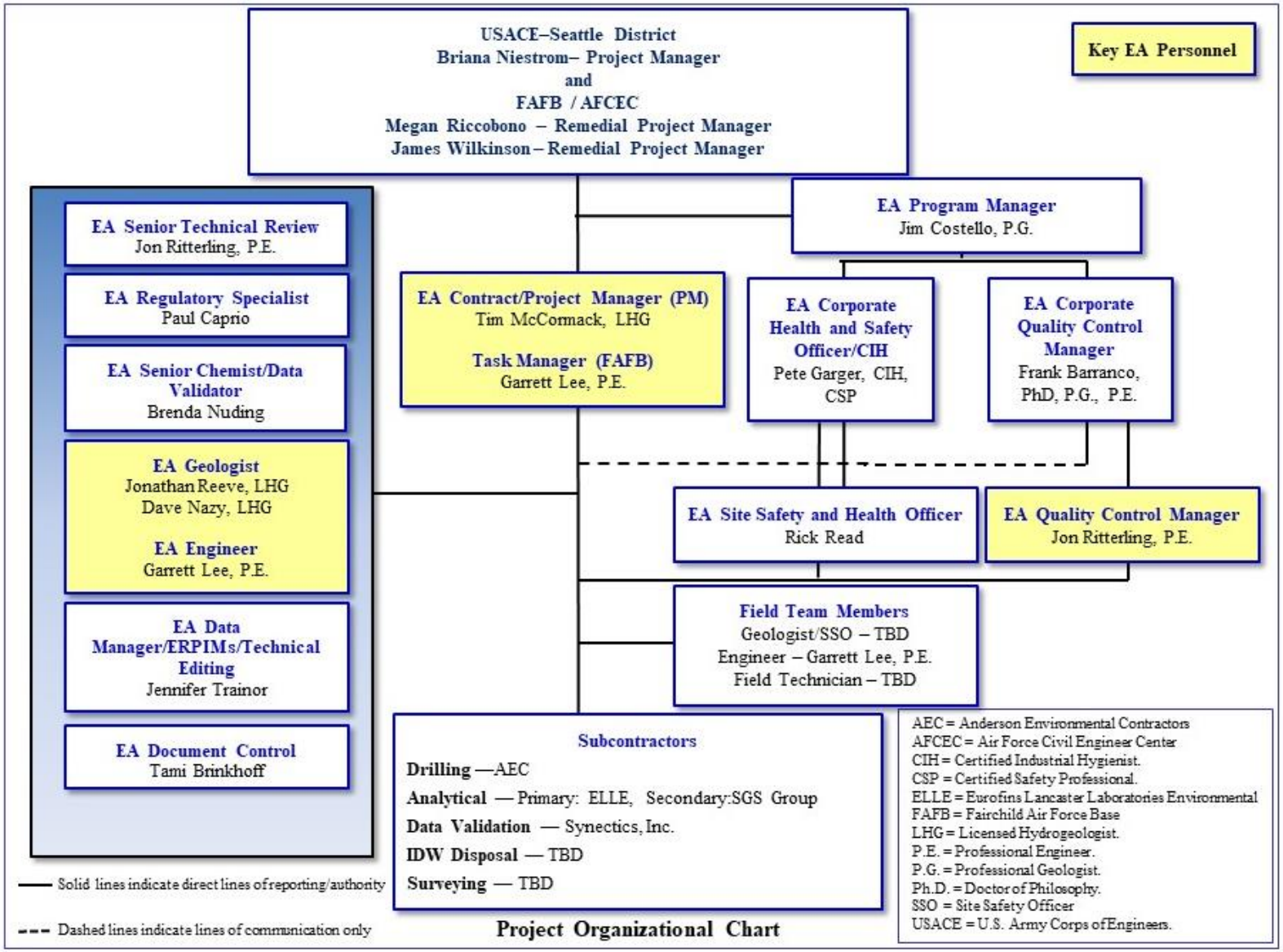


**Project Organizational Chart**

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# Appendix C

# Project Schedule

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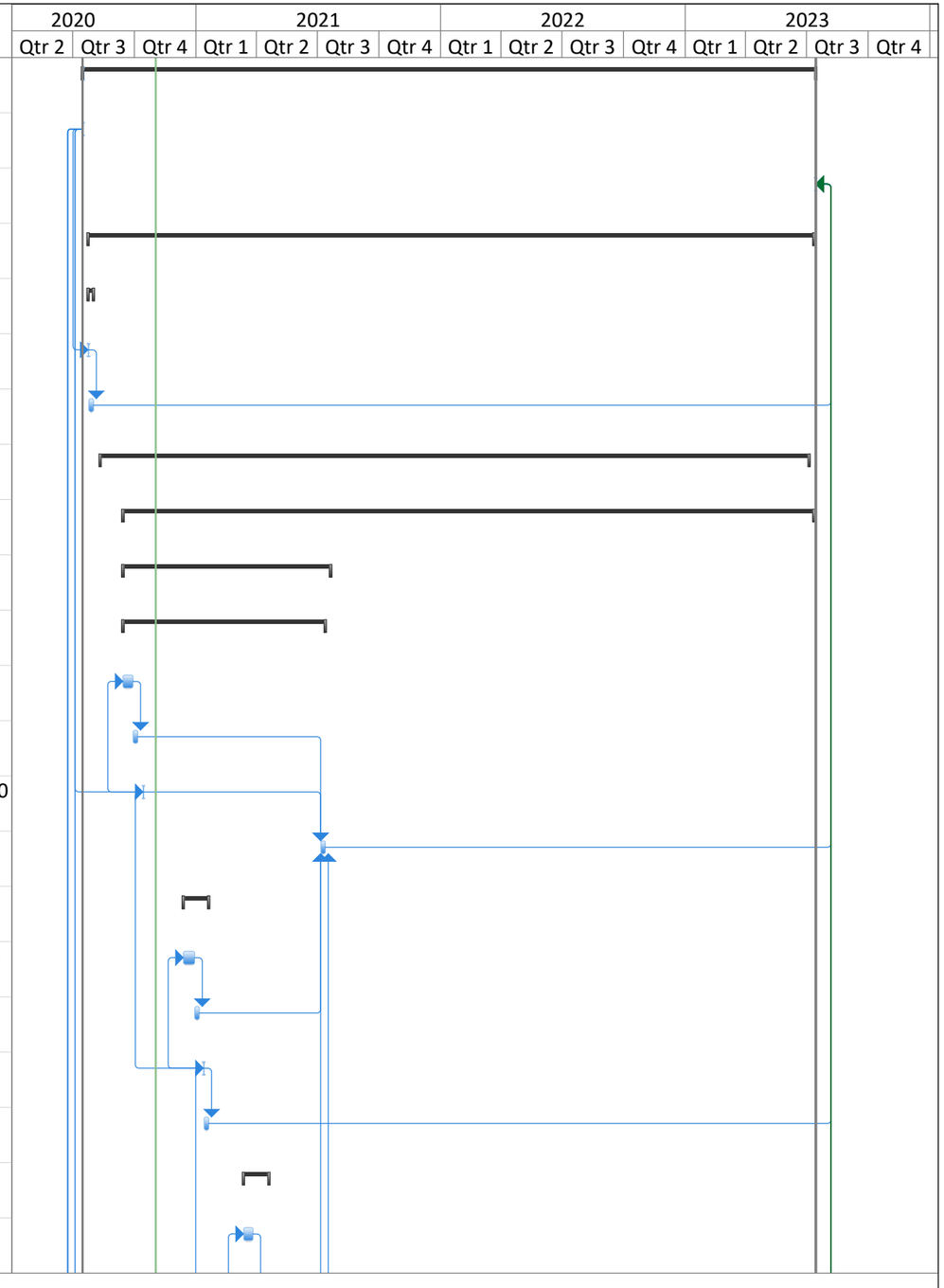
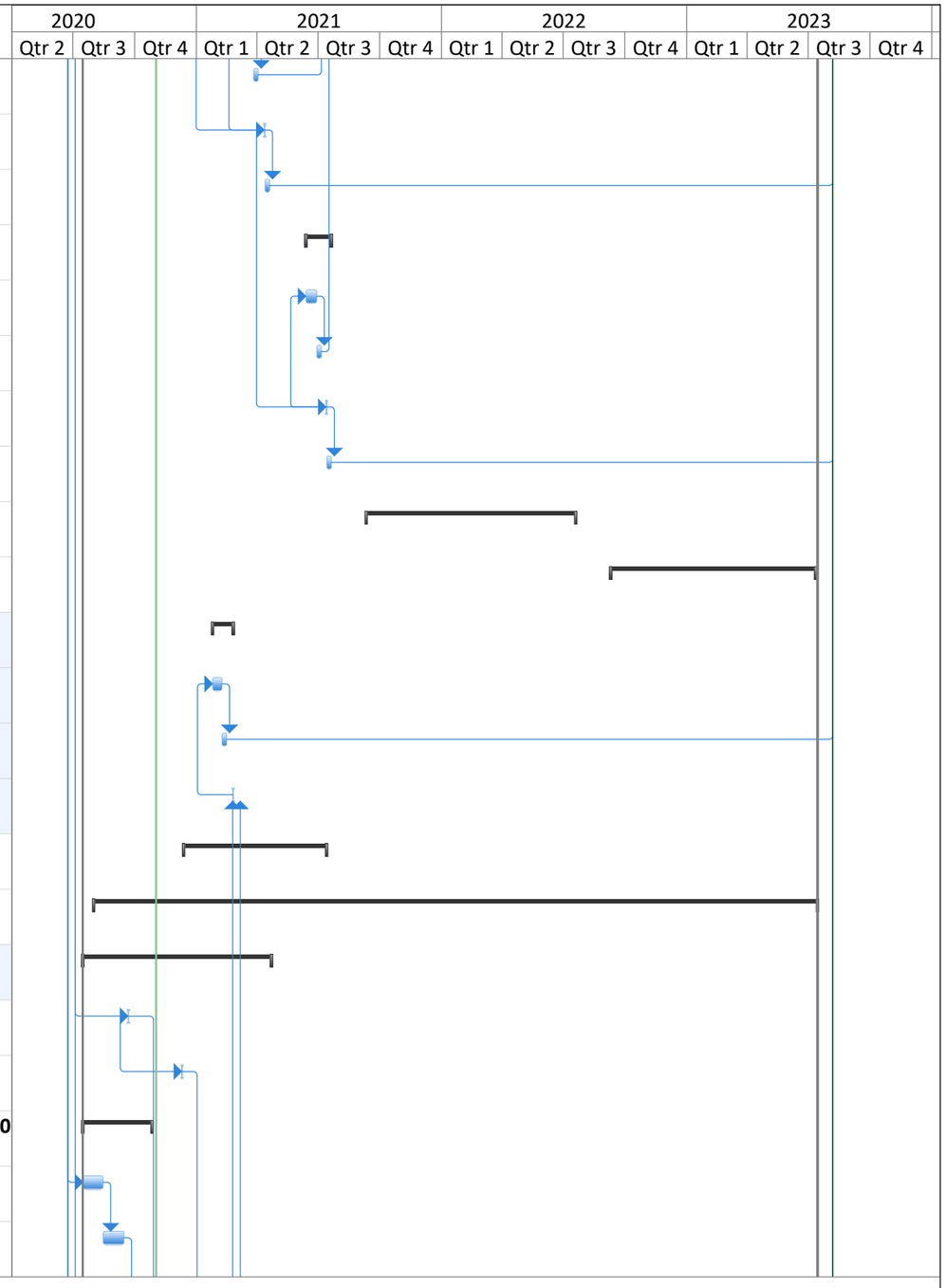
| ID | CLIN | Site | Name | Duration | Start | Finish |
|---|---|---|---|---|---|---|
| 1 | | | **Remedial Investigation at Fairchild Air Force Base** | **1094 days** | **Thu 7/16/20** | **Fri 7/14/23** |
| 2 | | | Contract award | 1 day | Thu 7/16/20 | Thu 7/16/20 |
| 3 | | | Project complete | 1 day | Fri 7/14/23 | Fri 7/14/23 |
| 4 | | | **Meetings** | **1083 days** | **Fri 7/24/20** | **Tue 7/11/23** |
| 5 | | | **Project Kick-off Meeting** | **8 days** | **Fri 7/24/20** | **Fri 7/31/20** |
| 6 | | | Project Kick-off Meeting | 1 day | Fri 7/24/20 | Fri 7/24/20 |
| 7 | | | Prepare/submit Project Kick-off Meeting minutes | 7 days | Sat 7/25/20 | Fri 7/31/20 |
| 8 | | | **Project Status Meetings** | **1058 days** | **Tue 8/11/20** | **Tue 7/4/23** |
| 240 | | | **USACE/AF/Regulator Partnering Telecons** | **1031 days** | **Mon 9/14/20** | **Tue 7/11/23** |
| 241 | | | **Partenering Telecons - Year 1** | **310 days** | **Mon 9/14/20** | **Tue 7/20/21** |
| 242 | | | **Year 1, Partnering Telecon #1** | **302 days** | **Mon 9/14/20** | **Mon 7/12/21** |
| 243 | | | Prepare/submit presentation materials for telecon | 15 days | Mon 9/14/20 | Mon 9/28/20 |
| 244 | | | USACE/AF review of presentation materials for telecon | 7 days | Tue 9/29/20 | Mon 10/5/20 |
| 245 | | | Year 1, Partnering Telecon #1 | 1 day | Wed 10/14/20 | Wed 10/14/20 |
| 246 | | | Prepare/submit Year 1, Partnering Telecon #1 minutes | 7 days | Tue 7/6/21 | Mon 7/12/21 |
| 247 | | | **Year 1, Partnering Telecon #2** | **38 days** | **Sun 12/13/20** | **Tue 1/19/21** |
| 248 | | | Prepare/submit presentation materials for telecon | 17 days | Sun 12/13/20 | Tue 12/29/20 |
| 249 | | | USACE/AF review of presentation materials for telecon | 7 days | Wed 12/30/20 | Tue 1/5/21 |
| 250 | | | Year 1, Partnering Telecon #2 | 1 day | Tue 1/12/21 | Tue 1/12/21 |
| 251 | | | Prepare/submit Year 1, Partnering Telecon #2 minutes | 7 days | Wed 1/13/21 | Tue 1/19/21 |
| 252 | | | **Year 1, Partnering Telecon #3** | **38 days** | **Sat 3/13/21** | **Mon 4/19/21** |
| 253 | | | Prepare/submit presentation materials for telecon | 14 days | Sat 3/13/21 | Fri 3/26/21 |




Project: Fairchild AFB RI Schedule
Date: Mon 11/2/20

Task Milestone Summary Progress

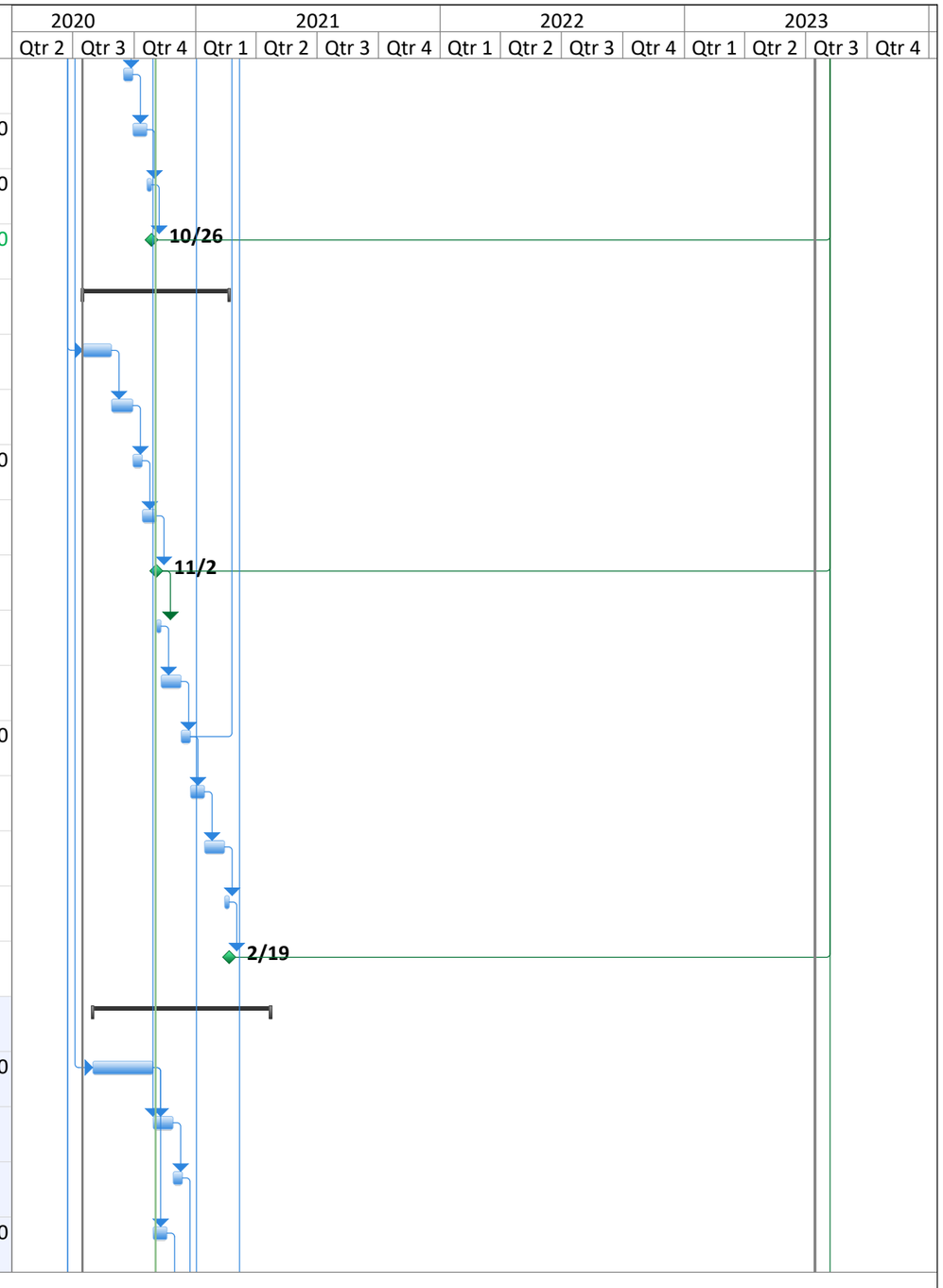
| ID | CLIN | Site | Name | Duration | Start | Finish |
|---|---|---|---|---|---|---|
| 254 | | | USACE/AF review of presentation materials for telecon | 7 days | Sat 3/27/21 | Fri 4/2/21 |
| 255 | | | Year 1, Partnering Telecon #3 | 1 day | Mon 4/12/21 | Mon 4/12/21 |
| 256 | | | Prepare/submit Year 1, Partnering Telecon #3 minutes | 7 days | Tue 4/13/21 | Mon 4/19/21 |
| 257 | | | **Year 1, Partnering Telecon #4** | **38 days** | **Sun 6/13/21** | **Tue 7/20/21** |
| 258 | | | Prepare/submit presentation materials for telecon | 16 days | Sun 6/13/21 | Mon 6/28/21 |
| 259 | | | USACE/AF review of presentation materials for telecon | 7 days | Tue 6/29/21 | Mon 7/5/21 |
| 260 | | | Year 1, Partnering Telecon #4 | 1 day | Tue 7/13/21 | Tue 7/13/21 |
| 261 | | | Prepare/submit Year 1, Partnering Telecon #4 minutes | 7 days | Wed 7/14/21 | Tue 7/20/21 |
| 262 | | | **Partenering Telecons - Year 2** | **312 days** | **Sat 9/11/21** | **Tue 7/19/22** |
| 283 | | | **Partenering Telecons - Year 3** | **305 days** | **Sat 9/10/22** | **Tue 7/11/23** |
| 304 | | | **Public Meeting** | **31 days** | **Mon 1/25/21** | **Wed 2/24/21** |
| 305 | | | Prepare/submit posters and/or presentation materials | 14 days | Mon 1/25/21 | Sun 2/7/21 |
| 306 | | | USACE/AF review of posters and/or presentation materials | 7 days | Mon 2/8/21 | Sun 2/14/21 |
| 307 | | | Public Meeting | 1 day | Wed 2/24/21 | Wed 2/24/21 |
| 308 | | | **RAB Meetings** | **213 days** | **Sun 12/13/20** | **Tue 7/13/21** |
| 336 | | | **Monthly Contractor's Progress, Status, and Management Reports** | **1078 days** | **Sat 8/1/20** | **Fri 7/14/23** |
| 448 | **0006** | **FT004P, R** | **Work Plan Documents** | **281 days** | **Thu 7/16/20** | **Thu 4/22/21** |
| 449 | 0006 | FT004P, R | Initial Project Scoping Session with USACE/AF | 1 day | Mon 9/21/20 | Mon 9/21/20 |
| 450 | 0006 | FT004P, R | Project Scoping Session with USACE/AF/Regulators | 1 day | Thu 12/10/20 | Thu 12/10/20 |
| 451 | **0006** | **FT004P, R** | **Project Management Plan** | **103 days** | **Thu 7/16/20** | **Mon 10/26/20** |
| 452 | 0006 | FT004P, R | Prepare/submit Draft PMP | 30 days | Thu 7/16/20 | Fri 8/14/20 |
| 453 | 0006 | FT004P, R | USACE/AF review of Draft PMP | 31 days | Sat 8/15/20 | Mon 9/14/20 |




Project: Fairchild AFB RI Schedule
Date: Mon 11/2/20

Task Milestone Summary Progress

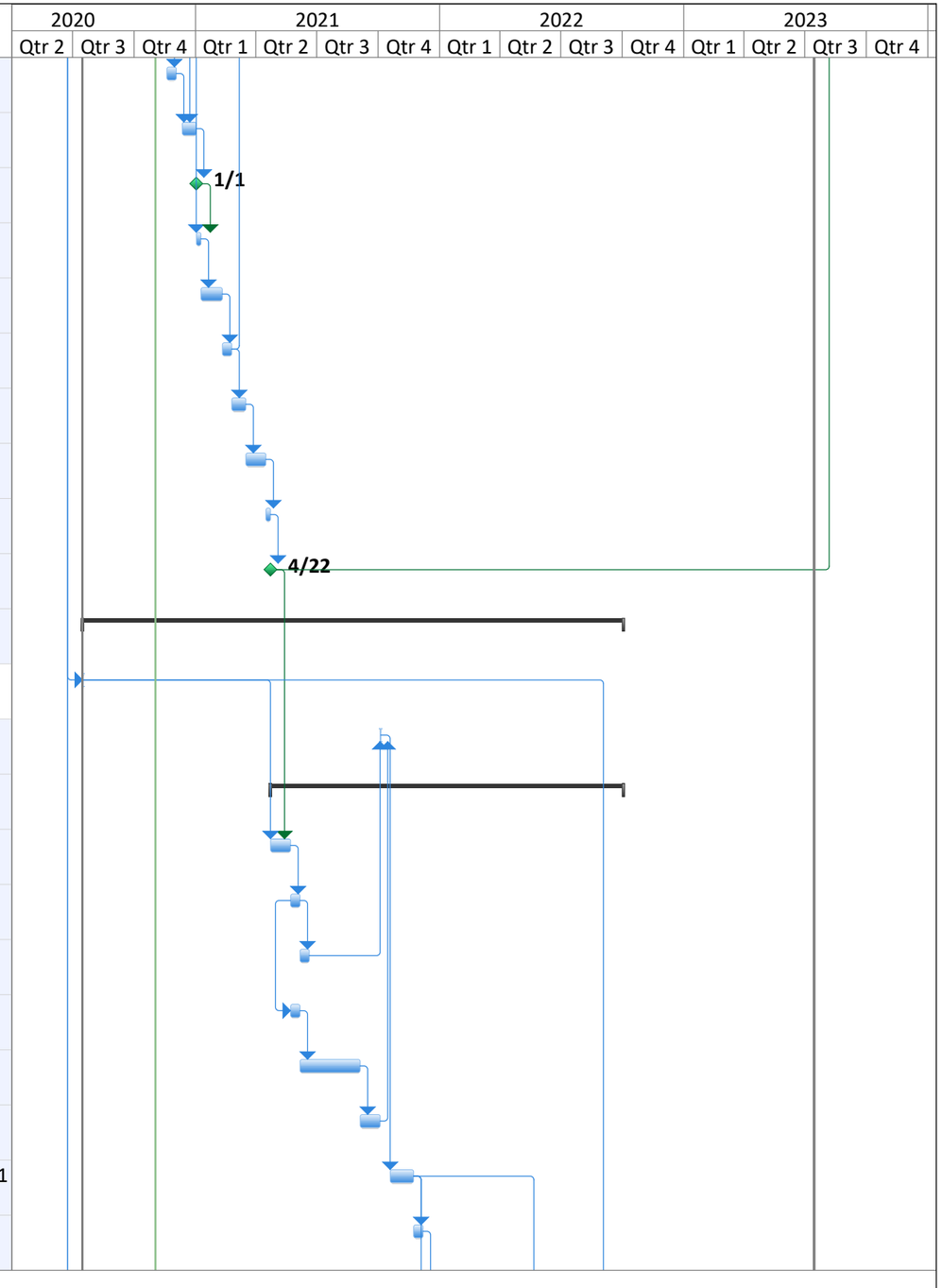
| ID | CLIN | Site | Name | Duration | Start | Finish |
|---|---|---|---|---|---|---|
| 454 | 0006 | FT004P, R | Respond to USACE/AF comments and prepare redline document | 14 days | Tue 9/15/20 | Mon 9/28/20 |
| 455 | 0006 | FT004P, R | USACE/AF review of responses to comments | 21 days | Tue 9/29/20 | Mon 10/19/20 |
| 456 | 0006 | FT004P, R | Prepare/submit Final PMP | 7 days | Tue 10/20/20 | Mon 10/26/20 |
| 457 | 0006 | FT004P, R | USACE/AF approval of Final Project Management Plan for Fairchild AFE | 0 days | Mon 10/26/20 | Mon 10/26/20 |
| 458 | **0006** | **FT004P, R** | **Installation-Specific Accident Prevention Plan/Site Safety and Health Pla** | **219 days** | **Thu 7/16/20** | **Fri 2/19/21** |
| 459 | 0006 | FT004P, R | Prepare/submit Draft AAP/SSHP | 43 days | Thu 7/16/20 | Thu 8/27/20 |
| 460 | 0006 | FT004P, R | USACE/AF review of Draft AAP/SSHP | 32 days | Fri 8/28/20 | Mon 9/28/20 |
| 461 | 0006 | FT004P, R | Respond to USACE/AF comments and prepare redline document | 14 days | Tue 9/29/20 | Mon 10/12/20 |
| 462 | 0006 | FT004P, R | USACE/AF review of responses to comments | 21 days | Tue 10/13/20 | Mon 11/2/20 |
| 463 | 0006 | FT004P, RS003P, | USACE/AF approval of Draft Fairchild AFB Accident Prevention Plan/Site Safety and Health Plan | 0 days | Mon 11/2/20 | Mon 11/2/20 |
| 464 | 0006 | FT004P, R | Prepare/submit Draft Final APP/SSHP | 7 days | Tue 11/3/20 | Mon 11/9/20 |
| 465 | 0006 | FT004P, R | Regulatory review of Draft Final APP/SSHP | 30 days | Tue 11/10/20 | Wed 12/9/20 |
| 466 | 0006 | FT004P, R | Respond to Regulatory comments and prepare redline document | 14 days | Thu 12/10/20 | Wed 12/23/20 |
| 467 | 0006 | FT004P, R | USACE/AF review of responses to regulatory comments | 21 days | Thu 12/24/20 | Wed 1/13/21 |
| 468 | 0006 | FT004P, R | Regulatory review of responses to comments | 30 days | Thu 1/14/21 | Fri 2/12/21 |
| 469 | 0006 | FT004P, R | Prepare/submit Final APP/SSHP | 7 days | Sat 2/13/21 | Fri 2/19/21 |
| 470 | 0006 | FT004P, RS003P, | USACE/AF/Regulator approval of Final Fairchild AFB Accident Prevention Plan/Site Safety and Health Plan | 0 days | Fri 2/19/21 | Fri 2/19/21 |
| 471 | **0006** | **FT004P, R** | **Installation-Specific Uniform Federal Policy-Quality Assurance Project P** | **266 days** | **Fri 7/31/20** | **Thu 4/22/21** |
| 472 | 0006 | FT004P, R | Prepare/submit Draft UFP-QAPP | 90 days | Fri 7/31/20 | Wed 10/28/20 |
| 473 | 0006 | FT004P, R | USACE/AF Project Delivery Team review of Draft UFP-QAPP | 30 days | Thu 10/29/20 | Fri 11/27/20 |
| 474 | 0006 | FT004P, R | Respond to USACE/AF comments and prepare redline document | 14 days | Sat 11/28/20 | Fri 12/11/20 |
| 475 | 0006 | FT004P, R | USACE EM CX review of Draft UFP-QAPP | 21 days | Thu 10/29/20 | Wed 11/18/20 |




Project: Fairchild AFB RI Schedule
Date: Mon 11/2/20

Task Milestone Summary Progress

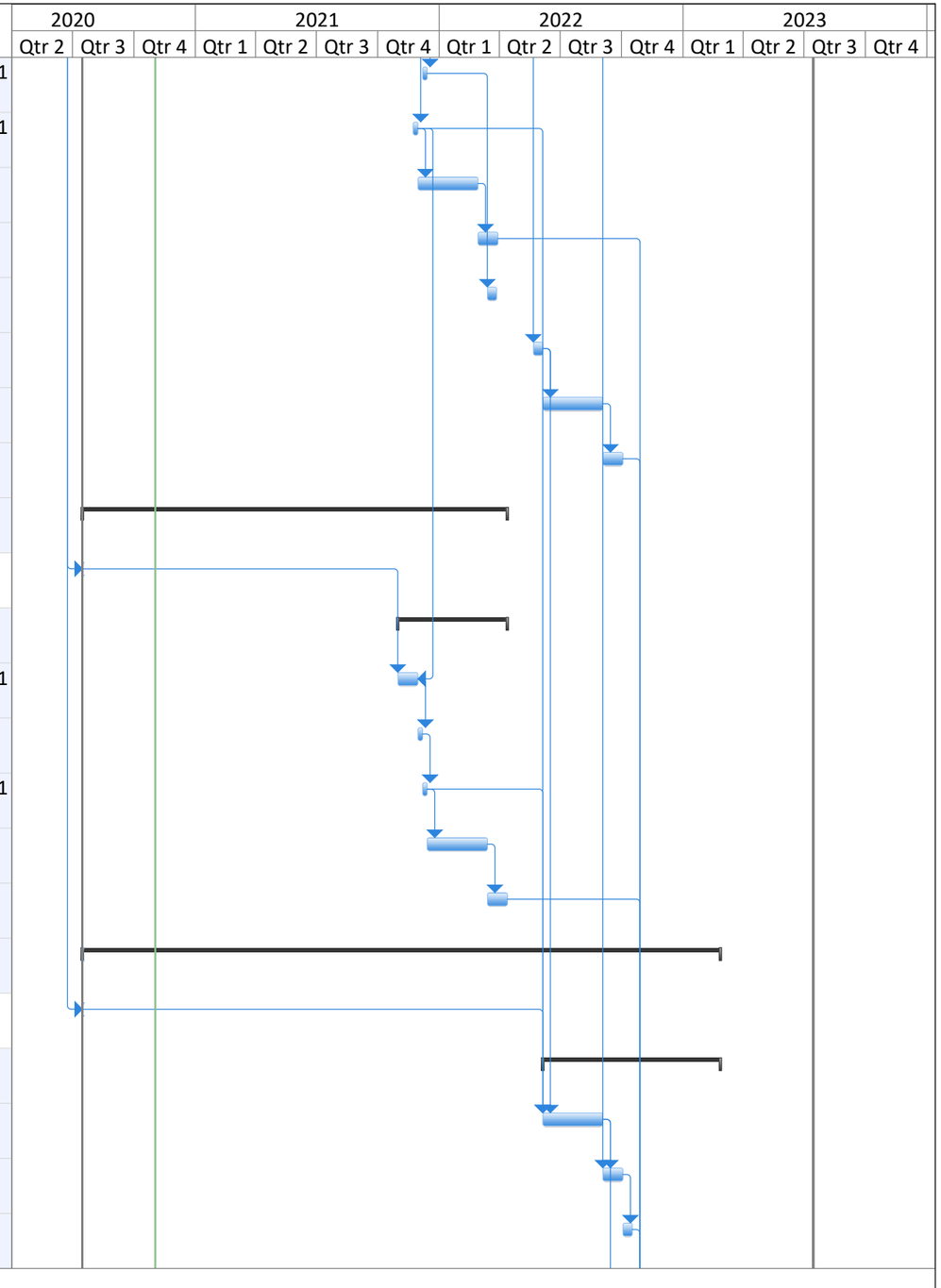
| ID | CLIN | Site | Name | Duration | Start | Finish |
|---|---|---|---|---|---|---|
| 476 | 0006 | FT004P, R | Respond to USACE EM CX comments and prepare redline document | 14 days | Thu 11/19/20 | Wed 12/2/20 |
| 477 | 0006 | FT004P, R | USACE EM CX review of responses to comments | 21 days | Sat 12/12/20 | Fri 1/1/21 |
| 478 | 0006 | FT004P, RS003P, | USACE/AF approval of Draft Fairchild AFB Uniform Federal Policy-Quality Assurance Project Plan | 0 days | Fri 1/1/21 | Fri 1/1/21 |
| 479 | 0006 | FT004P, R | Prepare/submit Draft Final UFP-QAPP | 7 days | Sat 1/2/21 | Fri 1/8/21 |
| 480 | 0006 | FT004P, R | Regulatory review of Draft Final UFP-QAPP | 32 days | Sat 1/9/21 | Tue 2/9/21 |
| 481 | 0006 | FT004P, R | Respond to Regulatory comments and prepare redline document | 14 days | Wed 2/10/21 | Tue 2/23/21 |
| 482 | 0006 | FT004P, R | USACE/AF review of responses to regulatory comments | 21 days | Wed 2/24/21 | Tue 3/16/21 |
| 483 | 0006 | FT004P, R | Regulatory review of responses to comments | 30 days | Wed 3/17/21 | Thu 4/15/21 |
| 484 | 0006 | FT004P, R | Prepare/submit Final UFP-QAPP | 7 days | Fri 4/16/21 | Thu 4/22/21 |
| 485 | 0006 | FT004P, RS003P, | USACE/AF/Regulator approval of Final Fairchild AFB Uniform Federal Policy-Quality Assurance Project Plan | 0 days | Thu 4/22/21 | Thu 4/22/21 |
| 486 | **0007** | **FT004P, RS003P,** | **Install Monitoring Wells and Collect Groundwater Samples in accordance with the Performance Work Statement** | **809 days** | **Thu 7/16/20** | **Sun 10/2/22** |
| 487 | 0007 | FT004P, R | Notice to proceed | 1 day | Thu 7/16/20 | Thu 7/16/20 |
| 488 | 0007 | FT004P, R | Scoping session | 1 day | Mon 10/4/21 | Mon 10/4/21 |
| 489 | **0007** | **FT004P, R** | **Well Installation and Sampling** | **528 days** | **Fri 4/23/21** | **Sun 10/2/22** |
| 490 | 0007 | FT004P, R | Mobilization | 30 days | Fri 4/23/21 | Sat 5/22/21 |
| 491 | 0007 | FT004P, R | Site work - Tranducer installation in existing monitoring wells | 14 days | Sun 5/23/21 | Sat 6/5/21 |
| 492 | 0007 | FT004P, R | Site work - Water elevation measurement | 14 days | Sun 6/6/21 | Sat 6/19/21 |
| 493 | 0007 | FT004P, R | Site work - Groundwater sampling of existing wells | 14 days | Sun 5/23/21 | Sat 6/5/21 |
| 494 | 0007 | FT004P, R | Data analysis, validation, and ERPIMS submittal | 90 days | Sun 6/6/21 | Fri 9/3/21 |
| 495 | 0007 | FT004P, R | Receipt of ERPIMS Production Database Insert Notification | 30 days | Sat 9/4/21 | Sun 10/3/21 |
| 496 | 0007 | FT004P, R | Site work - Well installation and survey | 35 days | Tue 10/19/21 | Mon 11/22/21 |
| 497 | 0007 | FT004P, R | Site work - Flowmeter and gamma logging, in new and exisitng wells | 14 days | Tue 11/23/21 | Mon 12/6/21 |




Project: Fairchild AFB RI Schedule
Date: Mon 11/2/20

Task Milestone Summary Progress

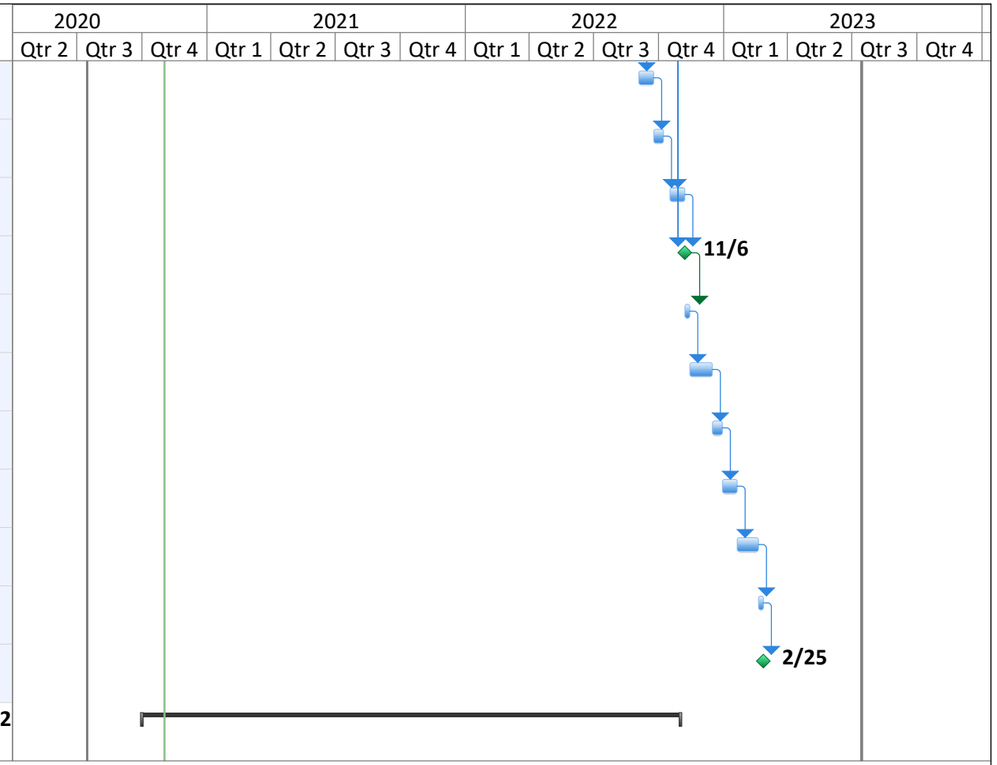
| ID | CLIN | Site | Name | Duration | Start | Finish |
|---|---|---|---|---|---|---|
| 498 | 0007 | FT004P, R | Site work - Transducer installation in new monitoring wells | 7 days | Tue 12/7/21 | Mon 12/13/21 |
| 499 | 0007 | FT004P, R | Site work - Soil sampling | 7 days | Tue 11/23/21 | Mon 11/29/21 |
| 500 | 0007 | FT004P, R | Data analysis, validation, and ERPIMS submittal | 90 days | Tue 11/30/21 | Sun 2/27/22 |
| 501 | 0007 | FT004P, R | Receipt of ERPIMS Production Database Insert Notification | 30 days | Mon 2/28/22 | Tue 3/29/22 |
| 502 | 0007 | FT004P, R | Site work - Water elevation measurement in new and exisitng wells | 14 days | Mon 3/14/22 | Sun 3/27/22 |
| 503 | 0007 | FT004P, R | Site work - Groundwater sampling of new and existing wells | 14 days | Sun 5/22/22 | Sat 6/4/22 |
| 504 | 0007 | FT004P, R | Data analysis, validation, and ERPIMS submittal | 90 days | Sun 6/5/22 | Fri 9/2/22 |
| 505 | 0007 | FT004P, R | Receipt of ERPIMS Production Database Insert Notification | 30 days | Sat 9/3/22 | Sun 10/2/22 |
| 506 | **0008** | **FT004P, RS003P,** | **Install Soil Borings and Collect Soil Samples in accordance with the Performance Work Statement** | **636 days** | **Thu 7/16/20** | **Tue 4/12/22** |
| 507 | 0008 | FT004P, R | Notice to proceed | 1 day | Thu 7/16/20 | Thu 7/16/20 |
| 508 | **0008** | **FT004P, R** | **Boring Installation and Soil Sampling** | **164 days** | **Sun 10/31/21** | **Tue 4/12/22** |
| 509 | 0008 | FT004P, R | Mobilization | 30 days | Sun 10/31/21 | Mon 11/29/21 |
| 510 | 0008 | FT004P, R | Site work - Soil boring installation | 7 days | Tue 11/30/21 | Mon 12/6/21 |
| 511 | 0008 | FT004P, R | Site work - Surface and subsurface soil sampling | 7 days | Tue 12/7/21 | Mon 12/13/21 |
| 512 | 0008 | FT004P, R | Data analysis, validation, and ERPIMS submittal | 90 days | Tue 12/14/21 | Sun 3/13/22 |
| 513 | 0008 | FT004P, R | Receipt of ERPIMS Production Database Insert Notification | 30 days | Mon 3/14/22 | Tue 4/12/22 |
| 514 | **0009** | **FT004P, RS003P,** | **Phase I Remedial Investigation Report in accordance with the Performance Work Statement** | **955 days** | **Thu 7/16/20** | **Sat 2/25/23** |
| 515 | 0009 | FT004P, R | Notice to proceed | 1 day | Thu 7/16/20 | Thu 7/16/20 |
| 516 | **0009** | **FT004P, R** | **Phase I Remedial Investigation Report** | **266 days** | **Sun 6/5/22** | **Sat 2/25/23** |
| 517 | 0009 | FT004P, R | Prepare/submit Draft Phase I RI Report | 90 days | Sun 6/5/22 | Fri 9/2/22 |
| 518 | 0009 | FT004P, R | USACE/AF Project Delivery Team review of Draft Phase I RI Report | 30 days | Sat 9/3/22 | Sun 10/2/22 |
| 519 | 0009 | FT004P, R | Respond to USACE/AF comments and prepare redline document | 14 days | Mon 10/3/22 | Sun 10/16/22 |




Project: Fairchild AFB RI Schedule
Date: Mon 11/2/20

Task Milestone Summary Progress

| ID | CLIN | Site | Name | Duration | Start | Finish |
|---|---|---|---|---|---|---|
| 520 | 0009 | FT004P, R | USACE EM CX review of Draft Phase I RI Report | 21 days | Sat 9/3/22 | Fri 9/23/22 |
| 521 | 0009 | FT004P, R | Respond to USACE EM CX comments and prepare redline document | 14 days | Sat 9/24/22 | Fri 10/7/22 |
| 522 | 0009 | FT004P, R | USACE EM CX review of responses to comments | 21 days | Mon 10/17/22 | Sun 11/6/22 |
| 523 | 0009 | FT004P, RS003P, | USACE/AF approval of Draft Fairchild AFB Phase I Remedial Investigation Report | 0 days | Sun 11/6/22 | Sun 11/6/22 |
| 524 | 0009 | FT004P, R | Prepare/submit Draft Final Phase I RI Report | 7 days | Mon 11/7/22 | Sun 11/13/22 |
| 525 | 0009 | FT004P, R | Regulatory review of Draft Final Phase I RI Report | 32 days | Mon 11/14/22 | Thu 12/15/22 |
| 526 | 0009 | FT004P, R | Respond to Regulatory comments and prepare redline document | 14 days | Fri 12/16/22 | Thu 12/29/22 |
| 527 | 0009 | FT004P, R | USACE/AF review of responses to regulatory comments | 21 days | Fri 12/30/22 | Thu 1/19/23 |
| 528 | 0009 | FT004P, R | Regulatory review of responses to comments | 30 days | Fri 1/20/23 | Sat 2/18/23 |
| 529 | 0009 | FT004P, R | Prepare/submit Final Phase I RI Report | 7 days | Sun 2/19/23 | Sat 2/25/23 |
| 530 | 0009 | FT004P, RS003P, | USACE/AF/Regulator approval of Final Fairchild AFB Phase I Remedial Investigation Report | 0 days | Sat 2/25/23 | Sat 2/25/23 |
| 531 | **0010** | | **Contractor Manpower Reporting** | **761 days** | **Thu 10/1/20** | **Mon 10/31/22** |




Project: Fairchild AFB RI Schedule
Date: Mon 11/2/20

Task Milestone Summary Progress

# Appendix D

# Communications Plan

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**Purpose:** The purpose of the Communications Plan for the FAFB Phase I RI is to establish an internal and external communication strategy and determine the information needs of all project team members and stakeholders. Internal communication will occur between the project team. External communication will occur between the project team and stakeholders.

**Objectives:**
1. Provide accurate and updated information.
2. Develop a process of open communication within the project team and with stakeholders.
3. Develop a scope for the investigation that addresses concerns of the project team and stakeholders within time and cost limitations.
4. To identify valid concerns during the investigation process and ensure consideration of reasonable alternatives.

**Project Team:** United States Army Corps of Engineers (USACE) Seattle District - Client
Air Force Civil Engineer Center (AFCEC) – Project Partner, USACE Client
Fairchild Air Force Base (FAFB) – Project Partner, Property Owner
EA Engineering, Science, and Technology, Inc., PBC (EA) – Prime Contractor

**Stakeholders:** Restoration Advisory Board (RAB)
U.S. Environmental Protection Agency (USEPA) Region 10 – Regulator
Washington Department of Ecology – State Regulator
Residents near FAFB with drinking water wells – Receptors

**Strategy:** EA will be open to sharing information with Air Force and USACE contractors, AFCEC personnel, and will work in cooperation with communities, regulators, and other government entities to provide all non-sensitive information related to public health and safety. All external communications to the public, regulators, or the community will be reviewed and approved by the project team prior to submission. Figure 1 demonstrates the lines of communication for the completion of the PFAS Phase I RI at FAFB.

**Documents:** The document distribution list for all the project deliverables is presented in Attachment 1 of this Communications Plan. The distribution list outlines who will receive documents and the number of copies they will receive. After each document is delivered, a review period, as described in the Performance of Work Statement (PWS) (Appendix A of the Project Management Plan), will be completed. EA will then compile all comments and generate a Final version of the document, which could be shared with additional stakeholders at the discretion of USACE and AFCEC (input by the regulators will be incorporated into the final version).

**Internal Communications:**

Internal communications will be the majority of the communication required for the PFAS Phase I RI at FAFB. Internal communication could originate from any member of the project team. The USACE – Seattle district shall be briefed on all communications between the Contractor and AFCEC. Internal communications will include the following formats:

- Business emails
- Phone calls
- File sharing
- Hard copies of deliverable documents
- Face-to-face meetings (only as needed and with appropriate social distancing and safety procedures followed per precautionary COVID-19 guidelines issued by applicable local jurisdictions).

Project team meetings will be conducted primarily as teleconferences on a bi-weekly schedule or as needed to meet the project scope. EA will provide meeting minutes for all bi-weekly meetings within a week of the meeting to all attendees. A schedule of all projected internal meetings was submitted along with the Kickoff Meeting Minutes submitted on 31 July 2020 to the Project Team.

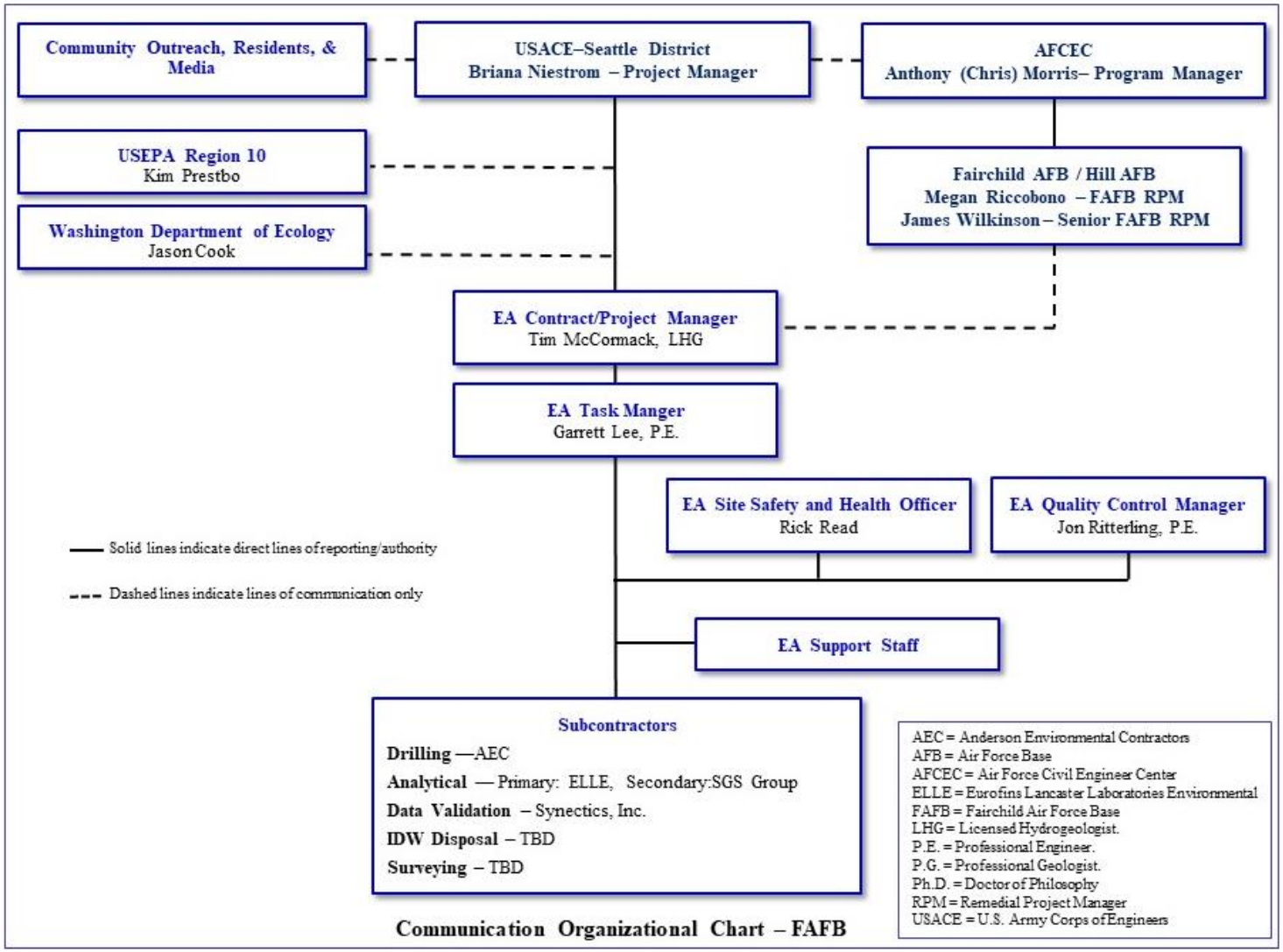
**External Communications:**

All external communications will be first discussed by all project team members to ensure the information is accurate and presents the consensus of the project team. External communications to the regulators may originate from USACE, AFCEC RPM, or EA (with approval from USACE and AFCEC). External communications to residents, community representatives shall only originate from USACE -Seattle District. External communications will include the following formats:

- Business emails
- Phone calls
- Informational posters
- Hard copies of deliverable documents
- Face-to-face meetings (only as needed and with appropriate social distancing and safety procedures followed per precautionary COVID-19 guidelines issued by applicable local jurisdictions).

**Records:** EA will maintain all project deliverables and track internal and external communication. An online-based project folder will be provided by EA and will be available for all project team members.

**Figure 1: Communications Chart**



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## Attachment 1: Document Distribution List

Draft:
1 electronic copy to USACE (Niestrom)
1 electronic copy to AFCEC (Morris)
1 electronic copy to FAFB RPMs

Draft Final:
1 electronic copy to USACE (Niestrom)
1 electronic copy to AFCEC (Morris)
1 electronic copy to FAFB RPMs
1 electronic copy & 1 hard copy to State Regulatory Agency
1 electronic copy & 1 hard copy to USEPA Region 10

Final:
3 electronic copies & 2 hard copies to USACE (Niestrom)
3 electronic copies & 1 hard copy to AFCEC (Morris)
2 electronic copies & 1 hard copy to FAFB RPMs
1 electronic copy & 1 hard copy to State Regulatory Agency
1 electronic copy & 1 hard copy to USEPA Region

USACE Seattle District PM
Briana Niestrom
U.S. Army Corps of Engineers, Seattle District
CENWS
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Seattle, Washington 98134
Briana.C.Niestrom@usace.army.mil

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FAFB RPMs
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FAFB, WA 99011
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James Wilkinson
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Hill AFB, UT 84056
james.wilkinson.13@us.af.mil

USEPA Region 10
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U.S. Environmental Protection Agency
1200 Sixth Avenue, Suite 900 M/S ECL-115
Seattle, WA 98191-3140

State Regulatory Agency
Jason Cook
WA Department of Ecology
300 Desmond Drive, P.O. Box 47600
Olympia, WA 98504

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# Appendix E

# Milestone Payment Schedule

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**Table E-1. Milestone Payment Schedule**

| CLIN | CLIN Amount | CLIN Award Date | CLIN Description | SUB-CLIN Description | Payment Milestone Description | Milestone Payment Amount | Milestone Achieved Date | Invoice Status |
|---|---|---|---|---|---|---|---|---|
| **Base Items** | | | | | | | | |
| 0006 | $107,293.00 | 16-Jul-2020 | Task 14 - Fairchild Work Plan Documents | Project Management Plan | Submittal of Draft PMP | $9,107.50 | | |
| | | | | | AF and USACE Approval of Final PMP | $2,369.10 | | |
| | | | | Accident Prevention Plan/Site Safety and Health Plan | Submittal of Draft APP/SSHP | $15,905.11 | | |
| | | | | | AF and USACE Approval of Final APP/SSHP | $4,635.04 | | |
| | | | | Uniform Federal Policy - Quality Assurance Project Plan | Submittal of Draft UFP-QAPP | $25,406.05 | | |
| | | | | | AF and USACE Approval of Final UFP-QAPP | $7,135.34 | | |
| | | | | Project Planning Meetings | Submittal of Project Scoping Session Minutes (1) | $10,683.72 | | |
| | | | | | Submittal of Project Scoping Session Minutes (2) | $10,683.72 | | |
| | | | | | Submittal of Project Scoping Session Minutes (3) | $10,683.72 | | |
| | | | | | Submittal of Project Scoping Session Minutes (4) | $10,683.72 | | |
| 0007 | $1,803,614.00 | 16-Jul-2020 | Task 15 - Fairchild Install Monitoring Wells and Collect Groundwater Samples | Initial groundwater sampling of 100 existing wells | AF and USACE Approval of EDD Submittal | $68,544.51 | | |
| | | | | Synoptic groundwater level measurement of 100 existing wells | Submittal of Groundwater Level Data | $231,066.40 | | |
| | | | | Install 50 groundwater monitoring wells | Submittal of Well Completion Report (1-5) | $239,243.10 | | |
| | | | | | Submittal of Well Completion Report (6-10) | $119,621.55 | | |
| | | | | | Submittal of Well Completion Report (11-15) | $119,621.55 | | |
| | | | | | Submittal of Well Completion Report (16-20) | $119,621.55 | | |
| | | | | | Submittal of Well Completion Report (21-25) | $119,621.55 | | |
| | | | | | Submittal of Well Completion Report (26-30) | $119,621.55 | | |
| | | | | | Submittal of Well Completion Report (31-35) | $119,621.55 | | |
| | | | | | Submittal of Well Completion Report (36-40) | $119,621.55 | | |
| | | | | | Submittal of Well Completion Report (41-45) | $119,621.55 | | |
| | | | | | Submittal of Well Completion Report (46-50) | $119,621.55 | | |
| | | | | | AF and USACE Approval of EDD Submittal | $119,621.55 | | |
| | | | | Conduct groundwater sampling of 50 new wells and 50 existing wells | AF and USACE Approval of EDD Submittal | $68,544.51 | | |
| 0008 | $136,241.00 | 16-Jul-2020 | Task 16 - Fairchild Install Soil Borings and Collect Soil Samples | Conduct soil sampling at 12 soil borings across 5 sites (60 total) | AF and USACE Approval of EDD Submittal | $136,241.00 | | |
| 0009 | $53,260.00 | 16-Jul-2020 | Task 17 - Fairchild Phase I Remedial Investigation Report | Phase 1 Remedial Investigation Report | Submittal of Draft Phase I RI Report | $39,945.00 | | |
| | | | | | AF and USACE Approval of Final Phase I RI Report | $13,315.00 | | |

**Table E-1. Milestone Payment Schedule (continued)**

| CLIN | CLIN Amount | CLIN Award Date | CLIN Description | SUB-CLIN Description | Payment Milestone Description | Milestone Payment Amount | Milestone Achieved Date | Invoice Status |
|---|---|---|---|---|---|---|---|---|
| **Optional Items** | | | | | | | | |
| 0019 | $757,936.00 | 16-Jul-2020 | Task 18 (OPTIONAL) - Fairchild Additional Monitoring Well Installation and Sampling (Event1) | Install 20 groundwater monitoring wells | Submittal of Well Completion Report (1-5) | $250,119.72 | | |
| | | | | | Submittal of Well Completion Report (6-10) | $125,059.86 | | |
| | | | | | Submittal of Well Completion Report (11-15) | $125,059.86 | | |
| | | | | | Submittal of Well Completion Report (16-20) | $125,059.86 | | |
| | | | | | AF and USACE Approval of EDD Submittal | $125,059.86 | | |
| | | | | Conduct groundwater sampling | AF and USACE Approval of EDD Submittal | $7,576.83 | | |
| 0020 | $616,903.00 | 16-Jul-2020 | Task 19 (OPTIONAL) - Fairchild Additional Monitoring Well Installation and Sampling (Event 2) | Install 15 groundwater monitoring wells | Submittal of Well Completion Report (1-5) | $242,074.00 | | |
| | | | | | Submittal of Well Completion Report (6-10) | $121,037.00 | | |
| | | | | | Submittal of Well Completion Report (11-15) | $121,037.00 | | |
| | | | | | AF and USACE Approval of EDD Submittal | $121,037.00 | | |
| | | | | Conduct groundwater sampling | AF and USACE Approval of EDD Submittal | $11,717.99 | | |
| 0021 | $616,903.00 | 16-Jul-2020 | Task 20 (OPTIONAL) - Fairchild Additional Monitoring Well Installation and Sampling (Event 3) | Install 15 groundwater monitoring wells | Submittal of Well Completion Report (1-5) | $242,074.00 | | |
| | | | | | Submittal of Well Completion Report (6-10) | $121,037.00 | | |
| | | | | | Submittal of Well Completion Report (11-15) | $121,037.00 | | |
| | | | | | AF and USACE Approval of EDD Submittal | $121,037.00 | | |
| | | | | Conduct groundwater sampling | AF and USACE Approval of EDD Submittal | $11,717.99 | | |
| 0022 | $22,358.00 | 16-Jul-2020 | Task 21 (OPTIONAL) - Fairchild Additional Monitoring Well Sampling (Event 1) | Conduct groundwater sampling of 25 existing wells | AF and USACE Approval of EDD Submittal | $22,358.00 | | |
| 0023 | $22,358.00 | 16-Jul-2020 | Task 22 (OPTIONAL) - Fairchild Additional Monitoring Well Sampling (Event 2) | Conduct groundwater sampling of 25 existing wells | AF and USACE Approval of EDD Submittal | $22,358.00 | | |
| 0024 | $52,688.00 | 16-Jul-2020 | Task 23 (OPTIONAL) - Fairchild Additional Soil Sampling (Event 1) | Conduct soil sampling at 24 borings | AF and USACE Approval of EDD Submittal | $52,688.00 | | |
| 0025 | $52,688.00 | 16-Jul-2020 | Task 24 (OPTIONAL) - Fairchild Additional Soil Sampling (Event 2) | Conduct soil sampling at 24 borings | AF and USACE Approval of EDD Submittal | $52,688.00 | | |
| 0026 | $11,034.00 | 16-Jul-2020 | Task 25 (OPTIONAL) - Fairchild Sediment and Surface Water Sampling | Collect 10 sediment samples and 10 surface water samples | AF and USACE Approval of EDD Submittal | $11,034.00 | | |
| 0027 | $42,392.00 | 16-Jul-2020 | Task 26 (OPTIONAL) - Fairchild Base Access Requirement - 15 Day Quarantine (per COVID-19) | Quarantine for 15 days prior to entry into base (mob. 1) | Obtain Access to Base | $12,925.56 | | |
| | | | | Quarantine for 15 days prior to entry into base (mob. 2) | Obtain Access to Base | $12,925.56 | | |
| | | | | Quarantine for 15 days prior to entry into base (mob. 3) | Obtain Access to Base | $3,227.68 | | |
| | | | | Quarantine for 15 days prior to entry into base (mob. 4) | Obtain Access to Base | $13,313.20 | | |
| | | | | | **Total Value of all CLINS =** | **$4,295,668.00** | | |