FINAL

CONTRACTOR QUALITY CONTROL PLAN

FOR

SOILS REMOVAL ACTION

AOC 1 AT OCCIDENTAL CHEMICAL CORPORATION PROPERTY

FORMER LAKE ONTARIO ORDNANCE WORKS

NIAGARA COUNTY, NEW YORK

Contract No.: W912QR-12-D-0011

Delivery Order: W912P417F0022

Prepared for:

February 2018

This Page Intentionally Left Blank

Revised Draft

Contractor Quality Control Plan

For

Soils Remedial Action

AOC 1 at Occidental Chemical Corporation Property

Former Lake Ontario Ordnance Works

Niagara County, New York

Prepared for:

U.S. Army Corps of Engineers
Buffalo District

Contract No. W912QR-12-D-0011

Delivery Order W912P417F0022

Prepared by:

ERT, Inc.
14401 Sweitzer Lane, Suite 300
Laurel, Maryland 20707
(301) 361-0620

Approvers:

[redacted]

1 February 2018

Date

Project Manager

COMPLETION OF SENIOR TECHNICAL REVIEW

This document has been produced within the framework of the ERT, Inc. (ERT) quality management system. As such, a senior technical review has been conducted. This included review of all elements addressed within the document, proposed or utilized technologies and alternatives and their applications with respect to project objectives and framework of U.S. Army Corp of Engineers regulatory constraints under the current project, within which this work has been completed.

[redacted]

30 January 2018

Date

Senior Technical Reviewer

COMPLETION OF INDEPENDENT TECHNICAL REVIEW

This document has been produced within the framework of ERT, Inc. quality management system. As such, an independent technical review, appropriate to the level of risk and complexity inherent in the project, has been conducted. This included review of assumptions (methods, procedures, and material used in analyses), alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the project objectives. Comments and concerns resulting from review of the document have been addressed and corrected as necessary.

[redacted]

30 January 2018

Date

Independent Technical Reviewer

TABLE OF CONTENTS

LIST OF TABLES

LIST OF EXHIBITS

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

AHA	Activity Hazard Analysis
AOC	Area of Concern
APP	Accident Prevention Plan
A-Zone	A-Zone Environmental LLC
BA	Bachelors of Arts
BS	Bachelor of Science
CCR	Construction Completion Report
CELRB	USACE Buffalo District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHMM	Certified Hazardous Materials Manager
CIH	Certified Industrial Hygienist
COR	Contracting Officer's Representative
CQCP	Contractor Quality Control Plan
CQCR	Contractor Quality Control Report
CSP	Certified Safety Professional
DERP	Defense Environmental Restoration Program
DO	Delivery Order
DoD	Department of Defense
DQO	data quality objectives
ERT	ERT, Inc.
ft	feet
FUDS	Formerly Used Defense Site
HSW	HSW Engineering, Inc.
ISO	International Organization for Standardization
ITR	Independent Technical Review
LLR	Lessons Learned Report
LOOW	Lake Ontario Ordnance Works
MA	Master of Arts
MBA	Master of Business Administration
MS	Master of Science
NIOSH	National Institute for Occupational Safety and Health
NRAA	Niagara River Anglers Association
NTP	Notice to Proceed
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OCC	Occidental Chemical Corporation
OCCP	Occidental Chemical Corporation Property
OSHA	Occupational Safety and Health Administration
PE	Professional Engineer
PG	Professional Geologist

PM	project manager
PMP	Project Management Professional
POC	Point of Contact
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QMS	Quality Management System
RA	Remedial Action
RMS	Resident Management System
RTC	response to comment
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SOP	Standard Operating Procedures
SOW	Scope of Work
SSHP	Site Safety and Health Plan
STR	Senior Technical Review
SU	Sampling Unit
TA	Test America
UFP	Uniform Federal Policy
USACE	U.S. Army Corps of Engineers

Contractor Quality Control Plan Checklist

Checklist Item	Included?			Found on Page(s)
	Yes	No	N/A	
1. A description of the quality control organization, including a chart showing lines of authority	X			Section 2, Exhibit 1
2. Acknowledgement that the CQC staff shall implement the three-phase control system for all aspects of the work specified.	X			Section 4, Table 1
3. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function	X			Section 2, Table 1, Appendix B
a. CQC System Manager	X			Section 2, Table 1, Appendix B
b. Alternate CQC System Manager	X			Section 2, Table 1, Appendix B
c. Individual(s) responsible for certifying that all submittals follow the contract requirements	X			Table 1
d. Individual(s) responsible for executing project modifications.	X			Table 1
e. Individual(s) responsible for certifying payment requests	X			Table 1
f. Others	X			Table 1
4. Documentation that the CQC System Manager and Alternate CQC System Manager have completed the course entitled “Construction Quality Management for Contractors”	X			Table 1, Appendix B
5. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract.	X			Appendix C
6. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.	X			Appendix C

7. Procedures for scheduling, reviewing, certifying, and managing submittals, including those subcontractors, offsite fabricators, suppliers, and purchasing agents.	X			Table 1, Section 8.4
8. Control, verification, and acceptance of testing procedures for each specific test to include test name, specification paragraph requiring testing, feature of work to be tested, test frequency, and person responsible for each test.	X			Section 5
9. Name and address of proposed laboratory facilities to be utilized.	X			Section 2, Section 5
10. Procedures for tracking preparatory, initial, and follow-up phases and control, verification and acceptance tests including documentation.	X			Section 4
11. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that the identified deficiencies have been corrected	X			Section 13
12. Reporting procedures, including proposed reporting formats, at a minimum, the QC report presented in the contract specifications shall be utilized.	X			Section 8
13. Proposed subcontractors and the associated activity of work which the subcontractor will perform.	X			Section 2
14. A list of definable features of work.	X			Section 11
15. Contract specific items.			X	

1.0 INTRODUCTION

ERT, Inc., (ERT) has been contracted to perform the Soils Remedial Action (RA) for Area of Concern (AOC) 1 at Occidental Chemical Corporation Property (OCCP) on the Former Lake Ontario Ordnance Works (LOOW) under the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS). Remedial Actions will be performed under a Firm Fixed Price Delivery Order (DO), as outlined in the Scope of Work (SOW), under U.S. Army Corps of Engineers (USACE), Buffalo District (CELRB) contract W912QR12D0011, DO W912P417F0022.

This Contractor Quality Control Plan (CQCP) has been prepared to document ERT's overall project quality control (QC) measures utilized for completing field and non-field activities, including work by subcontractors, and deliverables to ensure the successful completion of the awarded tasks. The CQCP provides guidance for executing soil remediation activities and ensuring data quality for the tasks to be conducted at AOC 1. The CQCP includes the following features: statement of purpose; identification and discussion of all organizational and technical interfaces; identification of the study and field teams including assignment of all areas of responsibility; identification of project deliverables to be submitted for Independent Technical Review (ITR)/Senior Technical Review (STR); identification of the ITR/STR leaders; description of the methods to be used for management of review comments; a declaration that all the records of ITR/STR will be made available to CELRB upon request; and description of the method used to identify the successive issues of a particular deliverable.

1.1 PROJECT DESCRIPTION AND SCOPE

ERT will complete soil removal activities and subsequent reporting requirements for AOC 1 at the OCCP. ERT will develop applicable project planning documents identified in the SOW, outlining the proposed management and technical approaches to be implemented to effectively complete the project objectives. Field activities will begin after approval of work plan documents and will be conducted in accordance with project plans. ERT will obtain approval of any deviation from project plans from the USACE Project Manager (PM) and USACE Contracting Officer's Representative (COR). Results of the soil remedial activities, volumes of material removed, and volumes of fill used to restore AOC 1 will be presented in a Construction Completion Report (CCR). Any project plan deviation will be entered in the field log and documented in the CCR.

1.1.1 Site Location

The OCCP is located off Balmer Road in the Town of Porter, Niagara County, New York. The physical address of the site is 1014 – 1350 Balmer Road, Youngstown, New York 14174. It is a 304-acre parcel in the undeveloped portion of the former LOOW that is owned by Occidental Chemical Corporation (**Figure 1, Appendix A**). AOC 1 is approximately 425 feet (ft) by 325 ft and contains impacted soil, waste materials, and comingled debris from past Department of Defense (DoD) activities (**Figure 2, Appendix A)**. No structures are present. The area is zoned low-density residential. Currently, the property is vacant and undeveloped. Property south of the OCCP is used by the Niagara River Anglers Association (NRAA) as a wilderness preserve. A north-south aligned gravel dirt road through the OCCP is used for access to the preserve by NRAA club members. An easement for the electrical power transmission lines is located to the east, beyond which is property owned by Waste Management, LLC and a former waste water

treatment plant now owned by the town of Lewiston. Undeveloped property owned by the Lewiston-Porter Central School District is located to the west of OCCP, and Balmer Road is immediately north of the OCCP.

In 1945, the U.S. Congress transferred the 5,000-acre buffer zone to the General Services Administration for sale to private owners. A 304-acre parcel (the OCCP) was purchased by Hooker Chemical and Plastics Corporations in 1975 from a private owner. It was later sold to the Occidental Petroleum Corporation. The use and ownership between 1945 and 1975 is unknown. There is no known use or storage of radioactive materials on the OCCP by the Manhattan Engineer District or the Atomic Energy Commission.

1.1.2 Authority

The authority for restoration activities at the site is the DERP-FUDS. Pursuant to DoD Instruction 4715.07-Defense Environmental Restoration Program, the Secretary of the Army is designated as the DoD Executive Agent for the FUDS Program. The Secretary delegated program management and the execution responsibility for the FUDS to the USACE Chief of Engineers. USACE has the authority and responsibility to carry out the FUDS Program and achieve the goals of the DERP in accordance with DERP legislation, applicable guidance, and DoD policy. The OCCP at LOOW is not on the National Priority List.

Work under this DO will be completed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, and the Superfund Amendments and Reauthorization Act (SARA) of 1986. Additionally, project tasks will be completed in accordance with all applicable federal, state and local regulations.

The New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) are the lead regulatory agencies. The principle project stakeholders are as follows:

- Property Owner
  - Occidental Chemical Corporation
- Federal Government
  - Honorable [redacted], U.S. Senate
  - Honorable [redacted], U.S. Senate
  - Honorable [redacted] U.S. House of Representatives
  - U.S. Environmental Protection Agency
- Tuscarora Nation
  - Chief [redacted]
- New York State
  - Honorable [redacted], New York State Senator
  - Honorable [redacted], New York State Assemblyman
  - Honorable [redacted], New York State Assemblywoman
  - New York State Department of Environmental Conservation
  - New York State Department of Health
- Niagara County, New York
  - Honorable [redacted], Chairman Niagara County Legislator
  - Honorable [redacted], Vice-Chairman Niagara County Legislator
  - Niagara County Health Department

- Town of Porter, New York
  - Honorable [redacted], Supervisor
- Town of Lewiston, New York
  - Honorable [redacted], Supervisor
- Village of Youngstown
  - Honorable [redacted], Mayor
- Village of Lewiston
  - Honorable [redacted], Mayor
- Lewiston-Porter Central School District
  - [redacted] Superintendent
- Niagara River Anglers Association
  - [redacted], President

USACE points of contact (POCs) for the project include the following:

[redacted]
Contracting Officer's Representative
USACE Buffalo District
1776 Niagara St
Buffalo, New York 14207
[redacted]

[redacted]
Project Manager
USACE Buffalo District
1776 Niagara St
Buffalo, New York 14207
[redacted]

[redacted]
Technical Manager/Project Engineer
USACE Buffalo District
1776 Niagara St
Buffalo, New York 14207
[redacted]

1.2 Specific Work Tasks

The predominant tasks to be conducted to meet the quality objectives of this DO include the development of planning documents, field activities, and reporting. These tasks are described in further detail in the following sections.

1.2.1 Planning Documents

Project planning documents for this DO include a Project Schedule, CQCP, Site Operations Plan, Uniform Federal Policy – Quality Assurance Project Plan (UFP-QAPP)/Sampling and Analysis Plan (SAP), Accident Prevention Plan (APP)/Site Safety and Health Plan (SSHP), Lesson Learned Report (LLR), and CCR.

1.2.1.1 Project Schedule

A project schedule has been developed which identifies the definable features of the project, start and completion dates, critical activities (as applicable), and milestones required to successfully complete the Soils RA at the LOOW AOC 1.

1.2.1.2 Contractor Quality Control Plan

This CQCP has been prepared to define ERT's overall framework and general procedures during the project, which will ensure that ERT is operating in accordance with all environmental requirements and has concurrence from the USACE project team and stakeholders, and the successful execution and completion of the awarded tasks. This CQCP describes the major processes that will be implemented during the project to prevent and correct any quality issues. This CQCP documents the roles, responsibilities, policies, procedures, data collection, and reporting activities for the successful completion of the Soils RA activities, and provides the basis for timely and accurate reporting regarding the execution of this DO. As part of the CQCP, ERT has identified a means for providing project status reports to the USACE PM and USACE COR. Additionally, communication channels have been established to ensure timely, accurate, and meaningful coordination between the project team.

1.2.1.3 Site Operations Plan

The Site Operations Plan will be prepared to define ERT's overall framework and general procedures during the project, which will ensure a successful execution and completion of the awarded tasks. The Site Operations Plan describes the major processes that will be implemented during the project to prevent and correct any quality issues. The Site Operations Plan will detail the size, scope, and character of the RA. The intent of this plan is to present the general sequence of pre-construction and remedial construction activities planned. In addition, this plan will summarize the proposed methods for performing the phases of work, will describe the equipment and personnel to be used, the general sequencing of the work activities, the use of the site for staging, stockpiling and other activities, and maintaining security. Construction activities will be performed in compliance with USACE and DoD planning, design, and construction directives relevant to this project.

1.2.1.4 Uniform Federal Policy –Quality Assurance Project Plan

ERT will develop a UFP-QAPP establishing the project quality assurance plan for sampling, measurements, and analytical requirements associated with the RA. The UFP-QAPP will describe applicable data quality objectives (DQOs), analytical methods and measurements, quality assurance/quality control (QA/QC) protocols, and data assessment procedures for identifying any data limitations. It will also include adequate detail describing the technical detail and direction for the field and laboratory personnel to understand project sample analysis, QC and data reporting requirements. Analytical methods, required detection limits, QC requirements, and data validation and reporting requirements. The UFP-QAPP will follow the recommended format for quality assurance project plans outlined in the "Uniform Federal Policy for Implementing Environmental Quality Systems – Evaluating, Assessing and Documenting Data Collection/Use and Technology Program" (Intergovernmental Data Quality Task Force, 2005).

Included in the UFP-QAPP is a Sampling and Analysis Plan (SAP) describing the details of activities to be conducted to meet the DQOs of the RA. The SAP will describe the procedures and protocols for project-specific field activities, sampling, documentation, sample packaging/control/shipping, QC, and off-site laboratory analysis. The SAP will contain the necessary technical detail and direction for the comprehensive description and full detail for personnel to perform all on-site activities required to attain project DQOs.

1.2.1.5 Accident Prevention Plan/Site Safety and Health Plan

ERT will develop an APP/SSHP outlining site-specific safety procedures to identify and mitigate hazards, minimize potential site-specific accidents, and ensure worker safety and health during soils remedial activities. The APP/SSHP will be developed in accordance with applicable federal and State of New York safety regulations for general industry and construction, Occupational Safety and Health Administration (OSHA) and National Institute for Occupational Safety and Health (NIOSH) safety standards/guidance documents (NIOSH, 1985), USACE safety standards/guidance documents (EM 385-1-1), ERT's Corporate Safety and Health Plan, and ERT's Standard Operating Procedures (SOPs). The APP/SSHP will govern project activities performed by ERT during soil remedial activities at the LOOW AOC 1.

1.2.2 Field Activities

Field activities will consist of establishing temporary facilities and storm water pollution prevention control measures, environmental sample collection and analysis, vegetation clearance and grubbing, contaminated soil and debris removal, transport, and disposal, site restoration, and demobilization. Excavated contaminated soils and debris will be managed, characterized, transported, and disposed of according to local, state, and federal requirements. Site restoration will be completed in a manner that returns the disturbed area as similar as possible to the surrounding New York State freshwater forested/shrub wetland in accordance with applicable state requirements.

1.2.3 Remedial Action Reporting

Following completion of RA activities, ERT will prepare a LLR and CCR. The LLR will document issues encountered and resolutions prescribed throughout the RA. The CCR will provide a summary and documentation of the activities and results of the remedial activities.

This Page Intentionally Left Blank

2.0 QUALITY MANAGEMENT STRUCTURE AND PROJECT DELIVERY TEAM

This plan outlines the procedures to be followed during project execution to attain the specified project objectives while fully complying with the contractual and regulatory requirements. ERT utilizes a Quality Management System (QMS), developed by following the International Organization for Standardization (ISO) 9001:2015 program and incorporating USACE QA requirements. ERT's QMS documents standard procedures in business activities and endeavors and ensures program and project quality, including development of client deliverables. A monitoring process is utilized to ensure that with rapidly changing business opportunities, the developed management system is integrated with the most appropriate principles to achieve client aspirations. QMS efforts cascade throughout the company processes from business development to project-specific tasks. This process includes keeping accurate and up-to-date records, continuously checking for output errors and omissions, taking corrective actions as necessary, monitoring individual processes, actively researching and developing new technical and management approaches, facilitating continued learning among staff, and responding to the change in client needs.

Project-specific actions within ERT's QMS will follow the "plan-do-check-response" approach in completion of each task, as shown in the **Exhibit 1** flowchart.

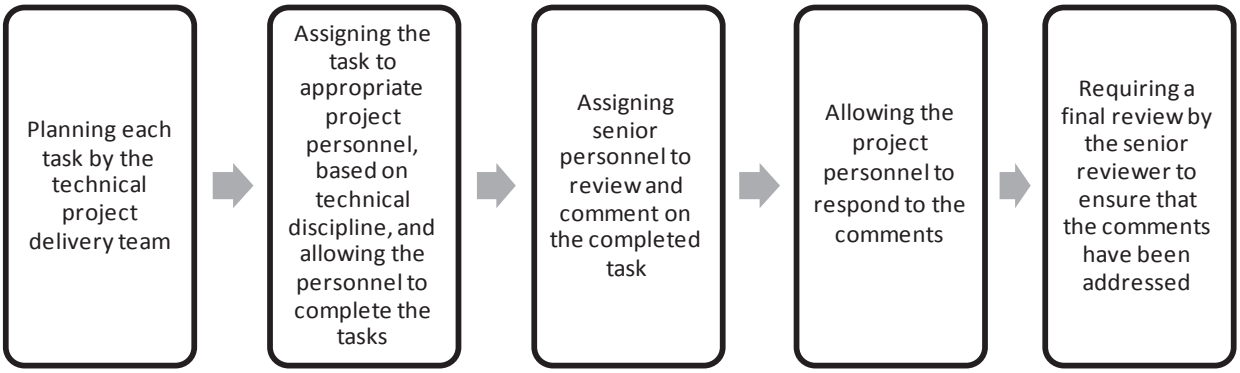


Exhibit 1. Flowchart for Completion of Each Task

The Project Organizational Chart is presented in **Exhibit 2**.

The project delivery team is composed of a Program Manager, PM, Quality Control System Manager, Quality Control System Manager Appointee, Safety and Health Manager, Site Safety and Health Officer (SSHO), Project Superintendent, Waste Manager, Data Manager, and Project Chemist; each positions role and responsibilities are summarized in **Table 1**. Resumes of key project personnel are presented in **Appendix B** and Quality Control System Manager and Quality Control System Manager Appointee Letters of Assignment are presented in **Appendix C**. The core project delivery team is supported by field technicians and subcontractors. Additional technical staff may be added to the project team, if needed.

ERT has subcontracted a highly qualified and trusted team including A-Zone Environmental, LLC. (A-Zone) to provide construction support. ERT and A-Zone have a history of working together on DoD DOs for over 10 years, and have established a unified perspective to project excellence in quality and safety. Additional trusted subcontractors include, Tree Doctor to

provide vegetation clearance, grubbing, and revegetation services; Modern Disposal Services, Inc. to support off-site transportation and disposal of excavated soil; Heinrich Services to support off-site transport and dispose of site debris, A-1 Landcare, Inc. to supply and transport clean fill material; Klettke Land Surveyors, P.C., to provide civil survey services; Test America Inc. (TA) St. Louis, who is approved to conduct sampling analysis under the DoD Environmental Laboratory Accreditation Program accreditation, to complete the sample analysis; and HSW Engineering, Inc. (HSW), to complete the data validation.

A subcontract agreement or purchase order will be developed and signed by an authorized representative of each subcontractor and ERT. The scope of services and terms and conditions will be clearly spelled out in the agreement. Administratively, the PM will work with the subcontractor's counterpart to delineate services and responsibilities, scheduling, coordinating, reporting, and payment.

Internal project communication will be accomplished through several different means including regular project meetings/teleconference, issuance of project information through e-mails and regular reports, and issuance of guidance and standards.

Internal communications are communications within the project team that are essential to completion of the project objectives. This includes USACE, ERT, and all subcontractors. These may be in the form of written correspondence, electronic format including email, or verbal (either in person or via telephone). All meeting minutes, telephone logs, field notebooks, and email files will be documented for the final record.

External communications are communications with local, state, and federal agencies, other groups associated with the OCCP or LOOW, and the general public. All external communications will be initiated by USACE.

Field work will be coordinated with the NRRA to minimize the impact or disruption to their property and activities.

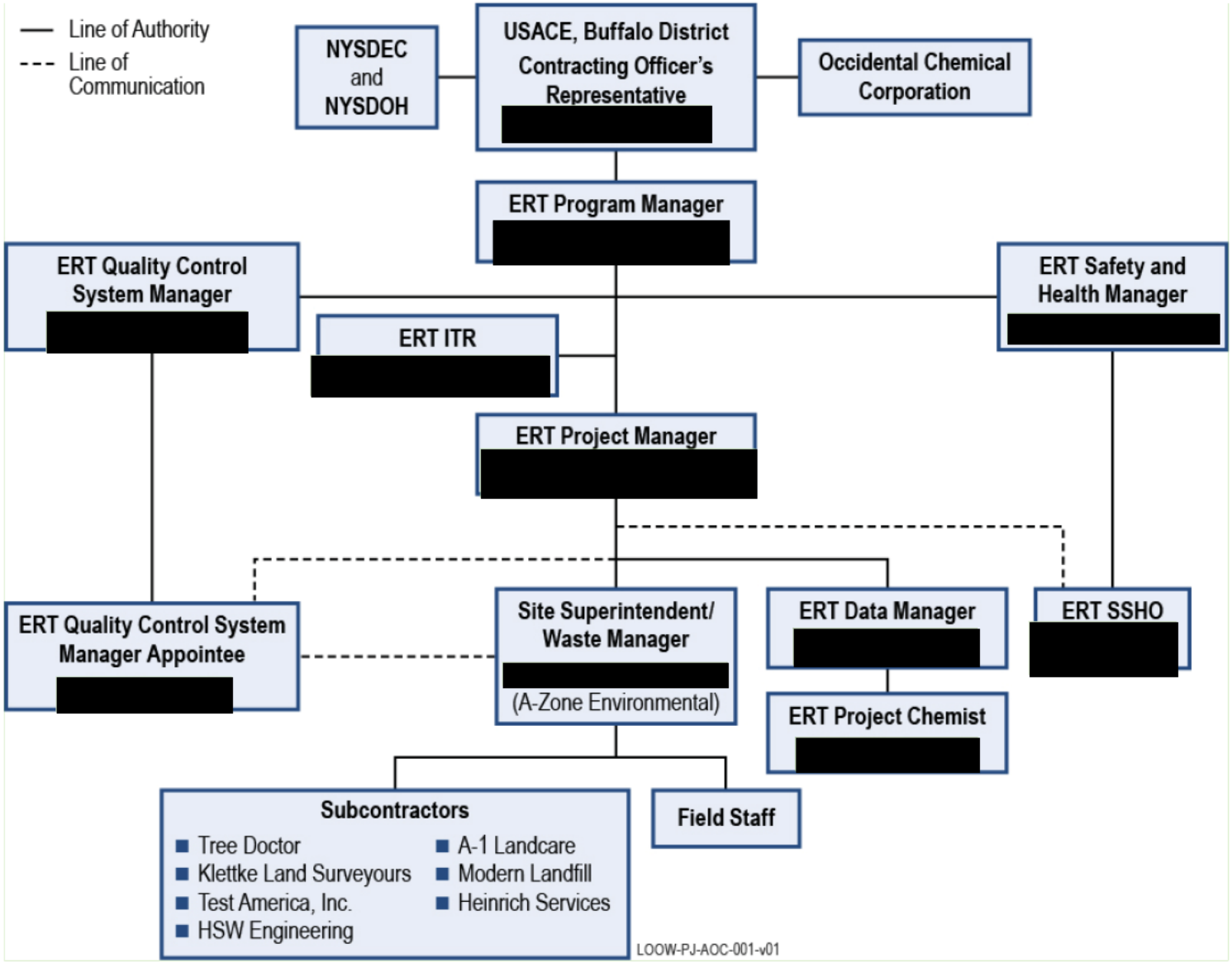


Exhibit 2. Project Organizational Chart

This Page Intentionally Left Blank

Table 1. Project Personnel Qualifications, Roles, and Responsibilities

Name	Title/Role	Education/Experience Qualifications	Specialized Training/Certifications	Responsibilities
[redacted] Project Management Professional (PMP)	Program Manager	▪ Bachelor of Science (BS), Ecology and Biology, Juniata College. ▪ 16+ years of HTRW environmental consulting experience	▪ Project Management Professional No. [redacted]; ▪ 40-Hr OSHA HAZWOPER and 8-Hour Refresher Training	▪ Oversees the contract to ensure ERT's commitment ▪ Responsible for overall program quality management ▪ Responsible for all aspects of contract execution, including the execution of contract modifications ▪ Assigns corporate resources to tasks ▪ Assigns and oversees work element QC manager(s) ▪ Approval of project deliverables
[redacted] PhD, PMP	Alternate Program Manager	▪ BA, Biochemistry and Molecular Biology, University of Maryland ▪ Master of Arts (MA), Environmental Science, Goddard College ▪ PhD, Environmental Science/Environmental Chemistry, Union Institute ▪ 25+ years of HTRW environmental consulting experience	▪ PMP No. [redacted]	

Table 1. Project Personnel Qualifications, Roles, and Responsibilities

Name	Title/Role	Education/Experience Qualifications	Specialized Training/Certifications	Responsibilities
[redacted], Certified Hazardous Materials Manager (CHMM), PMP	Project Manager/ Alternate Waste Manager/ Alternate Site Superintendent	▪ BS, Biology, Loyola College. ▪ Master of Science (MS), Environmental Policy and Science, Johns Hopkins University. ▪ 15+ years of experience performing and/or managing HTRW environmental remediation projects.	▪ PMP No. [redacted] ▪ CHMM ▪ 40-Hr. HAZWOPER and 8-Hr. Refresher Training ▪ USACE/NAVFAC Construction Quality Management for Contractors ▪ OSHA 30-Hr Construction Safety & Health Training ▪ USDOT Course 1-4: Hazardous Materials Management, [redacted], Packaging and Labeling of Hazardous Materials, [redacted] Shipping of Hazardous Materials [redacted] Loading and Storage of Hazardous Materials, [redacted]	▪ Manages tasks associated with DO and assigns adequate corporate resources to tasks ▪ Ensures that all project personnel understand their role, responsibilities, and authorities. ▪ Maintains close communication with USACE ▪ Responsible for certifying payment requests. ▪ Ensures that all prerequisites are complete ▪ Communicate hazards and hazard controls to personnel associated with the task ▪ Ensures that calibration and testing are complete ▪ Coordinates work and ensures technical excellence of all activities ▪ Ensures that staff training, and qualifications are complete ▪ Controls program cost and schedule ▪ Negotiates and develops subcontract agreements ▪ Oversees preparation of monthly financial, invoicing, and progress reports
[redacted], PG	ERT ITR	▪ BS, Geology, Pittsburgh University ▪ 25+ years of HTRW environmental remediation experience	▪ Professional Geologist ▪ OSHA 40-Hr HAZWOPER Training and 8-Hr Refresher Training	▪ Performs ITR on all project documents

Table 1. Project Personnel Qualifications, Roles, and Responsibilities

Name	Title/Role	Education/Experience Qualifications	Specialized Training/Certifications	Responsibilities
[redacted], PMP	ERT Construction Quality Control System Manager/STR/ Alternate Project Manager	▪ BS, Civil Engineering, George Washington University ▪ MS, Environmental Engineering, Virginia Tech ▪ 30+ years of HTRW environmental remediation experience	▪ PMP ▪ ISO 9001 and 14001 Auditor ▪ USACE/NAVFAC Construction Quality Management for Contractors (pending renewal) ▪ OSHA 40-Hr HAZWOPER Training and 8-Hr Refresher Training	▪ Foster a culture of quality excellence, ensuring compliance with the SOW, CQCP, and ERT corporate QA Program ▪ Leads DO Quality Control Plan development, ensures compliance with work plans and SOPs ▪ Approves QC documents, project and program implementing procedures, and subcontractor QC ▪ Participates in readiness evaluations and performs routine audits ▪ Leads STR on all project documents ▪ Ensure implementation of the three-phase control system for definable features of work ▪ Responsible for certifying all personnel are properly trained ▪ Ensuring deficiencies are tracked and corrective actions implemented ▪ Responsible for certifying that all submittals follow the contract requirements

Table 1. Project Personnel Qualifications, Roles, and Responsibilities

Name	Title/Role	Education/Experience Qualifications	Specialized Training/Certifications	Responsibilities
[redacted]	ERT Construction Quality Control System Manager Appointee	▪ BS, GeoEnvironmental Studies, Shippensburg University. ▪ MS, GeoEnvironmental Studies, Shippensburg University. ▪ 7+ years of HTRW environmental remediation experience	▪ OSHA 40-Hr HAZWOPER Training and 8-Hr Refresher Training ▪ HAZWOPER 8-Hr Site Supervisor Training ▪ OSHA 30-Hr Construction Safety & Health Training ▪ First Aid/CPR/AED Training ▪ USACE/NAVFAC Construction Quality Management for Contractors	▪ Assists with DO Quality Control Plan development, ensures compliance with work plans and SOPs ▪ Assists with approval of QA documents, project and program implementing procedures, and subcontractor QC ▪ Ensure implementation of the three-phase control system for definable features of work ▪ Ensure all personnel are properly trained ▪ Ensure deficiencies are tracked and corrective actions implemented ▪ Ensure all submittals follow the contract requirements
[redacted]	Data Manager	▪ BS, Electrical Engineering, University of Colorado ▪ MS, Environmental Science, American University ▪ 10+ years of HTRW environmental remediation experience	▪ 40-Hr OSHA HAZWOPER and 8-Hour Refresher Training; ▪ Adult AED, CPR, and First-Aid	▪ Coordinates and oversees laboratory subcontractors and deliverables ▪ Communicates issues and concerns to ERT PM

Table 1. Project Personnel Qualifications, Roles, and Responsibilities

Name	Title/Role	Education/Experience Qualifications	Specialized Training/Certifications	Responsibilities
[redacted]	Project Chemist	▪ Bachelor of Arts (BA), Chemistry, Florida State University ▪ Master of Business Administration (MBA), Finance, Vanderbilt University ▪ 20+ years of HTRW environmental chemistry experience	▪ NELAC Basic Assessor Training ▪ U.S. DoD Quality Systems Manual and Environmental Laboratory Assessment Training ▪ Applied Environmental Statistics International Ground Water Modeling Center, Colorado School of Mines	▪ Ensures Data Quality Objectives and responsibilities, sampling and analysis requirements, data documentation and validation requirements, and reporting requirements are attained.
[redacted] PhD, PMP	Alternate Project Chemist	▪ BA, Biochemistry and Molecular Biology, University of Maryland ▪ MA, Environmental Science, Goddard College ▪ PhD, Environmental Science/Environmental Chemistry, Union Institute ▪ 25+ years of environmental consulting experience, including 17+ years in a technical leadership position for chemical analysis and QC.	▪ PMP No. [redacted]	

Table 1. Project Personnel Qualifications, Roles, and Responsibilities

Name	Title/Role	Education/Experience Qualifications	Specialized Training/Certifications	Responsibilities
[redacted] Certified Industrial Hygienist (CIH), Certified Safety Professional (CSP)	Safety and Health Manager	▪ BS, Biology, Fairmont State College MS, Occupational Health and Safety, West Virginia University ▪ 20+ years of HTRW environmental experience	▪ CIH ▪ CSP ▪ OSHA 40-Hr HAZWOPER Training and 8-hr Annual Refresher	▪ Develop, implement, and oversee all safety and health related aspects of environmental investigation work for this DO
[redacted]	Site Safety and Health Officer	▪ Naval Explosive Ordnance Disposal School ▪ 30+ years of remedial construction experience	▪ OSHA 40-Hr HAZWOPER Training and 8-Hr Refresher Training ▪ HAZWOPER 8-Hr Site Supervisor Training ▪ OSHA 30-Hr Construction Safety & Health Training ▪ USACE/NAVFAC Construction Quality Management for Contractors ▪ First Aid/CPR/AED Training	▪ Oversees compliance with project safety plans during field activities ▪ Ensures that equipment operators, craft and labor personnel are sufficiently trained and qualified to perform tasks ▪ Ensure all equipment, tools and materials identified, that pre-use inspections, calibrations, and QC measurements are completed as required and routinely performed ▪ Participates in design and installation activities for repaired or replaced site infrastructure ▪ Participates in readiness evaluations prior to the initiation of each definable feature of

Table 1. Project Personnel Qualifications, Roles, and Responsibilities

Name	Title/Role	Education/Experience Qualifications	Specialized Training/Certifications	Responsibilities
[redacted]	Alternate Site Safety and Health Officer	▪ BS, Physical Anthropology, Juniata College ▪ MS, Geology/Geophysics, Wright State University ▪ 15+ years of HTRW health and safety experience	▪ OSHA 40-Hr HAZWOPER Training and 8-Hr Refresher Training ▪ HAZWOPER 8-Hr Site Supervisor Training ▪ OSHA 30-Hr Construction Safety & Health Training ▪ First Aid/CPR/AED Training	work.
[redacted], CPG	Project Superintendent / Waste Manager/ Alternate Construction Quality Control System Manager	▪ BS, Geology, Old Dominion University ▪ 20+ years of HTRW environmental remediation experience	▪ Certified Professional Geologist ▪ OSHA 40-Hr HAZWOPER Training and 8-Hr Refresher Training ▪ HAZWOPER 8-Hr Site Supervisor Training ▪ OSHA 30-Hr Construction Safety & Health Training ▪ USACE/NAVFAC Construction Quality Management for Contractors ▪ First Aid/CPR/AED Training	▪ Oversees compliance with project planning documents during field activities ▪ Reviews project planning documents ▪ Monitors work progress, interfacing with subcontractors and field team ▪ Notifies PM is conflicts arise which may affect schedule, cost or quality

This Page Intentionally Left Blank

3.0 PROJECT SCHEDULE

Table 2 presents the general project milestones identified in the SOW; **Exhibit 3** presents these milestones in the proposed project schedule. **Table 3** presents the specific milestone payment schedule. ERT will coordinate activities with the USACE to ensure that the proposed project schedule does not conflict with other activities on site. The schedule will be updated, as needed, throughout the project. Payment will be made by the government after performance monitoring has been documented per the requirements of the SOW.

Table 2. Project Milestones for Deliverables

Project Activity	Schedule for Deliverables
Develop Project Schedule	▪ Draft Project Schedule within 15 calendar days of Notice to Proceed (NTP) ▪ Revised Draft Project Schedule within 15 calendar days of receipt of COR comments of Draft version ▪ Final Project Schedule within 15 calendar days of receipt of COR comments on Revised Draft version
Develop CQCP	▪ Draft CQCP within 45 calendar days of NTP ▪ Revised Draft CQCP within 15 calendar days of receipt of COR comments on the Draft version ▪ Final CQCP within 15 calendar days of receipt of COR comments on the Revised Draft version ▪ Revised Final CQCP within 15 calendar days of receipt of COR and stakeholder comments on Final version
Develop Site Operations Plan	▪ Draft Site Operations Plan within 60 calendar days of NTP ▪ Revised Draft Site Operations Plan within 15 calendar days of receipt of COR comments on the Draft version ▪ Final Site Operations Plan within 15 calendar days of receipt of COR comments on the Revised Draft version ▪ Revised Final Site Operations Plan within 15 calendar days of receipt of COR and stakeholder comments on Final version
Develop APP/SSHP	▪ Draft APP/SSHP within 60 calendar days of NTP ▪ Draft Final APP/SSHP within 15 calendar days of receipt of COR comments on the Draft version ▪ Final APP/SSHP within 15 calendar days of receipt of COR comments on Draft Final version
Develop UFP-QAPP/SAP	▪ Draft UFP-QAPP/SAP within 60 calendar days of NTP ▪ Revised Draft UFP-QAPP/SAP within 15 calendar days of receipt of COR comments on the Draft version ▪ Final UFP-QAPP/SAP within 15 calendar days of receipt of COR comments on the Revised Draft version ▪ Revised Final UFP-QAPP/SAP within 15 calendar days of receipt of COR and stakeholder comments on Final version
Complete Soils RA Field Activities	▪ Begin June 2018 and proposed completion by September 2018
Develop Soils RA LLR	▪ Submit Draft LLR within 60 calendar days of completion of Soils RA field activities

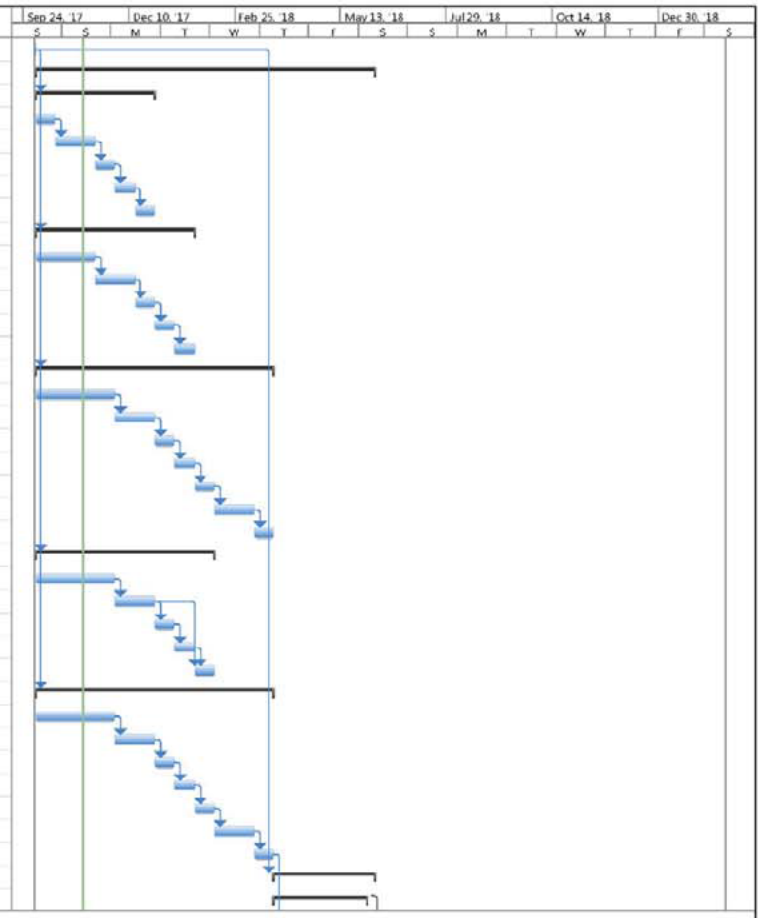
Table 2. Project Milestones for Deliverables	
Project Activity	**Schedule for Deliverables**
	▪ Submit Revised Draft LLR within 15 calendar days of receipt of COR comments on the Draft version ▪ Submit Final LLR within 15 calendar days of receipt of COR and stakeholder comments on Revised Draft version
Develop Soils RA CCR	▪ Submit Draft CCR within 60 calendar days of completion of Soils RA field activities ▪ Submit Revised Draft CCR within 15 calendar days of receipt of COR comments on the Draft version ▪ Submit Final CCR within 15 days of receipt of COR comments on the Revised Draft version ▪ Submit Revised Final CCR within 15 days of receipt of COR and stakeholder comments on the Final version

Table 3. Activity Based Payment Milestones				
Activity-Based Payment Milestone	**Percent**	**No. of Units**	**Unit Rate**	**Extended Value**
Mobilization of Construction Equipment and Facilities				
Submittal of Final Pre-Construction Meeting Minutes	50.00%	1	$6,581.04	$6,581.04
Submittal of Demobilization Completion Summary Report	50.00%	1	$6,581.05	$6,581.05
Submittals/Work Plans				
Submittal of Draft CQCP, Site Operations Plan, UFP-QAPP, APP/SSHP	50.00%	1	$10,234.24	$10,234.24
Submittal of Final CQC, Site Operations Plan, UFP-QAPP, APP/SSHP	50.00%	1	$10,234.25	$10,234.25
Setup/Construction Temporary Facilities				
Submittal of Final Pre-Construction Meeting Minutes	50.00%	1	$9,845.64	$9,845.64
Submittal of Demobilization Completion Summary Report	50.00%	1	$9,845.64	$9,845.64
Sampling Surface Water				
Completion of Setup and Construction of Temporary Facilities	50.00%	1	$1,187.22	$1,187.22
Submittal of Demobilization Completion Summary Report	50.00%	1	$1,187.23	$1,187.23
Sampling Soil				
50% Field Schedule Milestone	25.00%	1	$2,372.35	$2,372.35
50% Field Schedule Milestone	25.00%	1	$2,372.35	$2,372.35
Submittal of Demobilization Completion Summary Report	50.00 %	1	$4,744.70	$4,744.70
Laboratory Chemical Analysis				
50% Field Schedule Milestone	25.00%	1	$2,230.65	$2,230.65
50% Field Schedule Milestone	25.00%	1	$2,230.65	$2,230.65

Table 3. Activity Based Payment Milestones				
Activity-Based Payment Milestone	**Percent**	**No. of Units**	**Unit Rate**	**Extended Value**
Submittal of Demobilization Completion Summary Report	50.00%	1	$4,461.30	$4,461.30
Geotechnical Testing				
50% Field Schedule Milestone	50.00%	1	$393.57	$393.57
Submittal of Demobilization Completion Summary Report	50.00%	1	$393.58	$393.58
Clearing and Grubbing				
Submittal of 50% Schedule Milestone Clearing and Grubbing Completion Summary Report	50.00%	1	$13,040.12	$13,040.12
Submittal of 100% Schedule Milestone Clearing and Grubbing Completion Summary Report	50.00%		$13,040.12	$13,040.12
Removal Action Earthwork				
Submittal of 50% Schedule Milestone Removal Action Earthwork	50.00%	1	$8,614.34	$8,614.34
Submittal of 100% Schedule Milestone Removal Action Earthwork	50.00%	1	$8,614.34	$8,614.34
Sediment Barriers				
50% Field Schedule Milestone	50.00%	1	$1,225.83	$1,225.83
Submittal of Demobilization Completion Summary Report	50.00%		$1,225.83	$1,225.83
Pumping/Draining/Collection				
Submittal of Characterization Sample Analysis Summary Table	50.00%	1	$4,137.24	$4,137.24
Submittal of Demobilization Completion Summary Report	50.00%	1	$4,137.25	$4,137.25
Contaminated Soil Collection				
Per ton	1.40%	7100	$9.89	$70,219.00
Waste Containment				
Per ton	1.40%	7100	$4.68	$33,228.00
Transportation to Storage/Disposal Facility				
Per ton	1.40%	7100	$20.82	$147,822.00
Disposal Fees and Taxes				
Per ton	1.40%	7100	$20.65	$146,615.00
Site Restoration Earthwork				
Submittal of Demobilization Completion Summary Report	100.00%	1	$19,985.27	$19,985.27
Revegetation and Planting				
Submittal of Demobilization Completion Summary Report	100.00%	1	$5,969.65	$5,969.65
Removal of Temporary Facilities				
Submittal of Demobilization Completion Summary Report	100.00%	1	$1,631.10	$1,631.10
Final Decontamination				

Table 3. Activity Based Payment Milestones				
Activity-Based Payment Milestone	**Percent**	**No. of Units**	**Unit Rate**	**Extended Value**
Submittal of Demobilization Completion Summary Report	100.00%	1	$1,215.25	$1,215.25
Demobilization of Construction Equipment and Facilities				
Submittal of Demobilization Completion Report	50.00%	1	$3,290.30	$3,290.30
Submittal of Final CCR and LLR	50.00%		$3,290.31	$3,290.31
Submittals/Reports				
Submittal of Draft CCR and LLR	50.00%	1	$11,597.04	$11,597.04
Submittal of Final CCR and LLR	50.00%	1	$11,597.04	$11,597.04
Supervision and Management				
Submittal of 50% Schedule Milestone	50.00%	1	$6,587.31	$6,587.31
Project Completion	50.00%	1	$6,587.31	$6,587.31
Engineering, Surveying and Quality Control				
Submittal of 50% Schedule Milestone	50.00%	1	$8,160.79	$8,160.79
Project Completion	50.00%	1	$8,160.79	$8,160.79
First Aid, Fire Protection, Traffic Control, and Security				
Submittal of 50% Schedule Milestone	50.00%	1	$827.99	$827.99
Project Completion	50.00%	1	$827.99	$827.99
Health and Safety				
Submittal of 50% Schedule Milestone	50.00%	1	$17,614.19	$17,614.19
Project Completion	50.00%	1	$17,614.19	$17,614.19
Temporary Construction Facility - Ownership				
Submittal of 50% Schedule Milestone	50.00%	1	$2,894.23	$2,894.23
Project Completion	50.00%	1	$2,894.23	$2,894.23
Temporary Construction Facility - Operation				
Submittal of 50% Schedule Milestone	50.00%	1	$2,118.13	$2,118.13
Project Completion	50.00%	1	$2,118.13	$2,118.13
Project Utilities				
Submittal of 50% Schedule Milestone	50.00%	1	$1,171.89	$1,171.89
Project Completion	50.00%	1	$1,171.89	$1,171.89

ID	Task Name	Duration	Start	Finish
1	NTP	1 day	Mon 10/2/17	Mon 10/2/17
2	**Project Planning**	**256 days**	**Tue 10/3/17**	**Thu 6/7/18**
3	**Project Schedule**	**90 days**	**Tue 10/3/17**	**Thu 12/28/17**
4	Draft Project Schedule	15 days	Tue 10/3/17	Tue 10/17/17
5	Government Review	30 days	Tue 10/17/17	Wed 11/15/17
6	Response to Comments	15 days	Wed 11/15/17	Wed 11/29/17
7	Government Backcheck Review	15 days	Thu 11/30/17	Thu 12/14/17
8	Final Project Schedule	15 days	Thu 12/14/17	Thu 12/28/17
9	**Contractor Quality Control Plan**	**120 days**	**Tue 10/3/17**	**Fri 1/26/18**
10	Draft CQC	45 days	Tue 10/3/17	Wed 11/15/17
11	Government Review	30 days	Wed 11/15/17	Thu 12/14/17
12	Response to Comments	15 days	Thu 12/14/17	Thu 12/28/17
13	Government Backcheck Review	15 days	Fri 12/29/17	Fri 1/12/18
14	Final CQC	15 days	Fri 1/12/18	Fri 1/26/18
15	**Site Operations Plan**	**180 days**	**Tue 10/3/17**	**Sun 3/25/18**
16	Draft SOP	60 days	Tue 10/3/17	Wed 11/29/17
17	Government Review	30 days	Thu 11/30/17	Thu 12/28/17
18	Response to Comments	15 days	Fri 12/29/17	Fri 1/12/18
19	Government Backcheck Review	15 days	Fri 1/12/18	Fri 1/26/18
20	Final SOP	15 days	Sat 1/27/18	Sat 2/10/18
21	Stakeholder Review	30 days	Sat 2/10/18	Sun 3/11/18
22	Final (Revised) SOP	15 days	Sun 3/11/18	Sun 3/25/18
23	**Accident Prevention Plan / Site Safety and Health Plan**	**135 days**	**Tue 10/3/17**	**Sat 2/10/18**
24	Draft APP/SSHP	60 days	Tue 10/3/17	Wed 11/29/17
25	Government Review	30 days	Thu 11/30/17	Thu 12/28/17
26	Response to Comments	15 days	Fri 12/29/17	Fri 1/12/18
27	Government Backcheck Review	15 days	Fri 1/12/18	Fri 1/26/18
28	Final APP/SSHP	15 days	Sat 1/27/18	Sat 2/10/18
29	**Uniform Federal Policy for Quality Assurance Project Plan**	**180 days**	**Tue 10/3/17**	**Sun 3/25/18**
30	Draft UFP-QAPP	60 days	Tue 10/3/17	Wed 11/29/17
31	Government Review	30 days	Thu 11/30/17	Thu 12/28/17
32	Response to Comments	15 days	Fri 12/29/17	Fri 1/12/18
33	Government Backcheck Review	15 days	Fri 1/12/18	Fri 1/26/18
34	Final UFP-QAPP	15 days	Sat 1/27/18	Sat 2/10/18
35	Stakeholder Review	30 days	Sat 2/10/18	Sun 3/11/18
36	Final (Revised) UFP-QAPP	15 days	Sun 3/11/18	Sun 3/25/18
37	**Public Meeting Poster Session**	**76 days**	**Sun 3/25/18**	**Thu 6/7/18**
38	**Posters**	**70 days**	**Sun 3/25/18**	**Fri 6/1/18**



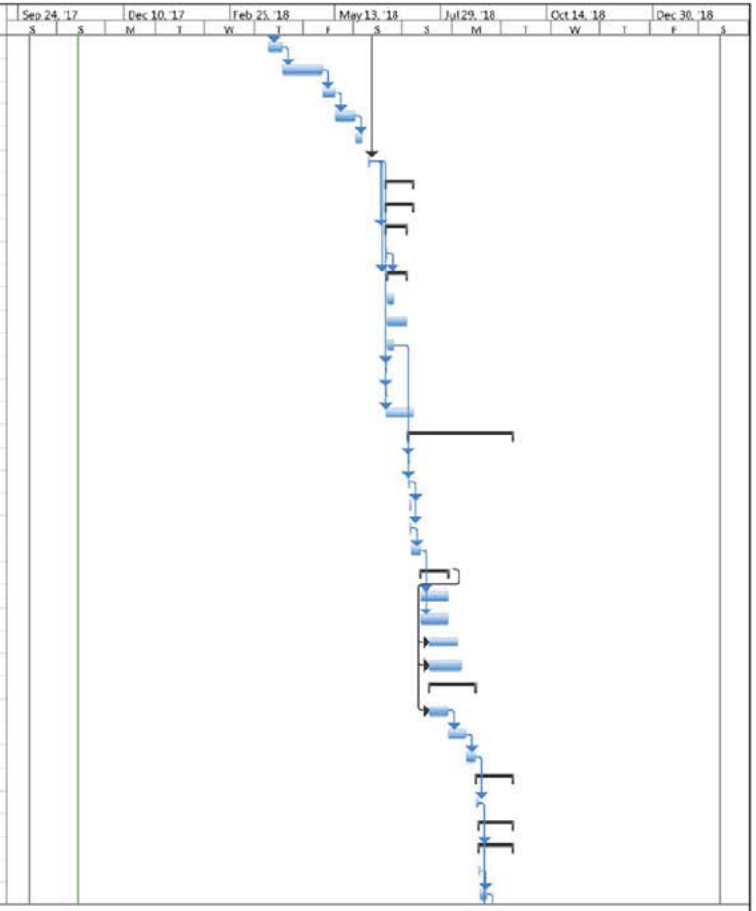
Project: LOOW OCCP Soil Remo
Date: Tue 11/7/17

Task | Split | Milestone | Summary
Project Summary | Inactive Task | Inactive Milestone | Inactive Summary
Manual Task | Duration-only | Manual Summary Rollup | Manual Summary
Start-only | Finish-only | External Tasks | External Milestone
Deadline | Progress | Manual Progress

Page 1

Exhibit 3. Initial Project Schedule

ID	Task Name	Duration	Start	Finish
39	Draft Posters	10 days	Sun 3/25/18	Wed 4/4/18
40	Government Review	30 days	Wed 4/4/18	Thu 5/3/18
41	Response to Comments	10 days	Thu 5/3/18	Sun 5/13/18
42	Government Backcheck Review	15 days	Sun 5/13/18	Sun 5/27/18
43	Final Posters	5 days	Sun 5/27/18	Fri 6/1/18
44	Poster Session	1 day	Wed 6/6/18	Thu 6/7/18
45	**Mobilization of Construction Equipment and Facilities**	**21 days**	**Mon 6/18/18**	**Sun 7/8/18**
46	**Pre-Mobilization Survey**	**21 days**	**Mon 6/18/18**	**Sun 7/8/18**
47	**Conditions Survey**	**16 days**	**Mon 6/18/18**	**Wed 7/4/18**
48	Conditions Survey	1 day	Mon 6/18/18	Tue 6/19/18
49	**Conditions Suvey Report**	**15 days**	**Tue 6/19/18**	**Wed 7/4/18**
50	Draft Conditions Survey Report	5 days	Tue 6/19/18	Sun 6/24/18
51	Government Review	15 days	Tue 6/19/18	Wed 7/4/18
52	Final Conditions Survey Report	5 days	Tue 6/19/18	Sun 6/24/18
53	Topographic Survey	1 day	Mon 6/18/18	Tue 6/19/18
54	Utility Survey	1 day	Mon 6/18/18	Tue 6/19/18
55	Pre-Characterization Sampling and Waste Characterization Profiling	21 days	Mon 6/18/18	Sun 7/8/18
56	**Site Work**	**79 days**	**Thu 7/5/18**	**Wed 9/19/18**
57	Pre-Construction Meeting	1 day	Thu 7/5/18	Fri 7/6/18
58	Mobilize Construction Equipment and Labor	1 day	Thu 7/5/18	Fri 7/6/18
59	Setup/Construct Temporary Facilities	1 day	Fri 7/6/18	Sat 7/7/18
60	Installation of BMPs	1 day	Fri 7/6/18	Sat 7/7/18
61	Clearing and Grubbing	7 days	Sat 7/7/18	Fri 7/13/18
62	**Excavation and Onsite Management of Soil**	**21 days**	**Sat 7/14/18**	**Fri 8/3/18**
63	Excavate, Segregate and Manage Co-mingled Debris	21 days	Sat 7/14/18	Fri 8/3/18
64	Excavate, Segregate and Manage Contaminated Soil	21 days	Sat 7/14/18	Fri 8/3/18
65	Transportation and Disposal of Contaminated Soil	21 days	Fri 7/20/18	Thu 8/9/18
66	Post-Excavation Confirmation Sampling and Analysis	25 days	Fri 7/20/18	Mon 8/13/18
67	**Restoration**	**35 days**	**Fri 7/20/18**	**Thu 8/23/18**
68	Import of Offsite Fill/Top Soil	14 days	Fri 7/20/18	Fri 8/3/18
69	Grading and Compaction	14 days	Fri 8/3/18	Thu 8/16/18
70	Revegetation	7 days	Thu 8/16/18	Thu 8/23/18
71	**Demobilization**	**28 days**	**Thu 8/23/18**	**Wed 9/19/18**
72	Demobilization of Equipment and Facilities	2 days	Thu 8/23/18	Sat 8/25/18
73	**Post-Demobilization Survey**	**26 days**	**Sat 8/25/18**	**Wed 9/19/18**
74	**Conditions Survey Report**	**26 days**	**Sat 8/25/18**	**Wed 9/19/18**
75	Conditions Survey	1 day	Sat 8/25/18	Sun 8/26/18
76	Draft Post-Construction Conditions Survey Report	5 days	Sun 8/26/18	Fri 8/31/18

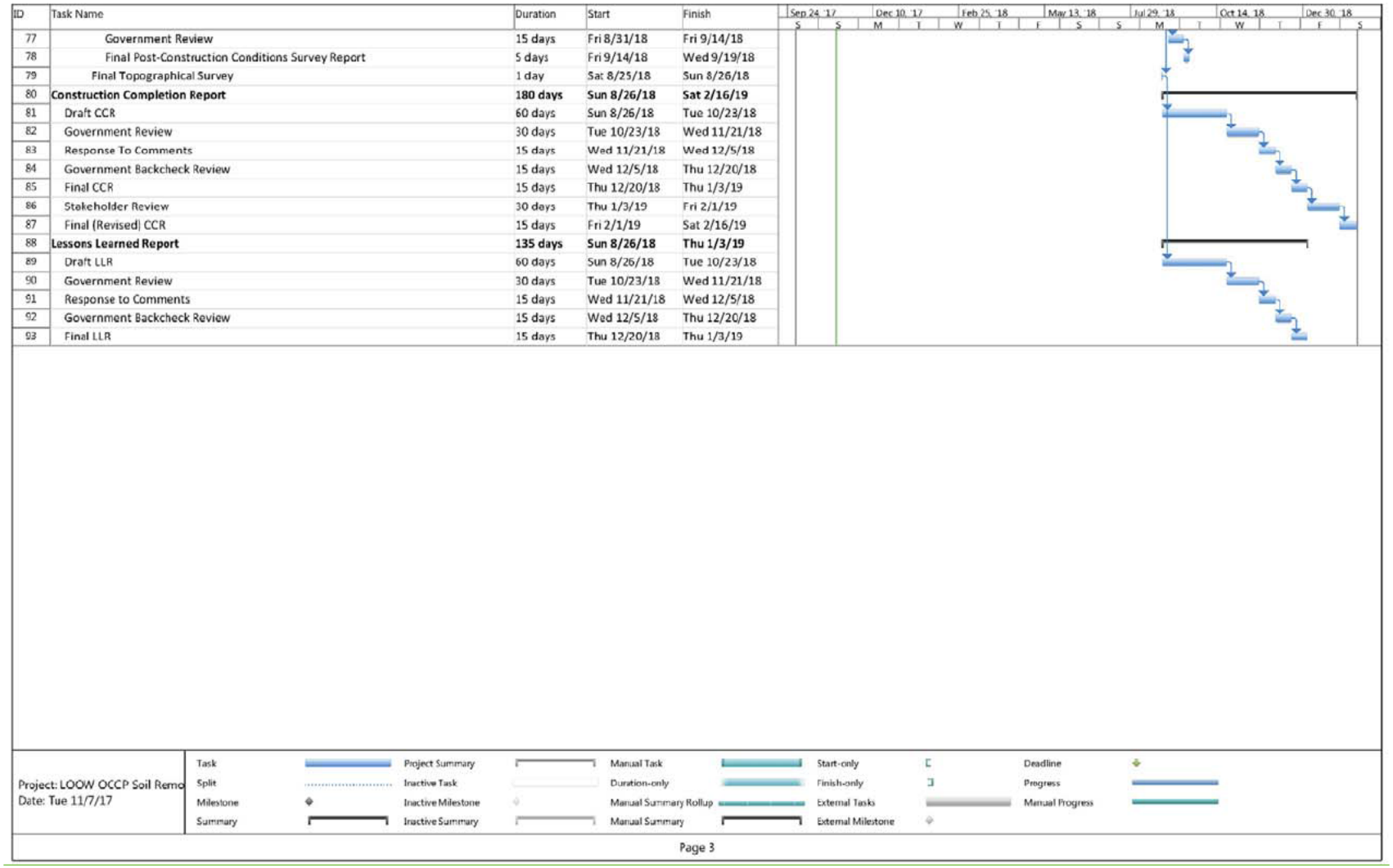


Project: LOOW OCCP Soil Remo
Date: Tue 11/7/17

Task	Project Summary	Manual Task	Start-only	Deadline			
Split	Inactive Task	Duration-only	Finish-only	Progress			
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress			
Summary	Inactive Summary	Manual Summary	External Milestone				

Page 2

Exhibit 3. Initial Project Schedule continued



ID	Task Name	Duration	Start	Finish
77	Government Review	15 days	Fri 8/31/18	Fri 9/14/18
78	Final Post-Construction Conditions Survey Report	5 days	Fri 9/14/18	Wed 9/19/18
79	Final Topographical Survey	1 day	Sat 8/25/18	Sun 8/26/18
80	**Construction Completion Report**	**180 days**	**Sun 8/26/18**	**Sat 2/16/19**
81	Draft CCR	60 days	Sun 8/26/18	Tue 10/23/18
82	Government Review	30 days	Tue 10/23/18	Wed 11/21/18
83	Response To Comments	15 days	Wed 11/21/18	Wed 12/5/18
84	Government Backcheck Review	15 days	Wed 12/5/18	Thu 12/20/18
85	Final CCR	15 days	Thu 12/20/18	Thu 1/3/19
86	Stakeholder Review	30 days	Thu 1/3/19	Fri 2/1/19
87	Final (Revised) CCR	15 days	Fri 2/1/19	Sat 2/16/19
88	**Lessons Learned Report**	**135 days**	**Sun 8/26/18**	**Thu 1/3/19**
89	Draft LLR	60 days	Sun 8/26/18	Tue 10/23/18
90	Government Review	30 days	Tue 10/23/18	Wed 11/21/18
91	Response to Comments	15 days	Wed 11/21/18	Wed 12/5/18
92	Government Backcheck Review	15 days	Wed 12/5/18	Thu 12/20/18
93	Final LLR	15 days	Thu 12/20/18	Thu 1/3/19

Exhibit 3. Initial Project Schedule continued

This Page Intentionally Left Blank

4.0 THREE PHASE QUALITY CONTROL SYSTEM

The QC staff will implement the three-phase control system for the specified work. This CQCP establishes the systems for controlling materials and activities affecting the quality of the project, and for verifying compliance with the specified project requirements. Various methods will be employed to successfully achieve the goals of the CQCP, including:

- Project planning
- Inspections and testing,
- Design control,
- Documentation controls,
- Non-conforming conditions/deficiency corrective actions,
- Completion inspections,
- Subcontractor controls,
- Audits and surveillances, and
- Use of Standard Operating Procedures

4.1 Inspections

Inspections will be performed for definable activities as stated in Section 11 of this CQCP. Preparatory, initial, and follow-up inspections will be scheduled and performed for each definable activity by the QC System Manager, or designee. The frequency of inspections will be finalized prior to the initiation of the activity and agreed upon by the USACE COR. A Preparatory and Initial Inspections record will be maintained. A project final inspection will be formally scheduled and completed with the USACE COR. Each type of anticipated inspection is presented in the following sections.

4.2 Preparatory Phase Inspections

Preparatory inspections will be performed prior to the execution of definable features of work. Where more than one definable features of work are included in an activity, one preparatory meeting may cover the separate definable features of work. Preparatory inspections will be attended at a minimum by the Site Superintendent, SSHO, QC lead and the USACE COR. All parties will be provided a minimum of 48 hours in advance of the preparatory meeting to facilitate participation and reduce potential project delays. The preparatory inspection will include:

- Review of contract specifications
- Review of project planning documents; ensuring that the preliminary planning has been completed to begin the definable feature of work and that the plans conform to the contract specifications
- Review of materials and equipment; ensuring that the required materials and equipment necessary are on hand and suitable for successfully and safely completing the definable feature of work

- Review of required inspections
- Review procedures for performing the definable feature of work; and
- Reviewing appropriate safety elements including the Activity Hazard Analysis (AHA's)

Personnel performing the definable feature(s) of work will review the appropriate approved operating procedures to successfully meet the contract requirements. Preparatory inspection meeting minutes will be prepared and provided as part of the Daily Activities Report and Contractor Quality Control Report (CQCR), and submitted to the USACE COR.

4.3 Initial Phase Inspection

An initial inspection will be performed at the start of each definable feature of work, and include a complete and thorough inspection. The inspections will be performed as soon as the definable feature of work has been initiated. Initial inspections will be conducted to evaluate the following:

- Review of preparatory meeting minutes,
- Verification of preliminary work,
- Compliance with specification and contract requirements,
- Compliance with the SSHP and AHA's
- Acceptable levels of workmanship, and
- Resolution of any differences

Initial inspections may include participation by the USACE COR, appropriate subcontractors, the SSHO and QC representative. The USACE COR will be notified at least 24 hours in advance of the initial inspection. Initial inspection meeting minutes will be prepared by the QC representative and provided in the Daily CQCR.

4.4 Follow-Up Phase Inspections

Follow-up inspections will be performed on a daily-basis, unless otherwise agreed upon by the USACE COR and ERT personnel. The purpose of the follow-up inspection is to ensure continued adherence to the contract specifications and quality requirements. Frequency of follow-up inspections will be dependent upon the duration of each definable feature of work. Non-conforming conditions will be corrected in a timely manner and documented as presented in Section 10. Non-conforming conditions will be re-inspected and approved prior to performing subsequent features of work that may be affected by the non-conformance. Follow up inspections will be documents on the Daily CQCR as previously presented.

If the USACE COR does not consider that a definable feature of work has been completed in accordance with the contract specifications, USACE will provide in writing the non-conformance and rationale of the USACE COR's consideration.

4.5 Final Inspection

The project final inspection may be formally schedule by the USACE COR. At the completion of all work activities, the final inspection will be performed to verify compliance with the project specifications. During the final inspection, a "punch list" of items not conforming to the special

requirements, including incomplete items, will be developed. Upon completion of the punch list items, a follow-up inspection will be performed with the USACE COR.

This Page Intentionally Left Blank

5.0 SAMPLING AND ANALYSIS REQUIREMENTS

The purpose of sampling and analysis is to obtain a quantitative objective measure of conformance. ERT will detail the frequency of sampling, media to be sampled, analyses to be performed, and data quality objectives to be achieved in the UFP-QAPP/SAP. Laboratory sample analysis will be conducted by TA-St. Louis, located at 13715 Rider Trail N. Earth City, MO 63045. ERT's Project Chemist will ensures DQOs and responsibilities, sampling and analysis requirements, data documentation and validation requirements, and reporting requirements are attained. ERT's Data Manager will coordinate and oversee laboratory subcontractors and deliverables and to communicate issues and concerns to ERT PM.

Sampling and analysis will be performed to:

- Characterize containerized surface water for disposal
- Characterize soil for disposal
- Confirm achievement of the remedial goal

This Page Intentionally Left Blank

6.0 IDENTIFICATION OF QUALITY INDICATORS

The following parameters will be used to measure the overall quality of the project:

- Project Budget – Monthly status reports will summarize work performed to date and project funds expended expressed in terms of percent complete. Total project costs will not exceed the total fixed price unless USACE authorizes a change order.

- Costs – Budget analysis will be performed to determine the financial efficiency with which the project is operating. Percent completion of tasks will be utilized to approximate these values when necessary.

- Project Schedule – Work performed will be compared to the project schedule to assess whether the project is being completed in a timely manner.

- Technical Quality – Overall technical quality will be assessed according to the project SOW, and will be based on review comments from USACE for project planning documents and reports, as well as assessment of attainment of project objectives, including qualitative and quantitative sampling and analysis quality objectives.

- Responsiveness – As part of ERT's commitment to client services, the ERT PM will be available as a central POC to respond to communication from USACE. In the event the ERT PM is unavailable, the ERT Program Manager will be available to address USACE concerns.

This Page Intentionally Left Blank

7.0 PROJECT PROCESS QUALITY CONTROL

7.1 Inspection of Excavated Areas

Upon completion of an excavation area (e.g. Sampling Unit [SU]), the Quality Control System Manager will inspect the excavation for any sign of contamination or debris, and then assign the sampling team to collect requisite confirmation samples for laboratory analysis. Upon receipt of the analytical data, the Quality Control System Manager will be satisfied that the work has met the performance criteria standards and designate the excavation area for restoration.

7.2 Inspection of Segregated Material

Periodically during the segregation process, the Quality Control System Manager, or designee, will inspect each waste stream to ensure that items are being properly categorized and disposed/recycled. Results of the audits will be available for review.

7.3 Excavation Survey

Pre- and Post-excavation surveys will be performed by a New York State licensed surveyor. The following is a list of QC measure for the survey:

- Review report and logging systems
- Examine survey control and survey technique
- Compare pre-plot and post-plot survey data for positioning errors
- Inspect, test and calibrate recording instrumentation
- Review field records

7.4 Sampling

Sampling provides the quantitative data required to properly characterize the waste leaving the site and to confirm that the remedial action has achieved the objectives. The UFP-QAPP/SAP will include all applicable quality assurance requirements for the project; including frequency of sampling, sampling methods, analysis methods, laboratory standard operating procedures, verification procedures, and validation procedures. Sampling events will be captured in the CQCRs, and resulting analytical data maintained in the project files.

7.4.1 Equipment Calibration

Measurement equipment used onsite (e.g. photoionization detector) will be checked for operational ability and calibration in accordance with manufacture's specifications.

7.4.2 Documentation of Calibration Testing

Results of calibration and maintenance will be recorded promptly by the individual performing the activity. Documentation will be maintained in the project files.

7.4.3 Maintenance Program

All tools, instruments and equipment used during the duration of the project will be properly maintained in accordance with standard industry procedures and manufacture's specifications. Equipment will be protected from weather elements and contamination, and visually checked for damage prior to use. Preventative maintenance will be performed on a regular basis, and critical parts will be kept onsite to minimize any potential downtime.

8.0 PROVISIONS FOR PROJECT REVIEW

8.1 Analytical Data

ERT will subcontract TA analytical laboratory services and HSW data validation services. After receiving data packages from TA, ERT will catalogue the data in Automated Data Review/Environmental Data Management System compatible format for electronic submittal and data verification. The laboratory data will be 100 percent verified in accordance with the procedures prescribed in U.S. Environmental Protection Agency guidance. Findings will be issued in a data verification report. The draft verification report will be reviewed by USACE, and any issues/comments resolved prior to being issued as final. The proposed report format will need to be pre-approved by USACE as well.

8.2 Senior Technical Review

A formal STR of individual documents will be provided by one senior technical reviewer. STRs are conducted by staff members who have expertise in the contract/project subject area. STRs will be performed on the completed document and comments will be positioned in the margins of either the hard copy or electronic copy report. These comments will be forwarded to and discussed with the PM who will administer the implementation of any necessary changes. A revised version of the deliverable will be re-reviewed by the senior technical reviewer to ensure the comments have been addressed. For this project, [redacted], PMP, has been assigned as the senior technical reviewer. The following project documents will be submitted for STR:

- CQCP
- Site Operations Plan
- UFP-QAPP/SAP
- CCR
- LLR

8.3 Independent Technical Review

Mr. Thomas Bachovchin, PG, will lead the ITR. The reviewer will provide written comments on the consistency, applicability, and defensibility of technical approach, methods, calculations, technical concepts, assumptions, analyses, and significant conclusions. All the records of the ITR will be available to USACE upon request. After ITR comments are addressed, the lead reviewer will certify completion of the ITR. The following project documents will be submitted for ITR:

- CQCP
- Site Operations Plan
- UFP-QAPP
- CCR
- LLR

The selected ITR reviewer will not directly participate in project activities to ensure that their reviews are unbiased. The typical ITR process for each deliverable will include the following steps:

- The ITR starts when the PM transmits the document and review schedule to the reviewer.
- The reviewer will conduct the review and document any errors, omissions, and/or technical inaccuracies discovered during the ITR.
- After receiving the written comments from the reviewer, the PM reviews the comments and discusses with the applicable technical staff to address each of the comments. The project team will consult with the reviewer as needed.
- The project team, under direction of the PM, revises the document by incorporating the comment resolutions into the document and returns to the reviewer.
- The ITR leader then ensures that all ITR comments have been addressed.
- This review process will continue until all issues are resolved.
- Subsequently, the ITR leader will certify that the review has taken place by signing and dating a certification of ITR completion (which will be presented within the text of the approval pages at the front of each reviewed document).

8.4 CELRB Reviews

Deliverable submittals will consist of Draft, Revised Draft, Final, and Revised Final versions for the Project Schedule, CQCP, Site Operations Plan, UFP-QAPP/SAP, and CCR. All USACE review comments and ERT responses will be transmitted via the ProjNet (DRChecks) system. ERT will submit Draft deliverables to the USACE for review. Upon receipt of comments, ERT will prepare and distribute responses to comments (RTCs) and submit Revised Draft deliverables to the USACE for review. Upon approval of Revised Draft, ERT will then submit Final deliverables for USACE, NYSDEC, NYSDOH, and Occidental Chemical Corporation (OCC) review. Upon receipt of comments on Final deliverables, ERT will prepare and distribute RTCs and submit Revised Final deliverables to the USACE and the appropriate project stakeholders. The APP/SSHP and LLR will consist of Draft, Revised Draft, and Final versions only and will not include stakeholder review. Project deliverables will be submitted to all appropriate stakeholders identified in **Table 4.**

Table 4. Distribution of Deliverables									
Recipient	**Medium**	**Project Plans**				**Project Reports**			
		Project Schedule, CQCP, Site Operations Plan, UFP-QAPP/SAP, and APP/SSHP*				**LLR* and CCR**			
		Draft	**Revised Draft**	**Final**	**Revised Final**	**Draft**	**Revised Draft**	**Final**	**Revised Final**
CELRB	Hardcopy	-	-	1	1	-	-	1	1
	PDF	1	1	1	1	1	1	1	1
NYSDEC	PDF	-	-	1	1	-	-	1	1
NYSDOH	PDF	-	-	1	1	-	-	1	1
OCC	PDF	-	-	1	1	-	-	1	1
Legend:									
** - The APP/SSHP and LLR will only be developed in Draft, Revised Draft, and Final formats as indicated in the SOW, and provided only to USACE.*									

8.5 Project Reporting

8.5.1 Contractor Quality Control Reports

CQCRs will be generated within the Resident Management System (RMS) version 3.0. CQCRs will be completed on a weekly basis during non-site work phases and daily during the site work phase of the project. The CQCRs are produced within 24-hours at the end of the reporting period. The reports are used to document the QC data including a QC narrative, and QA/QC deficiencies, inspections conducted, activities started/finished, contractors and equipment onsite and hours logged, and accidents reported.

8.5.2 Progress Meetings

To maintain effective communication and project management throughout this DO, ERT and USACE will conduct routine progress meetings via teleconference. Progress meetings will be held with frequency commensurate with the phase of work being conducted. During the work plan preparation phase of the project meetings will be held monthly, weekly during site work, and monthly following demobilization from the site. Topics to be discussed during the progress meetings including the project schedule, budget, accomplishments, milestones, problems encountered, and communications.

8.5.3 Monthly Schedule Status Reports

Monthly project status reports that provide the status for the previous month's activities will be submitted to the USACE. The status reports will include the following information, as appropriate:

- Milestones achieved (including deliverables submitted);
- Identify project issues or risks;
- Upcoming activities/milestones;

- Identify if any key meetings were held;
- Identify field exposure hours (summarized by month and total project);
- Health and safety performance;
- Changes in key personnel;
- Storage/transportation/disposal of Investigative Derived Waste;
- Summarize any green and sustainable investigation practices, as appropriate, implemented as part of the project; and,
- Percent complete and amount invoiced.

USACE will communicate with ERT following receipt of each monthly status report to formally review the quantity and quality of services, inspect work for compliance with the CQCP, and accept or reject deliverables completed since the previous review. ERT will be available as required for any program and project issues that require attention.

CELRB's review of the subject documents will follow CELRB's SOW.

9.0 COST TRACKING AND CONTROL

ERT uses the Deltek accounting system to track project expenditures and labor hours. The software tracks labor, subcontractor, vendor supplies, and other direct cost expenditures by task and by project. The system provides the necessary information to the project manager to monitor remaining budget per task to evaluate costs to complete. Project-specific costs will be controlled by timely monitoring various activities of the project.

- Monthly status reports will be prepared and submitted no later than the 15th of each month to summarize work performed to date and project funds expended expressed in terms of percent complete. The monthly status report will also identify field exposure hours (summarized by month and total project). Total project costs will not exceed the total fixed price unless USACE authorizes a change order.

- Budget analysis will be performed to determine the financial efficiency with which the project is operating. Percent completion of tasks will be utilized to approximate these values when necessary.

- Developing a specific statement of work for each subcontract detailing the type of work proposed, project requirements and objectives, quantities, schedule, methods to be employed, safety requirements, and required certifications and licenses.

- Negotiating with subcontractors and vendors to reduce costs, where possible.

- Communicating with members of the project delivery team and subcontractors to express the technical and budgetary expectations as well as the timeframe for completion of each task and subtask.

- Timely communication with the USACE PM and USACE COR for resolution of requests that appear to be out of the currently budgeted SOW.

This Page Intentionally Left Blank

10.0 PROJECT RISKS

Potential risks are associated with each task included in the DO. These risks are uncertainties, liabilities, or vulnerabilities that may cause deviations from the defined plans. Risk will be managed by open and frequent communication between ERT and the USACE PM and USACE COR. USACE will be notified in advance in the event of potential impacts to achieving the project objectives, including but not limited to uncertain interpretation of a project task scope, project conditions presenting potential impacts to costs or schedules, or changes in key personnel. **Table 5** lists an initial list of potential critical risks that may result in the possibility of not meeting project objectives during work plan development, field activities, reporting, and the mitigation measures to reduce these risks. Potential critical risks will be reviewed regularly during the execution of project tasks.

Table 5. Potential Critical Risks Associated with Project Delivery

Work Element	Critical Risk	Risk Mitigation
Planning document development	▪ Incorrect soil removal procedures ▪ Incorrect environmental sampling procedures ▪ Unable to gain stakeholder concurrence/Delay in stakeholder reviews	▪ Establish experienced, multi-disciplinary team to design project plans ▪ Provide and follow framework of internal and regulatory review of planning documents ▪ Obtain agreement on responses to comments on draft documents ▪ Engage stakeholders in project planning process when questions arise that are applicable to each party
Fieldwork during soil removal actions	▪ Incorrect procedures for removal of soil ▪ Sedimentation and erosion associated with construction activities ▪ Change in site conditions ▪ Equipment failure ▪ Weather	▪ Task experienced field team leader with oversight of soil removal and sample collection process and procedures ▪ Ensure adherence to the site-specific work plans (Soils RA work plans and APP/SSHP) ▪ Maintain sedimentation and erosion control procedures during the soil removal activities ▪ Task experienced field team leader to continuously review and evaluate site for changing conditions. If a changing site condition are identified, the project team will be notified of the condition and an evaluation of the effect on the project success will be performed. ▪ Keep critical parts onsite. Contract local, reliable equipment supply and repair contractor. ▪ Schedule work for periods when the area has historically been dry. Review long-term weather forecast prior to mobilization and have built-in schedule relief for potential delays

Reporting	▪ Insufficient data collected to achieve state and federal standards ▪ Unable to gain stakeholder concurrence/Delay in stakeholder reviews	▪ Ensure removal documentation will meet data quality objectives ▪ Keep option available for additional data collection activities ▪ Engage stakeholders in project planning process to establish acceptable reporting and project closeout requirements.

It is possible that additional risks arise during execution of the DO. The following steps will be followed if a new risk is identified:

- Clarify the risk – Risks can arise in a variety of ways. Any project team member can identify and document risks that may have an adverse impact on successful completion of this project.

- Prioritize the risk – Risk priority is based on both the probability of occurrence and significance of impact on the project if the risk materializes. The significance of impact and the probability of occurrence are combined to determine the appropriate overall rating of the risk, which is categorized as minor, significant, and critical.

- Assign the risk to a person or team – Based on the risk rating, a responsible person or team will be assigned to analyze the risk and develop a mitigation strategy and mitigation plan when appropriate.

- Obtain acceptance from USACE COR – If the risk is critical and not deemed resolvable at the project team level, the risk and proposed solutions will be sent to the USACE COR for approval prior to implementing the mitigation.

- Mitigate the risk and document the final decision – Activities related to risk identification, mitigation, and final decision will be documented. Documented risks, if any, will be summarized in the monthly project status reports.

11.0 DEFINABLE FEATURES OF WORK

Each task or group of similar tasks are subdivided into separate and distinct subtasks. The definable features of wok for this project have been identified as:

- Project Planning Documents
- Mobilization and Site Preparation
- Vegetation Clearance
- Waste Characterization and Confirmation Sampling
- Excavation and Segregation of Material
- Transportation and Disposal of Excavated Material
- Restoration and Revegetation
- Post-Construction Reporting; Construction Completion Report and Lessons Learned Report

This Page Intentionally Left Blank

12.0 QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

ERT utilizes an established Corporate Quality Control Program on all contracts and projects. This includes the designation of a STR and ITR that report directly to the Program Manager. For this project, [redacted], PMP, has been designated at the ITR and [redacted], PG, has been designated as the STR.

12.1 Phase I - Quality Assurance/Quality Control Planning Procedures

Initial QA/QC Planning. The PM is responsible for ensuring a complete review of the initial quality requirements presented in each task order and any associated project documents to identify and plan for completion of a successful project that has been documented correctly and thoroughly. Initial QC planning includes:

- Identification of a designated peer reviewer
- Establishment of quality-related planning schedules for development of technical documentation
- Assessment of specific impact on manpower, equipment, software and hardware
- Establishment of a corrective action process to ensure deficiencies are promptly resolved

Project Coordination and Task Review. The Program Manager will provide the following levels of project coordination and review, as a minimum, to ensure the delivery of a quality product consistent with QC requirements:

- Initial Task Review - The Program Manager will confer with the client representative when new work (i.e., new task order, modification to existing task order) is requested and verify that there is a mutual understanding of the requirements.
- Development of Proposal/Estimate – The Program Manager will review each proposal/estimate, usually developed by the PM, to ensure that budgeting, scheduling, and staffing will meet the needs of the project, including necessary budgeting and scheduling for the required QC procedures.
- In-progress Task Reviews - The Program Manager will confer with staff members on a regular basis to review progress and quality of the work. The frequency of in-progress reviews will be based on the projected complexity of the project.

12.2 Phase II - Independent Technical Review Process

The purpose of the ITR is to provide a detailed, technical review of each deliverable. ITR reviews are conducted by staff members who have expertise in the contract/project subject area, but have not significantly contributed to the project documentation or work products. A qualified peer reviewer will be dedicated in writing to each project deliverable, and will be identified by the PM, with approval of the Program Manager. Comments from the ITR will be addressed by the document author, and additional peer review of the updated document will be done to ensure all required changes have been made correctly.

12.3 Phase III – Senior Technical Review

The purpose of the STR is to review all elements addressed within the document, proposed or utilized technologies and alternatives and their applications with respect to project objectives and framework of USACE regulatory constraints under the current project, within which this work

has been completed. STR will be performed on the completed document and comments will be positioned in the margins of either the hard copy or electronic copy report. These comments will be forwarded to and discussed with the PM who will administer the implementation of any necessary changes. A revised version of the deliverable will be re-reviewed by STR to ensure the comments have been addressed.

12.4 Phase IV - Final QC Review and Approval for Release

The PM will perform initial review of documents while the deliverable is still in the working stages. Each deliverable will be reviewed by the PM to ensure:

- Adherence to the PWS
- Activities proposed within deliverable meet the overall project technical objectives, budgetary constraints, and are within the established project limitations

Once all ITR and STR comments are addressed, the final document will be re-reviewed by the ERT PM and then submitted to the government.

13.0 REPORTING AND DOCUMENTATION

ERT will ensure that as applicable, all deliverables will undergo ITR, STR, and technical editing prior to delivery to USACE. The ERT PM coordinate reviews and adequate response to comments with the quality management team. Compliance with each requirement of the construction specifications will be documented. Other documentation will be dependent upon the work being performed.

13.1 Types of Documentation

Types of documentation anticipated for completion of the SOW will fall into the following main categories:

- Contract administration and invoicing;
- Project deliverables as outlined in the SOW – for example, project plans, reports, and associated formal comments and responses;
- Required certifications and licenses;
- Daily technical correspondence during field activities e-mails, memoranda, log books, etc.;
- Daily CQCRs will be prepared that include applicable site conditions, contractor/subcontractor personnel onsite, activities completed, items anticipated in the coming week, test and results, results of safety and/or quality audits, issues identified and resolutions;
- Soil removal volume table will be updated daily to include truck loads and weight of material removed from each SU
- Formal memoranda and/or meeting minutes;
- Check-off lists;
- Field notes and logs;
- Electronic files – for example, electronic drawings, photographic documentation;
- Laboratory data reports, electronic data deliverables, verification reports, and validation reports; and
- Nonconformance Report and Corrective Action Request

13.2 Maintenance of Project Documentation

ERT maintains project documentation for a minimum of 5 years after the project being inactive. The project folder will be established by ERT project number and include applicable subfolders for pertinent project related information such as management, project planning documents, field work, and post-construction reporting. Each subfolder will be further reduced to include additional folders for specific work activities. Documentation maintained in the project files will include:

- SOW and associated cost proposal and contract;

- Monthly status reports, invoices, and payment documentation;
- Final deliverables;
- Meeting minutes;
- Electronic design drawings;
- Field notes; and
- Laboratory data reports.

Draft files and documents, as well as informal daily correspondence, are not maintained in the final and official project files. Substantial correspondences with the USACE and stakeholders will be documented in a project notebook for inclusion in the project file.

14.0 TRACKING NONCONFORMANCE AND IMPLEMENTING CORRECTIVE ACTIONS

If necessary, during surveillance of field activities, procurement of services and supplies, or other operations that may affect the quality of work, corrective actions will be implemented. Any nonconformance with the established QA/QC procedures will be expeditiously identified and controlled. No additional work that is dependent on the nonconforming activity will be performed until the identified nonconformance is corrected.

The entire ERT project delivery team is responsible for the quality of the project and therefore corrective actions can be taken at all levels. Team members are responsible for documenting the actions and changes that take place throughout the implementation. Prior to implementing any corrective actions, the USACE COR will be made aware of the deficiency, will be provided the opportunity to review the proposed corrective action(s), and corrective action(s) will not be performed until approved by the USACE COR. Depending upon the nature of a problem, the corrective action implemented may be formal or informal. In either case, occurrence of the problem, the corrective action employed, the outcome of these actions, and verification that the problem has been eliminated must be documented.

14.1 Field Quality Control Surveillance

QC surveillance will be performed by the project Quality Control System Manager, or designee, by reviewing field documentation to help ensure that the field data are being collected accurately and correctly, and that the collection of field data and samples is consistent with the procedures developed for these activities. If a problem that can be isolated should arise, corrective actions will be considered and implemented as appropriate. Surveillance will include checks on adherence to all applicable procedures outlined in this CQCP, as well as the Site Operations Plan, UFP-QAPP/SAP, and/or APP/SSHP. The Quality Control System Manager, or designee, will prepare surveillance checklists or surveillance guides. The SHM will ensure adherence to the APP/SSHP. The depth and scopes of the surveillance will be determined and incorporated into the checklist or guidelines. The surveillance will cover, but will not be limited to, the following items:

- Adherence to soil and wastewater sampling procedures;
- Completeness and accuracy of collected data including sample chain-of-custody forms;
- Documentation of field activities;
- Equipment maintenance and calibration;
- Training requirements for site workers; and
- Documentation of variances from field activities and corrective actions.

Where a surveillance team is involved, the team lead will establish the ground rules for the surveillance and assign to various team members the specific areas each is to cover in the surveillance.

Representatives of the USACE may, at their discretion, perform an external QA surveillance during regular business hours to conduct an examination of records, equipment, procedures and other items as necessary. The above-referenced surveillance checklist/guide will be used to

ensure adequate depth, scope, and continuity. However, a broader surveillance may be conducted when evidence raises questions not specifically addressed in the checklist/guide. The surveillance activities will include the review of objective evidence to verify adequate implementation of the QA program. Each finding of nonconformance will be recorded. When a finding is identified, sufficient investigation will be conducted to determine the root cause of the nonconformance. Any finding that requires immediate corrective action will be reported to the ERT PM and recorded.

14.2 Field Corrective Actions

The designated field lead for a given activity is responsible for assuring that field equipment is functioning properly, that proper materials are utilized, and that samples are handled properly. Any situation adverse to quality will be properly investigated, documented in a nonconformance report, and reported to the ERT PM for appropriate corrective action. Whenever a piece of field equipment fails to operate properly, the instrument will either be repaired or replaced with an equivalent instrument. Field data measurements that are suspect (i.e., grossly extreme or significantly different from all the other readings) will be evaluated by project management and repeated if necessary. Data deemed unacceptable following the implementation of the required corrective action measures will not be accepted by the ERT PM, and follow-up corrective actions will be developed.

14.3 Corrective Actions Following Data Assessment

The project Quality Control System Manager, or designee, will review the field and laboratory data for this project to ensure that all QA/QC objectives are met. If any non-conformances are found in the field procedures, sample collection procedures, field documentation procedures, laboratory analytical and documentation procedures, and data assessment and validation procedures, the impact of those non-conformances on the overall project QA objectives will be assessed. Appropriate actions, including re-sampling, reanalysis, etc., may be recommended to the ERT PM so that the project objectives can be accomplished.

14.4 Deficiency Tracking System

ERT will track deficiencies in a log identifying project task, item number, date, inspection by, responsible, correction date, re-inspection result, and corrective action approval. The log will be maintained and available for review.

15.0 REFERENCES

U.S. Army Corps of Engineers, 2017. *Scope of Work, Soils Remedial Action, AOC 1 at Occidental Chemical Corporation Property, Former Lake Ontario Ordnance Works, Niagara County, New York*. July.

Intergovernmental Data Quality Task Force (IDQTF), 2005. *Uniform Federal Policy for Implementing Environmental Quality Systems – Evaluating, Assessing and Documenting Data Collection/Use and Technology Programs Part 1: UFP-QAPP Manual*. March

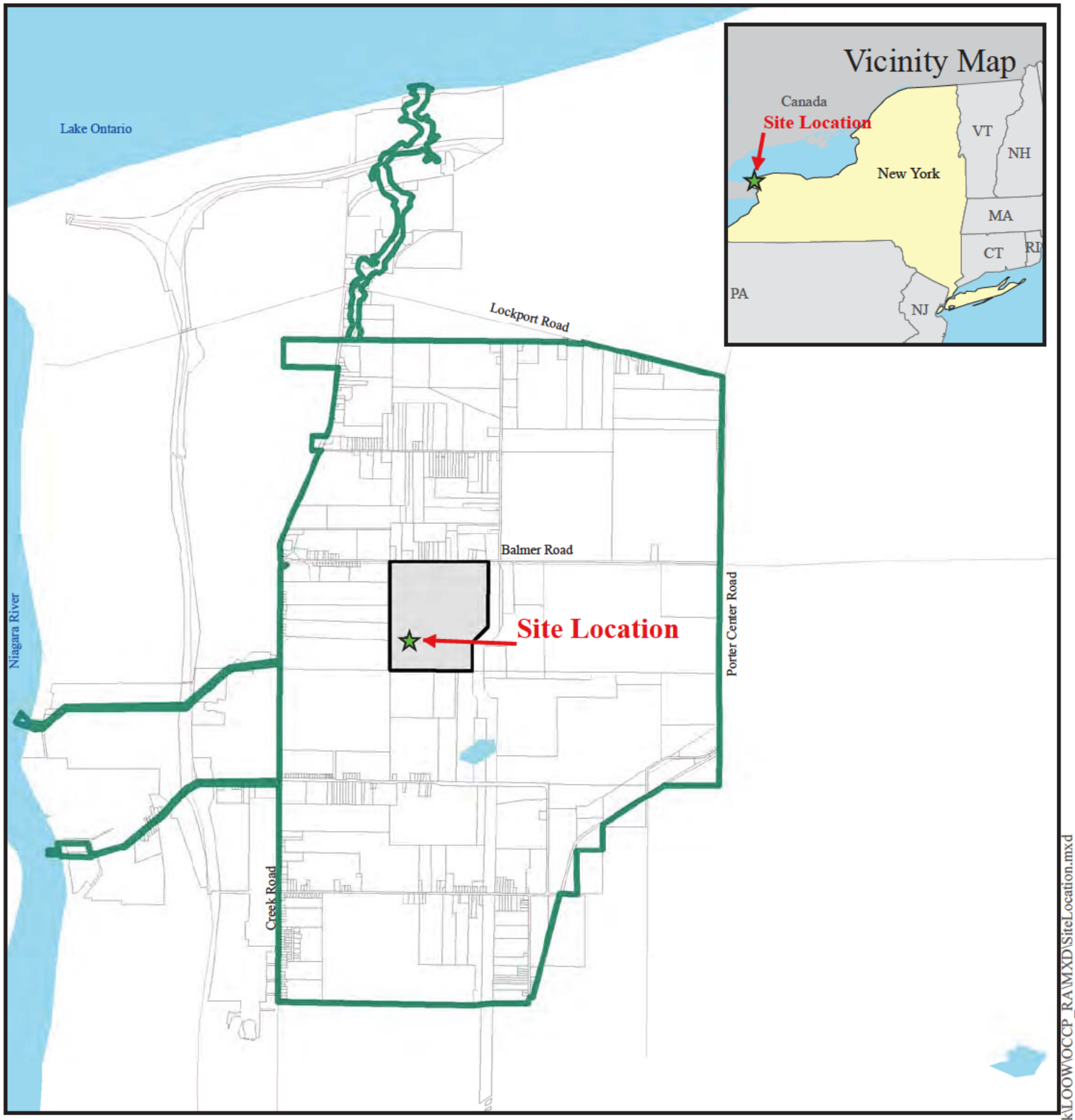
National Institute for Occupational Safety and Health, Occupational Safety and Health Administration (OSHA), United States Coast Guard, and United States Environmental Protection Agency, 1985. *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, Publication No. 85-118*. Prepared for: U.S. Department of Health and Human Services Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. November.

This Page Intentionally Left Blank

APPENDIX A

Figures

This Page Intentionally Left Blank



LEGEND

- SiteLocation
- Property Ownership Boundary Occidental Chemical Corporation
- Tax Parcel Boundaries
- Lakes/Rivers/Ponds
- Roads
- Former LOOW Boundary with Easements

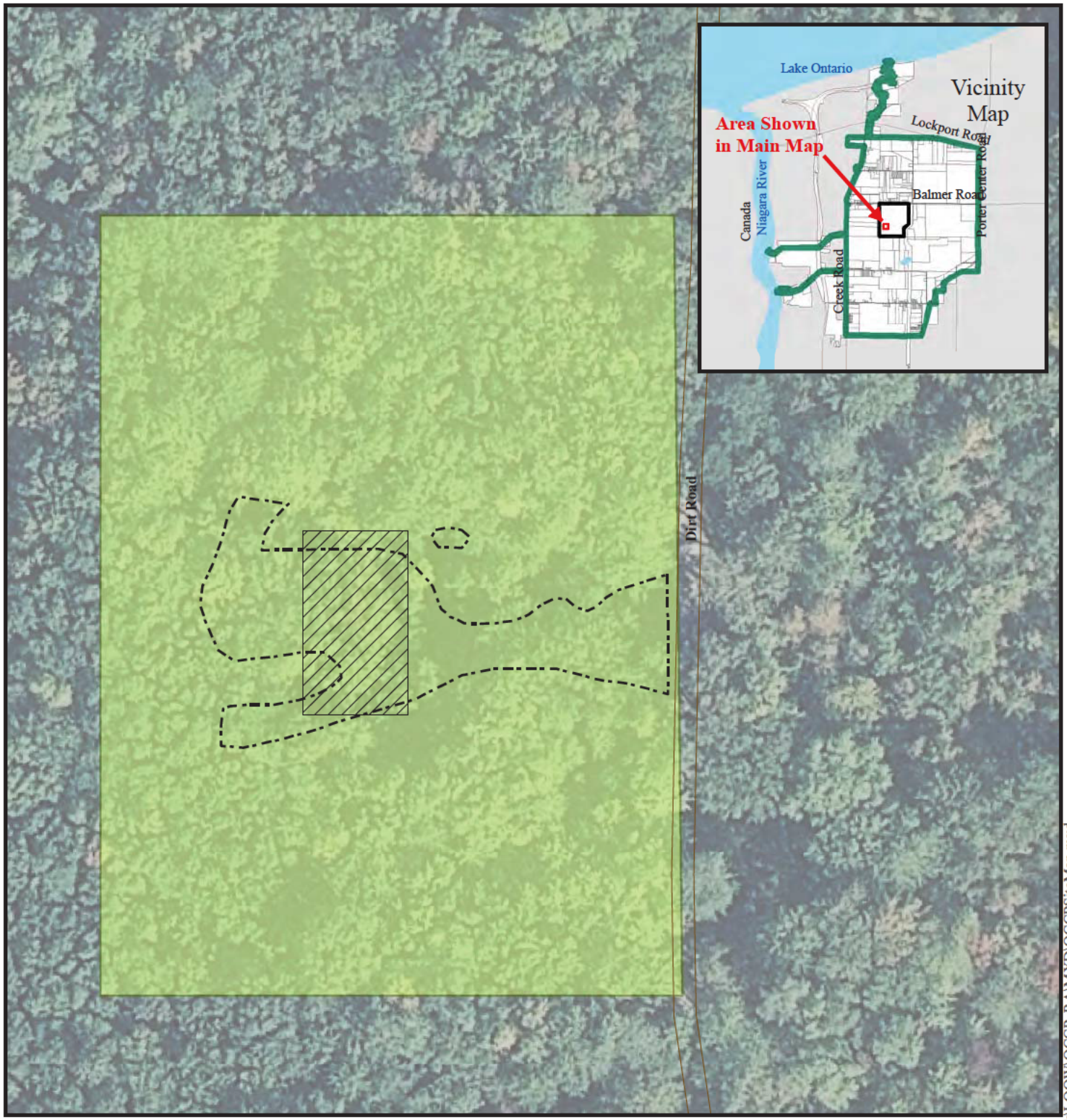
0 2,500 5,000
Feet

Figure 1
Occidental Chemical Corporation
Site Location

Path: N:\GIS\NortheastNewYork\LOOW\OCCP_RA\MXD\SiteLocation.mxd

LAKE ONTARIO ORDNANCE WORKS
OCCIDENTAL CHEMICAL CORPORATION PROPERTY
NIAGARA COUNTY, NEW YORK

US Army Corps of Engineers®



LEGEND

- Approximate TNT and Lead Impacted Area
- Approximate Area of Debris – Approximate Extent of Slightly Elevated Areas Within AOC 1 (TEC, 2002)
- Area of Concern 1 (AOC 1)
- Property Ownership Boundary Occidental Chemical Corporation
- Tax Parcel Boundaries
- Former LOOW Boundary with Easements
- Roads

0 37.5 75
Feet

Figure 2
Occidental Chemical Corporation Property Site Map

Path: N:\GIS\Northeast\NewYork\LOOW\OCCP_RA\MXD\OCCPSiteMap.mxd

LAKE ONTARIO ORDNANCE WORKS
OCCIDENTAL CHEMICAL CORPORATION PROPERTY
NIAGARA COUNTY, NEW YORK

US Army Corps of Engineers®

APPENDIX B

Resumes of Key Project Personnel

This Page Intentionally Left Blank

APPENDIX C

Letters of Assignment for Quality Control System Manager and Quality Control System Manager Appointee

This Page Intentionally Left Blank

ERT, Inc.
14401 Sweitzer Lane, Suite 300
Laurel, MD 20707
Phone: 301-361-0620 | Fax: 301-361-0659
www.ertcorp.com

November 13, 2017

Letter of Assignment
Quality Control System Manager

To whom it may concern:

[redacted], PMP has been delegated the responsibility of Quality Control Systems Manager for ERT, Inc. during the execution of Contract No. W912QR-12-D-0011, Delivery Order W912P417F0022, Soil Remedial Action, Area of Concern 1 at Occidental Chemical Corporation Property, Former Lake Ontario Ordnance Works, Niagara County, New York. As such, [redacted] is hereby authorized the responsibility of overall management of the Quality Control System and the authority to act in all quality control matters. In his role as Quality Control Systems Manager, [redacted] is responsible for the overseeing the development of all quality control and quality assurance documents, project and program implementation procedures, and subcontractor quality control. The Quality Control System Manager is to ensure implementation of the three-phase control system for definable features of work and certify that all submittals follow contract requirements. Quality Control System Manager responsibilities include ensuring any quality control issues encountered are properly identified, documented, and final verification of corrective action completion is carried out in accordance with ERT's Corrective Action Management System. ERT's Quality Control System Manager has the necessary authority to stop all project work whenever conditions adverse to quality are identified.

Sincerely,

[redacted]

Vice President, Environmental Division
ERT, Inc.

ERT, Inc.
14401 Sweitzer Lane, Suite 300
Laurel, MD 20707
Phone: 301-361-0620 | Fax: 301-361-0659
www.ertcorp.com

November 13, 2017

Letter of Assignment
Quality Control Systems Manager Appointee

To whom it may concern:

[redacted] has been delegated the responsibility of Quality Control Systems Manager Appointee for ERT, Inc. during the execution of Contract No. W912QR-12-D-0011, Delivery Order W912P417F0022, Soil Remedial Action, Area of Concern 1 at Occidental Chemical Corporation Property, Former Lake Ontario Ordnance Works, Niagara County, New York. As such, [redacted] is hereby authorized the responsibility of assisting in overall management of the Quality Control System and the authority to act in all quality control matters under the direction of the Quality Control Systems Manager. In his role as Quality Control Systems Manager Appointee, [redacted] is responsible for overseeing the development of all quality control and quality assurance documents, project and program implementation procedures, and subcontractor quality control. The Quality Control System Manager Appointee is to assist in the implementation of the three-phase control system for definable features of work and certify that all submittals follow contract requirements. Quality Control System Manager Appointee responsibilities include ensuring any quality control issues encountered are properly identified, documented, and corrective actions completed in accordance with ERT's Corrective Action Management System. ERT's Quality Control System Manager Appointee has the necessary authority to stop all project work whenever conditions adverse to quality are identified.

Sincerely,

[redacted]
Quality Control Systems Manager
ERT, Inc.

APPENDIX D
Quality Control Forms

This Page Intentionally Left Blank

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE

For use of this form, see ER 415-1-10; the proponent agency is CECW-CE.

DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (*This section will be initiated by the contractor*)

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____

SPECIFICATION SEC. NO. (*Cover only one section with each transmittal*)	PROJECT TITLE AND LOCATION	THIS TRANSMITTAL IS FOR: (*Check one*) ☐ FIO ☐ GA ☐ DA ☐ CR ☐ DA/CR ☐ DA/GA

ITEM NO. (*See Note 3*) a.	DESCRIPTION OF SUBMITTAL ITEM (*Type size, model number/etc.*) b.	SUBMITTAL TYPE CODE (*See Note 8*) c.	NO. OF COPIES d.	CONTRACT DOCUMENT REFERENCE		CONTRACTOR REVIEW CODE g.	VARIATION Enter "Y" if requesting a variation (*See Note 6*) h.	USACE ACTION CODE (*Note 9*) i.
				SPEC. PARA. NO. e.	DRAWING SHEET NO. f.			

REMARKS	I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.	
	NAME OF CONTRACTOR	SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (*List by item No.*)	NAME AND TITLE OF APPROVING AUTHORITY	SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each Transmittal shall be numbered consecutively. The Transmittal Number typically includes two parts separated by a dash (-). The first part is the specification section number. The second part is a sequential number for the submittals under that spec section. If the Transmittal is a resubmittal, then add a decimal point to the end of the original Transmittal Number and begin numbering the resubmittal packages sequentially after the decimal.

3. The "Item No." for each entry on this form will be the same "Item No." as indicated on ENG FORM 4288-R.

4. Submittals requiring expeditious handling will be submitted on a separate ENG Form 4025-R.

5. Items transmitted on each transmittal form will be from the same specification section. Do not combine submittal information from different specification sections in a single transmittal.

6. If the data submitted are intentionally in variance with the contract requirements, indicate a variation in column h, and enter a statement in the Remarks block describing he detailed reason for the variation.

7. ENG Form 4025-R is self-transmitting - a letter of transmittal is not required.

8. When submittal items are transmitted, indicate the "Submittal Type" (*SD-01 through SD-11*) in column c of Section I.
   Submittal types are the following:
   SD-01 - Preconstruction SD-02 - Shop Drawings SD-03 - Product Data SD-04 - Samples SD-05 - Design Data SD-06 - Test Reports
   SD-07 - Certificates SD-08 - Manufacturer's Instructions SD-09 - Manufacturer's Field Reports SD-10 - O&M Data SD-11 - Closeout

9. For each submittal item, the Contractor will assign Submittal Action Codes in column g of Section I. The U.S. Army Corps of Engineers approving authority will assign Submittal Action Codes in column i of Section I. The Submittal Action Codes are:

   A -- Approved as submitted.
   B -- Approved, except as noted on drawings. Resubmission not required.
   C -- Approved, except as noted on drawings. Refer to attached comments. Resubmission required.
   D -- Will be returned by separate correspondence.
   E -- Disapproved. Refer to attached comments.
   F -- Receipt acknowledged.
   X -- Receipt acknowledged, does not comply with contract requirements, as noted.
   G -- Other action required *(Specify)*
   K -- Government concurs with intermediate design. (*For D-B contracts*)
   R -- Design submittal is acceptable for release for construction. (*For D-B contracts*)

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract.

SUBMITTAL REGISTER

(ER 415 1-10)

TITLE AND LOCATION	CONTRACTOR	CONTRACT NO.
		SPECIFICATION SECTION

					TYPE OF SUBMITTAL										CLASSIFICATION			CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION			GOVERNMENT ACTION		
ACTIVITY NO.	TRANSMITTAL NO.	ITEM NO	SPECIFICATION PARAGRAPH NUMBER	DESCRIPTION OF ITEM SUBMITTED	DATA	DRAWINGS	INSTRUCTIONS	SCHEDULES	STATEMENTS	REPORTS	CERTIFICATES	SAMPLES	RECORDS	O & M MANUALS	INFORMATION ONLY	GOVERNMENT APPROVED	REVIEWER	SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	CODE	DATE	SUBMIT TO GOVERNMENT	CODE	DATE	REMARKS
a.	b.	c.	d.	c.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q	r.	s.	t.	u.	v.	w.	x.	y.	z.	aa.
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐						☐			

This Page Intentionally Left Blank

CONTRACTOR SUBMITTAL SCHEDULE

SUBMITTAL SCHEDULE

A Per Schedule
B Prior to Balance of Payment
M Prior to mobilization
S Prior to shipment
W Prior to commencing work
Y Prior to progress payment for each task
Z As required

SUBMITTAL TYPE

E Electronic
M Microfilm
O Original
P Print
Ph Photograph
S Sample
T Transparency

CLASSIFICATION

CR Government Conformance
DA Designer of Record Approval
FIO For Information Only
GA Government Approval
R Accepted for Construction

NOTICES

1. *For each item submitted, attach a copy of this form and circle the title of the item being submitted.*
2. *Failure to submit required submittals as identified on this form may result in withholding of payment in accordance with provisions of the contract.*
3. *The Contract Administrator is responsible for distributing submittals to the requesting Department (e.g., Construction). The Department is responsible for further distribution.*

Item No./Title	Paragraph	Type	Classification	ITR Required?	Schedule	No. & Type
1. Project Schedule Draft	FAR Clause 52.236-15 SOW 5.1.2.1 01 32 01 01 33 00	SD-01	GA	Yes	≤ 15 days after NTP	1(E)
Revised draft					≤ 15 days after USACE review	1(E)
Final					≤ 15 days after USACE review	1(P), 1(E)
2. Schedule Status Report	01 32 01	SD-06	FIO	No	Monthly	1(E)
3. Periodic schedule updates	01 32 01	SD-06	GA	Yes	Monthly	1 (P), 1(E)
4. Certificates of Insurance	01 33 00	SD-01	CR	No	W	1 (P), 1(E)
5. Surety bonds	01 33 00	SD-01	CR	No	W	1 (P), 1(E)
6. List of proposed subcontractors	01 33 00	SD-01	CR	No	W	1(E)
7. Submittal register	SOW 8.4 01 33 00	SD-01	CR	Yes	≤ 10 days after NTP & every 30 days thereafter	1(E)
8. Contractor Quality Control Plan Draft	SOW 5.1.2.2 01 33 00 01 35 45.00	SD-01	GA	Yes	A, M	1(E)

NOTICES

1. *For each item submitted, attach a copy of this form and circle the title of the item being submitted.*
2. *Failure to submit required submittals as identified on this form may result in withholding of payment in accordance with provisions of the contract.*
3. *The Contract Administrator is responsible for distributing submittals to the requesting Department (e.g., Construction). The Department is responsible for further distribution.*

Item No./Title	Paragraph	Type	Classification	ITR Required?	Schedule	No. & Type
Revised draft	01 45 00.00 01 45 00.10				≤ 15 days after USACE review	1(E)
Final					≤ 15 days after USACE review	1(E)
Revised final					≤ 15 days after stakeholder review	1(P), 1(E)
9. Accident Prevention Plan/Site Safety & Health Plan	SOW 5.1.2.4 01 35 26	SD-01	GA	Yes		
Draft					A, M	1(E)
Revised draft					≤ 15 days after USACE review	1(E)
Final					≤ 15 days after USACE review	1(P), 1(E)
10. Activity Hazard Analysis forms	01 35 26	SD-01	GA	Yes	M	1(P), 1(E)
11. Accident reports	01 35 26	SD-06	FIO	No	Z	1 (P), 1(E)
12. Monthly exposure reports	01 35 26	SD-06	FIO	No	Z	1 (P), 1(E)
13. License certificates	01 35 26	SD-07	FIO	No	M	1 (P), 1(E)
14. Work zone drawings	01 35 29	SD-02	GA	Yes	A	1(P), 1(E)
15. Decon facility drawings	01 35 29	SD-02	GA	Yes	A, M	1(P), 1(E)
16. Exposure monitoring results	01 35 29	SD-06	FIO	Yes	Z	1 (P), 1(E)
17. Site control log	01 35 29	SD-06	FIO	No	Z	1 (P), 1(E)
18. Daily inspection logs	01 35 29	SD-06	FIO	No	Z	1 (P), 1(E)
19. Employee certificates	01 35 29	SD-07	FIO	No	Z	1 (P), 1(E)

NOTICES

1. *For each item submitted, attach a copy of this form and circle the title of the item being submitted.*
2. *Failure to submit required submittals as identified on this form may result in withholding of payment in accordance with provisions of the contract.*
3. *The Contract Administrator is responsible for distributing submittals to the requesting Department (e.g., Construction). The Department is responsible for further distribution.*

Item No./Title	Paragraph	Type	Classification	ITR Required?	Schedule	No. & Type
20. UFP-QAPP/SAP	SOW 5.1.2.5	SD-01	GA	Yes		
Draft	01 35 45.00				A, M	1(E)
Revised draft	02 61 13				≤ 15 days after USACE review	1(E)
Final					≤ 15 days after USACE review	1(P), 1(E)
Revised final					≤ 15 days after stakeholder review	1(P), 1(E)
21. Site Operations Plan (SOP)	SOW 5.1.2.3	SD-01	GA	Yes		
Draft	01 35 45.00				A, M	1(E)
Revised draft	01 45 00.00				≤ 15 days after USACE review	1(E)
Final	01 50 00				≤ 15 days after USACE review	1(P), 1(E)
Revised final	02 61 13				≤ 15 days after stakeholder review	1(P), 1(E)
22. Laboratory analytical reports	SOW 8.3 App B – Lab Requirements & Data Deliverables 01 35 45.00 02 61 13 Attachment 4	SD-06	GA	Yes	Z	1(E)
23. Daily quality control reports	01 45 00.00 01 45 00.10 01 57 23	SD-06	FIO	No	Z	1 (P), 1(E)
24. Quality control system update	01 45 00.10	SD-01	FIO	No	Z	1(E)
25. Plan describing features requiring protection	01 57 20	SD-01	GA	Yes	A, M	1 (P), 1(E)

NOTICES

1. *For each item submitted, attach a copy of this form and circle the title of the item being submitted.*
2. *Failure to submit required submittals as identified on this form may result in withholding of payment in accordance with provisions of the contract.*
3. *The Contract Administrator is responsible for distributing submittals to the requesting Department (e.g., Construction). The Department is responsible for further distribution.*

Item No./Title	Paragraph	Type	Classification	ITR Required?	Schedule	No. & Type
26. Joint Condition Survey Report	01 57 20	SD-01	GA	Yes	A, M	1 (P), 1(E)
27. SWPPP (in SOP)	01 57 23	SD-01	GA	Yes	A, M	As per SOP
28. Storm Water inspection reports	01 57 23	SD-06	FIO	No	Z	1 (P), 1(E)
29. Erosion & Sediment Controls Form	01 57 23	SD-06	FIO	No	Z	1 (P), 1(E)
30. BMP inspection reports	01 57 23	SD-06	FIO	No	Z	1 (P), 1(E)
31. Monthly inspection report & certification form	01 57 23	SD-06	FIO	No	Z	1 (P), 1(E)
32. Mill certificate or affidavit	01 57 23	SD-07	FIO	No	Z	1 (P), 1(E)
33. Surveys	02 61 13	SD-02, SD-06	GA	Yes	A	1(P), 1(E)
34. Lessons Learned Report	02 61 13	SD-11	GA	Yes		
Draft					A	1(E)
Revised draft					≤ 15 days after USACE review	1(E)
Final					≤ 15 days after USACE review	1(P), 1(E)
35. Construction Completion Report	02 61 13	SD-11	GA	Yes		
Draft					A	1(E)
Revised draft					≤ 15 days after USACE review	1(E)
Final					≤ 15 days after USACE review	1(P), 1(E)

NOTICES

1. *For each item submitted, attach a copy of this form and circle the title of the item being submitted.*
2. *Failure to submit required submittals as identified on this form may result in withholding of payment in accordance with provisions of the contract.*
3. *The Contract Administrator is responsible for distributing submittals to the requesting Department (e.g., Construction). The Department is responsible for further distribution.*

Item No./Title	Paragraph	Type	Classification	ITR Required?	Schedule	No. & Type
Revised final					≤ 15 days after stakeholder review	1(P), 1(E)
36. Waste Management, Transportation, & Disposal Plan (in SOP)	02 81 00	SD-01	GA	Yes	A, M	As per SOP
37. Contamination Control Plan (in SOP)	02 81 00	SD-01	GA	Yes	A, M	As per SOP
38. Security Plan (in SOP)	02 81 00	SD-01	GA	Yes	A, M	As per SOP
39. Notices of non-compliance & violation	02 81 00	SD-03	FIO	No	Z	1 (P), 1(E)
40. Packaging notifications	02 81 00	SD-03	FIO	No	S, Z	1 (P), 1(E)
41. Record keeping	02 81 00	SD-06	GA	No	Z	1 (P), 1(E)
42. Waste profiles	02 81 00	SD-06	GA	No	S, Z	1 (P), 1(E)
43. Daily status tracking reports	02 81 00	SD-06	FIO	No	Z	1 (P), 1(E)
44. Spill response notifications	02 81 00	SD-06	FIO	No	Z	1 (P), 1(E)
45. Exception & discrepancy reports	02 81 00	SD-06	FIO	No	Z	1 (P), 1(E)
46. Waste shipping schedules	02 81 00	SD-06	FIO	No	S, Z	1 (P), 1(E)
47. Reporting forms (state & disposal facility)	02 81 00	SD-07	CR	No	S	1 (P), 1(E)
48. Acceptance letters (state & disposal facility)	02 81 00	SD-07	CR	No	M, S	1 (P), 1(E)

NOTICES

1. *For each item submitted, attach a copy of this form and circle the title of the item being submitted.*
2. *Failure to submit required submittals as identified on this form may result in withholding of payment in accordance with provisions of the contract.*
3. *The Contract Administrator is responsible for distributing submittals to the requesting Department (e.g., Construction). The Department is responsible for further distribution.*

Item No./Title	Paragraph	Type	Classification	ITR Required?	Schedule	No. & Type
49. Certification	02 81 00	SD-07	GA	No	S	1 (P), 1(E)
50. Waste Manager qualifications	02 81 00	SD-07	CR	No	M	1 (P), 1(E)
51. USEPA Off-site Policy	02 81 00	SD-07	CR	No	M	1 (P), 1(E)
52. Certificates of disposal & weight tickets	02 81 00	SD-07	GA	No	A	1 (P), 1(E)
53. Shipping documents & packaging certification	02 81 00	SD-07	GA	No	S, Z	1 (P), 1(E)
54. Waste minimization report	02 81 00	SD-07	GA	Yes	A	1 (P), 1(E)
55. Tree wound paint	31 11 00	SD-04	FIO	No	Z	1 (P), 1(E)