



**Leaaf  
Environmental  
LLC**

2301 Whitney Ave  
Gretna, LA 70056

(504) 342-2687 office  
(504) 342-2715 fax

[www.leaaf.com](http://www.leaaf.com)

# **Environmental Remediation Request for Proposal Specification**

## **Project**

**University of Louisiana at Lafayette  
New Iberia Research Center  
Former Shooting Range  
4401 West Admiral Doyle Dr.  
New Iberia, LA 70560**

**LDEQ Agency Interest No. 2716**

**Prepared by:  
Leaaf Environmental LLC**

**Prepared for:  
University of Louisiana at Lafayette  
Department of Facility Management  
104 University Ave.  
Lafayette, LA 70504**

**MAY 2025  
Leaaf # ULL-001**

## Table of Contents

|                                                                |   |
|----------------------------------------------------------------|---|
| DIVISION 0 – Front End Documents.....                          | 3 |
| 1.0 BIDDING AND CONTRACT INFORMATION.....                      | 4 |
| 1.1 INSTRUCTIONS TO BIDDERS .....                              | 4 |
| 1.1.1 OVERVIEW AND PURPOSE.....                                | 4 |
| 1.1.2 DEFINITIONS .....                                        | 4 |
| 1.1.3 NO GUARANTEE OF QUANTITIES .....                         | 5 |
| 1.2 INSURANCE REQUIREMENTS.....                                | 5 |
| 1.2.1 ADDITIONAL INSURED .....                                 | 5 |
| 1.2.2 ACCEPTABILITY OF INSURERS.....                           | 6 |
| 1.2.3 VERIFICATION OF COVERAGE.....                            | 6 |
| 2.0 PROCUREMENT REQUIREMENTS UNDER 2 CFR 200 .....             | 6 |
| 3.0 DAVIS-BACON ACT COMPLIANCE .....                           | 6 |
| 4.0 DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION..... | 7 |
| DIVISION 1 SPECIFICATIONS                                      |   |
| DIVISION 2 SPECIFICATIONS                                      |   |
| DIVISION 31 SPECIFICATIONS                                     |   |
| SIGNATURES                                                     |   |
| ATTACHMENTS                                                    |   |
| FIGURES                                                        |   |
| ENVIRONMENTAL REPORTS                                          |   |

## **DIVISION 0 – Supplemental Front End Documents**

## 1.0 BIDDING AND CONTRACT INFORMATION

**If anything in this section contradicts with ULL's front end documents, ULL's document language prevails.**

### 1.1 INSTRUCTIONS TO BIDDERS

#### 1.1.1 OVERVIEW AND PURPOSE

This project is partially funded through a federal Brownfields Revolving Loan Fund managed by the South Central Planning and Development Commission (SCPDC) and the U.S. Environmental Protection Agency (EPA). As such, the compliance standards listed herein apply.

The purpose of this Environmental Remediation Request for Proposal (ER-RFP) is to obtain competitive bids from bona fide, qualified contractors who are interested in providing services for environmental remediation services for the ULL NIRC project located at 4401 West Admiral Doyle Dr., New Iberia, Louisiana 70560, in accordance with ULL's bid documents, associated attachments and addendum.

#### 1.1.2 DEFINITIONS

Shall – The term “shall” denote mandatory requirements per R.S. 9:1556(21).

Must - The term “must” denote mandatory requirements.

May - The term “may” denote an advisory or permissible action.

Should – the term “should” denote desirable

ER-RFP – Environmental Remediation - Request for Proposal

The Contractor – The Selected Contractor that has a signed contract with ULL. The Contractor must be licensed by the State of Louisiana in the discipline identified in this RFP.

Client / Owner – University of Louisiana, Lafayette (ULL)

Client / Owner Environmental Consultant or Environmental Consultant – Ritter Consulting Engineers. Ritter will be responsible for the day-to-day oversight of the selected contractor, perform daily areas air monitoring, collect confirmation samples and develop a factual report to assist in the submittal required by South Central Planning and Development Commission (SCPDC) as part of funding a portion of this project through the South Louisiana Brownfields Coalition Revolving Loan Fund.

Leaaf Environmental, LLC (Leaaf): For the purposes of this project Leaaf has performed the role as

- (1) Environment consultant to the Louisiana Department of Environmental Quality's (LDEQ) Louisiana Targeted Brownfields Assessment (LTBA) Program and developed the



analysis of Brownfields Cleanup Alternatives (ABCA), Quality Assurance Project Plan (QAPP), and Corrective Action Plan (CAP) that are made part of this specification.

- (2) Environmental Consultant to the South Central Planning and Development Commission (SCPDC) herein referred to as SCPDC Environmental Consultant to help oversee the work being performed by ULL's environmental consultant and remediation contractor.
- (3) Environmental Design Consultant to ULL to help develop this specification to ensure that the work is designed to meet the requirements of LDEQ and SCPDC Brownfields programs.

LDEQ: Louisiana Department of Environmental Quality (LDEQ)

Bidder – A corporation or viable entity licensed in the State of Louisiana as detailed in this ER-RFP and possessing a Louisiana Contractors License in Hazardous Waste, Hazardous Materials or other approved license that can handle hazardous contaminated waste, soil, etc.

Property – The municipal address of 4401 West Admiral Doyle Dr., New Iberia, Louisiana 70560

SCPDC - South Central Planning and Development Commission will be providing supporting funding to this project assuming that ULL's environmental consultant and remediation contractor performs the work in conformance with this specification.

#### **1.1.3 NO GUARANTEE OF QUANTITIES**

The quantities referenced in the Scope are estimated to be the amount needed. In the event a greater or lesser quantity is needed, the right is reserved by the Client/Owner to increase or decrease the amount, at the unit price stated in the bid. The Client/Owner does not obligate itself to contract for or accept more than their actual requirements during the period of this agreement, as determined by actual needs and availability of appropriate funds.

### **1.2 INSURANCE REQUIREMENTS**

The Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, their agents, representatives, employees, or Contractors. The cost of such insurance shall be included in the Contractor's bid.

In addition to the insurance requirements required in the front-end document produced by ULL, the contractor will also include insurance coverage for the following:

Professional Liability: If air monitoring or clearance testing is to be performed by the Contractor, then the Contractor or the Environmental Consultant will be required to have professional liability insurance with a minimum coverage of \$1,000,000.00 USD.

#### **1.2.1 ADDITIONAL INSURED**

All policies are to contain, or be endorsed to contain, the following provisions:

In addition to the requirements of ULL the contractor will include SCPDC, LDEQ and Leaaf Environmental, LLC as "additional insured" in respects to liability arising out of: activities performed by or on behalf of Contractor; products and completed operations of the Contractor, premises owned, occupied, or used by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded by the additional insured. It is understood that the

business auto policy under "Who is an Insured" automatically provides liability coverage in favor of the additional insured.

### 1.2.2 ACCEPTABILITY OF INSURERS

Insurance is to be placed with insurers with a Best's rating of A-: VI or higher. This rating requirement may be waived for workers' compensation coverage only.

### 1.2.3 VERIFICATION OF COVERAGE

The Contractor shall furnish certificates of insurance affecting coverage required by this clause. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates are to be received by SCPDC and Leaaf before work commences.

## 2.0 **PROCUREMENT REQUIREMENTS UNDER 2 CFR 200**

All procurement and contracting shall follow:

- 2 CFR 200.317–327
- 2 CFR 200.319 for open competition

**\*\*Restrictions:\*\***

- No contractor who participated in developing this specification may bid on or be awarded a construction contract.
- Procurement must not restrict competition by specifying brands or requiring proprietary experience unless justified in writing.

Contractors shall maintain a record of solicitations, selection methods, and award rationale.

The prime contractor must be registered in [SAM.gov](https://sam.gov) before bidding. It is recommended that the prime contractor's subcontractor also be registered in [SAM.gov](https://sam.gov).

## 3.0 **DAVIS-BACON ACT COMPLIANCE**

This project is funded in whole or in part by the EPA Brownfields Revolving Loan Fund (RLF) and is subject to the Davis-Bacon Act (40 U.S.C. 3141-3148), which requires that all laborers and mechanics employed by contractors and subcontractors be paid no less than the prevailing wage rates and fringe benefits as determined by the U.S. Department of Labor (DOL) for the project location and type of work. The contractor acknowledges and agrees to the terms provided in the Davis-Bacon Related Act (DBRA) Requirements for Contractors and Subcontractors Under EPA Grants.

The Contractor and all subcontractors must comply with the Davis-Bacon Act (DBA) and the Contract Work Hours and Safety Standards Act (CWHSSA), as outlined in 40 U.S.C. 3701, 29 CFR 1.6, and, 29 CFR 5.5. This includes:

- Payment of prevailing wages as published by the U.S. Department of Labor for Iberia Parish.
- Submission of certified payroll reports weekly (Form WH-347).
- Posting of the applicable Davis-Bacon wage decision and "Employee Rights" poster at the jobsite.

- Retention of payroll records for no less than three years.
- Ensuring all subcontractors are aware of and comply with DBRA requirements.

DBRA Requirements for Contracts in Excess of \$100,000 Under EPA Grants are attached for review.

#### **4.0 DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION**

In accordance with 40 CFR Part 33, the Contractor shall:

- Make good-faith efforts to provide subcontracting opportunities to DBE firms (including MBE/WBE) within the Parish where project is located.
- Maintain documentation of outreach efforts and responses.
- Report DBE participation to the Client/Owner as part of project documentation.
- Submit EPA Form 5700-52A (DBE Utilization Report) at closeout or as requested.

Failure to comply with these requirements may result in the withholding of payments or other administrative actions by the Client/Owner, SCPDC, or EPA.

#### **5.0 AUDIT AND DOCUMENT RETENTION**

In accordance with 2 CFR Part 200.334, the Contractor shall retain the following project records for at least three years after project closeout and final financial drawdown:

- Payrolls, invoices, and receipts
- Submittals and RFI responses
- Waste tracking manifests
- Procurement logs
- DBE/MBE/WBE outreach materials (if used)

#### **6.0 ENFORCEMENT AND PENALTIES**

Failure to comply with these provisions may result in: withholding payment, suspension of work, reporting to EPA Region 6, ineligibility for future federally funded contracts.

# **DIVISION 1**

## SECTION 01 1100

### SUMMARY

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes the following:
1. Project description.
  2. Type Contract.
  3. Work phases.
  4. Use of premises.
  5. Contractor's examination of Site .
  6. Documents to agencies.

##### 1.2 PROJECT DESCRIPTION

- A. General: The Work of this Project consists of all work identified and otherwise required by the Contract Documents, including attached Environmental Reports and Documents. All Work indicated on the Documents is included in the Scope of this Work unless specifically indicated to be Not In Contract (N.I.C.).

- B. Scope of Work: This Environmental Package consists of the following Summary of work and further detailed within the rest of this document:

1. Execute all work indicated and otherwise required to achieve proper closure of the site in accordance with the attached reports and plans as well as this RFP.
2. Regulated / Contaminated Area: In March 2024 Leaaf Environmental, LLC (Leaaf) submitted a Corrective Action Plan (CAP) for the University of Louisiana at Lafayette (ULL) New Iberia Research Center (NIRC) Former Shooting Range, 4401 West Admiral Doyle Dr., New Iberia, Louisiana 70560 (Site) with the Louisiana Department of Environmental Quality (LDEQ) Agency Interest (AI) Number of 2716. The CAP was completed subsequent to a Phase II Environmental Site Assessment that was completed in May 2023 that determined elevated levels of lead in the soil. The corrective action discussed in the CAP recommends removal of soils in the areas where elevated lead exist. This CAP has been approved by LDEQ and EPA. This Scope of Work (SOW) is designed to implement the CAP. If the CAP requires modifications, any addition or deletions will be addressed as a change in scope.

The scope of work for removal of Regulated/Contaminated that is presented in the CAP should be followed by the Contractor.

3. Fencing: The entire ULL NIRC facility contains surrounding fencing. The specific area of concern is isolated and to the southwest of the main NIRC area that is in operation. See attached site maps for reference.

4. Utilities: Prior to implementing corrective actions, the Contractor will notify the utility locator service in accordance with local practices (LA One Call) no less than 48-hours prior to mobilization to the Site. It is not anticipated that excavation activities will exceed 2 ft. below ground surface (bgs); however, the contractor should dig with caution and notify the Client/Owners Representative if digging should exceed 2 ft. bgs. The Contractor should have a Health and Safety plan that discusses safety precautions for excavations and have qualified personnel completing the associated tasks.
5. Stormwater Control: As the Site is greater than 1 acre but less than 5 acres, an LDEQ Construction Stormwater Permit will need to be obtained to complete the SOW. This will include the development of a Site Stormwater Pollution Prevention Plan (SWPPP) and the utilization of Stormwater Best Management Practices (BMPs). The SWPPP will include at a minimum a vehicle washdown area, perimeter silt fencing and Site and surrounding area stormwater drain protection. The SWPPP will also identify how stormwater will be controlled from entering into the excavation areas from surface runoff and the implementation of BMPs to control said runoff.
6. Non-Contaminated Concrete: Not Applicable
7. Non-Contaminated / Non-Regulated Area(s): Areas of the mounded backstop that are considered to be non-contaminated will be utilized to fill in any excavated areas. Vegetation from these mounded areas should be recycled/disposed of, the mounds spread evenly. Compaction testing and engineering coordination are not necessary.
8. Groundwater / Pit water: Groundwater remediation is not included in this scope of work. Groundwater was not encountered until approximately 13 ft. bgs; therefore, this is well above the maximum 2 ft depth of excavation required for this project. If stormwater accumulates in the excavation during soil corrective actions, it will be treated or disposed of in accordance with applicable regulations. Groundwater is not anticipated based on the shallow depth of the excavations. Permits shall be obtained as required by regulatory authority prior to any discharge of water.
9. Fill Material: Areas of the mounded backstop that are considered to be non-contaminated will be utilized to fill in any excavated areas. Compaction testing and engineering coordination are not necessary.
10. Dust Control: The Contractor will be responsible for controlling dust levels during the performance of the site work. During the SOW, the Client/Owner's Environmental consultant will utilize dust monitors around the perimeter of the Site to determine if the Contractor is generating elevated dust levels. If elevated dust levels are identified, the Contractor will stop work and adjust engineering controls to control the generation of dust. Baseline levels will be established prior to the start of site work and action levels will be established at the Pre-Construction Meeting.

11. **Air-borne Contamination Levels:** The Environmental consultant will perform air monitoring for contaminants of concern during the excavation of the AOI areas. This testing will be used to determine if the environment and surrounding areas is being exposed to elevated levels of lead that were found as part of the Phase II ESA and CAP. The data will be provided to the Contractor. It is the Contractor's responsibility to determine if the data provided can be used for their personnel exposure monitoring. This data is not being generated to make such a determination and is being provided to the Contractor for informational purposes to manage engineering controls as to not to expose the surrounding areas to elevated levels of site-specific contaminants. The Contractor will be responsible for engineering controls to limit such exposure.
12. **Vibration Monitoring:** Active vibration monitoring is not necessary but will be considered if concerns arise.
13. **Clearing and Grubbing:** The Contractor will be responsible for the removal and disposal of all obstructions within the Site to complete the SOW. Specifically, this includes the removal and disposal of trees and shrubs that are on top of the areas to be excavated or in the way of areas to be excavated.
14. **Temporary Facilities and Utilities:** The Contractor will be responsible for maintaining restroom facilities.
15. **Coordination:**

A preconstruction meeting will be held. The Contractor will be required to provide a schedule at the time of this meeting and provide an updated schedule weekly at the weekly meeting.

Site work will not begin until all submittals have been provided to the Client/Owner and accepted as complete by the Client/Owner. A written Notice to Proceed with Field Work will be provided to the Contractor as their official notice to start field work. Partial notice to proceed may be provided for the Contractor to start site security measures and setting up the temporary facilities.

Weekly Site meetings will be held to discuss the progress of the project and to answer any questions. The Contractor will provide an updated schedule at the weekly site meetings.

### **1.3 TYPE OF CONTRACT**

- A. Project will be constructed under a single prime contract.
- B. Type of Contract: Lump sum.
- C. With unit pricing for adjustments to contaminated soil quantities, samples, and other items listed in the bid sheet.

**1.4 WORK PHASES**

- A. The Work shall be coordinated and conducted at the discretion of the Contractor as detailed in their submitted work plan and schedule. It is recommended that the Contractor excavate the site in areas no larger than what they can refill in the same day as to limit the amount of pit water. Note: This is not a mandate, and the excavation and control of the pit water and filling is completely under the control of the Contractor as they are responsible for the management of the Site and the disposition of accumulated groundwater.
- B. The only exception is if the contaminated / regulated areas boundaries are met and additional material needs to be excavated based on Environmental Consultant visual identification at the clearance stage. The Environmental Consultant will provide on-site instructions, followed by written confirmation that additional removal is needed. Note: The Contractor is still responsible for all excavation, fill and pit water management and disposal.

**1.5 USE OF PREMISES**

- A. General: Contractor shall have use of the specific area of the Site where Project Work is to occur during project period.
- B. Use of Site: Limit use of premises to work in areas and areas permitted within the Contract. Do not disturb portions of Project site beyond areas in which the Work is indicated.
  - 1. Driveways and Entrances: The Contractor should limit access of the property to the gate at 2<sup>nd</sup> St. Keep driveways, and entrances serving premises clear and available to the Client/Owner and their representatives and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
  - 2. Although the Contractor has use of the premises, the Contractor cannot limit access to the Site by the Client/Owner or their representative or LDEQ Personnel. Site will be locked in such a way as to allow multiple lock access to the Site (Daisy Chain Locking).
  - 3. The Site is not located within 300 ft. of residences, so noise ordinances are not applicable.

**1.6 WORK RESTRICTIONS**

- A. On-Site Work Hours: Work shall be generally performed at the site during normal business working hours of 8 a.m. to 5 p.m., Monday through Friday.
  - 1. Contractor may have additional access to site outside these hours upon 72-hour notification to the Client/Owner or their representative and written authorization by the Client/Owner or their representative.

**1.9 EXAMINATION OF SITE**

- A. Examination of Documents and Site: Contractor shall carefully examine Documents and the Construction Site to obtain the first-hand knowledge of scope and the conditions of the Work. The Contractor, by signing a Contract to perform the Work, represents and warrants that he has examined Drawings, Specifications, Reports and site of the Work and from the Contractor's own investigation has satisfied himself as to scope, accessibility, nature and location of Work, character of equipment and



other facilities needed for performance of work, character and extent of the work to be performed, local availability, practices, and jurisdiction and other circumstances that affect performance of work. Contractor shall make sufficient investigation to ascertain that existing conditions are as represented on the Drawings and that the final results can be achieved as shown on the Drawings. No additional compensation will be allowed by the Client/Owner for failure of Contractor to fully inform themselves as to conditions affecting Work. The Contractor shall verify existing dimensions and conditions, which would affect new work before proceeding with actual work. Contractor will not be entitled to additional compensation if existing dimensions or conditions vary from that shown on the Contract Documents by more or less than 10%. Anything requiring a change order must be approved by the Client/Owner before the work is performed.

- B. Contractor's Representation: By executing the Contract, the Contractor represents that the Contractor has:
  - 1. Visited the site;
  - 2. Made due allowances for difficulties and contingencies to be encountered;
  - 3. Compared Contract Documents with work in place;
  - 4. Informed themselves of existing conditions, and;
  - 5. Notified the Client/Owner or the Environmental Consultant of ambiguities, inconsistencies, and errors discovered in the SOW or Contract Documents, or between the Contract Documents and existing conditions.
- C. Subcontractors' Representation: Each subcontractor shall similarly represent that he has fulfilled the same responsibilities to the Contractor.
- D. Responsibility: Failure to visit the site and perform attendant responsibilities listed above shall not relieve the Contractor or any subcontractor from their obligations, and no extra payment will be authorized for work related to conditions which can be determined by examination of the site and the Contract Documents.

#### **1.10 DOCUMENTS TO AGENCIES**

- A. The Contractor shall apply to the Iberia Parish for all Permits and pay all required fees.
- B. The Contractor shall obtain authorization and pay for any related fees to the LDEQ required.
  - 1. SWPPP – Storm Water Pollution Prevention Plan: The contractor shall prepare, file, maintain and close with the proper agencies.
  - 2. Pit Water Discharge: The Contractor shall coordinate with the LDEQ and/or appropriate Department within Iberia Parish to discharge pit water
- C. The Contractor is responsible to obtain the appropriate profile and acceptance of the waste with an appropriate Sub-Title C landfill (for hazardous) and/or Sub-Title D landfill (for non-hazardous) and pay all required fees.

#### **PART 2 - PRODUCTS (Not Used)**

#### **PART 3 - EXECUTION (Not Used)**

#### **END OF SECTION**

## SECTION 01210 - ALLOWANCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
  - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
  - 1. Lump-sum allowances.
  - 2. Unit-cost allowances.
  - 3. Quantity allowances.
  - 4. Contingency allowances.
  - 5. LDEQ Corrective Action Plan allowances

All allowances funded in part or in whole by EPA Brownfields Grant dollars must comply with 2 CFR 200 Subparts D and E. This includes ensuring all costs are necessary, reasonable, and properly documented. Any change to an allowance using EPA funds must be justified and may be subject to additional approval from the EPA Grants Management Officer.

- C. Related Sections include the following:
  - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

#### 1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Owner of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

- B. At the Owner's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Where applicable, procurement under this contract shall comply with any origin or domestic content requirements imposed under federal grant conditions.

#### 1.4 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

#### 1.5 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

#### 1.6 LUMP SUM WITH UNIT ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner under allowance and shall include taxes, freight, and delivery to Project site. Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner under allowance shall be included as part of the Contract Sum and not part of the allowance.

Note: This project is being funded by State and Federal monies; therefore, the Contractor will bid the document using Davis Bacon Rates for Iberia Parish. Contractors and all subcontractors shall comply with the Davis-Bacon Act (40 U.S.C. 3141-3148) and Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708).

#### 1.7 CONTINGENCY ALLOWANCES

- A. Where federal funds are used, contingency allowances must also be used in accordance with applicable grant conditions and prior approval requirements under 2 CFR 200.308 and 2 CFR 200.407e.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Client/Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Client/Owner by Change Order.

#### 1.8 TESTING AND INSPECTING ALLOWANCES

- A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.
- B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.
- C. Costs of services not required by the Contract Documents are not included in the allowance.
- D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Client/Owner by Change Order.

#### 1.9 UNUSED MATERIALS

- A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to Client/Owner, after installation has been completed and accepted.
  - 1. If requested by the Environmental Consultant, prepare unused material for storage by Owner when it is not economically practical to return the material for credit. If directed by Environmental Consultant, deliver unused material to Client/Owner's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

#### 3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

END OF SECTION 01210

## SECTION 01 3100

### PROJECT MANAGEMENT AND COORDINATION

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. **This Section includes:** Requirements for project coordination include, but not necessarily limited to:
  - 1. Site Remediation activities.
  - 2. Submittals.
  - 3. Requests for Information (RFIs).
  - 4. General installation provisions.
  - 5. Cleaning and protection.
- B. Related Sections include:
  - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

##### 1.2 SITE REMEDIATION ACTIVITIES

- A. **Coordination:** Coordinate and schedule activities (including submittals, testing, and preparations) to assure efficient and orderly installation of each part of the Work. See additional requirements in "Section 01 3200 – Construction Progress Documentation."
  - 1. Sequence activities to obtain the best installation and in-place performance.
  - 2. Coordinate Client/Owner's Environmental Consultant as required.
- B. **Communications:** Where necessary, distribute instructions for coordination.
  - 1. Prepare and issue memoranda for the Client/Owner, Owner's Environmental Consultant and separate contractors where coordination of their work is required.
- C. **Administrative Procedures:** Coordinate project documentation in accordance with federal grant compliance standards (2 CFR 200). Maintain audit-ready records for all submittals, RFIs, contracts, and progress reports. Coordinate administrative activities with site work to avoid delays and assure orderly progress of the Work. Ensure documentation supports any expenses funded by EPA or other grant mechanisms. Such activities include, but are not limited to, the following:
  - 1. Preparation of schedules.
  - 2. Installation and removal of temporary facilities.
  - 3. Delivery and processing of submittals.
  - 4. Project closeout activities.

##### 1.3 SUBMITTALS

- A. **Staff Names:** Within 5 days after Notice to Proceed, submit a list of Project staff assignments, with individual names, their assignments, telephone numbers, email addresses and mailing addresses.

#### 1.4 REQUESTS FOR INFORMATION (RFI) DOCUMENT 01313

- A. **Coordination:** All requests for information generated by subcontractors, vendors, etc. shall be submitted to Contractor for investigation and response.
  - 1. If, in the opinion of the Contractor, the requested information requires an interpretation or decision by the Environmental Consultant, the Contractor shall submit a request for information (RFI) to the Environmental Consultant.
- B. **RFI Form:** All requests for information shall be submitted to the Environmental Consultant on the form included at the end of this Section. No other forms will be accepted.
  - 1. All applicable spaces on the RFI form shall be filled-out.
- C. **Response:** Environmental Consultant will render a response within 5 days of receipt of the completed RFI form.
  - 1. Incomplete RFIs will be returned "without action" for resubmittal.
  - 2. RFIs that do not require an interpretation of the Contract Documents for the execution of the Work will be returned "Not Applicable."
  - 3. Commencement of the Work in accordance with the Environmental Consultant's RFI response shall indicate Contractor's acknowledgment that there will be no change in the Contract Sum or Contract Time.
  - 4. Any RFI that may impact federal funding compliance, grant terms, or applicable federal regulations (e.g., Davis-Bacon Act or procurement rules) must be flagged by the Contractor and submitted with a "Federal Impact" indicator for review by the Environmental Consultant and forwarded to the Client/Owner if necessary.
- D. **RFI Logs:** Contractor shall prepare and maintain a log of RFIs containing the following:
  - 1. Project name and number.
  - 2. Contractor name, address, telephone and fax number.
  - 3. Spread sheet type categories for RFI number, company/contractor initiating RFI, date issued, date response requested, date response received.

#### PART 2 - PRODUCTS (NOT USED)

#### PART 3 - EXECUTION

##### 3.1 GENERAL INSTALLATION PROVISIONS

- A. **Inspection of Conditions:** Require the Contractor to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected.

##### 3.2 CLEANING AND PROTECTION

- A. **During Handling and Installation:** Clean and protect construction in progress and adjoining areas.
  - 1. Apply protection where necessary to ensure protection from damage at Substantial Completion.
  - 2. Clean and maintain completed site work through the remainder of the construction period.

END OF SECTION

## **SECTION 01 3200**

### **CONSTRUCTION PROGRESS DOCUMENTATION**

#### **PART 1 - GENERAL**

##### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

##### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Preliminary Construction Schedule.
  - 2. Contractor's Construction Schedule.
  - 3. Submittals Schedule.
  - 4. Daily construction reports.
  - 5. Material location reports.
  - 6. Field condition reports.
  - 7. Special reports.
  - 8. Grant compliance tracking documentation including labor certifications, procurement logs, and DBE outreach documentation per EPA Brownfield Grant requirements.

##### **1.3 DEFINITIONS**

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
  - 2. Predecessor Activity: An activity that precedes another activity in the network.
  - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Environmental Consultant.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships.



Network calculations determine when activities can be performed and the critical path of Project.

- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
  - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
  - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
  - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Fragment: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- H. Major Area: A significant construction or remediation element.
- I. Milestone: A key or critical point in time for reference or measurement.
- J. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.
- K. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

#### 1.4 SUBMITTALS

- A. Qualification Data: For scheduling consultant.
- B. Submittals Schedule: Submit **two** (2) copies of schedule. Arrange the following information in a tabular format:
  - 1. Scheduled date for first submittal.
  - 2. Specification Section number and title.
  - 3. Submittal category (action or informational).
  - 4. Name of subcontractor.
  - 5. Description of the Work covered.
  - 6. Scheduled date for Environmental Consultant's final release or approval.
- C. Preliminary Construction Schedule: Submit three (3) opaque copies.
  - 1. Approval of cost-loaded preliminary construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.

- D. Preliminary Network Diagram: N/A
- E. Contractor's Construction Schedule: Submit two (2) opaque copies of initial schedule, large enough to show entire schedule for entire construction period.
- A. Submit an electronic copy of schedule, using in PDF format. Include type of schedule (Initial or Updated) and date on label. P Submit two (2) hard copies on 11" x 17" paper at the weekly meeting.
- B. CPM Reports: Not Applicable
- C. Daily Construction Reports: Not Applicable
- D. Field Condition Reports: Not Applicable
- E. Special Reports: Not Applicable

#### 1.5 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: N/A.
- B. Pre-Construction Conference: Conduct conference at Client/Owner's or the ULL's Environmental Consultant's office to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:
  - 1. Review software limitations and content and format for reports.
  - 2. Verify availability of qualified personnel needed to develop and update schedule.
  - 3. Discuss constraints, including schedule, phasing, site work, disposal and Client/Owner's Environmental Consultant's participation.
  - 4. Review time required for review of submittals and resubmittals.
  - 5. Review requirements for tests and inspections by independent testing and inspecting agencies.
  - 6. Review time required for completion and startup procedures.
  - 7. Review and finalize list of construction activities to be included in schedule.
  - 8. Review submittal requirements and procedures.
  - 9. Review procedures for updating schedule.

#### 1.6 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

## PART 2 - PRODUCTS

### 2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
  1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
  2. Initial Submittal: Submit concurrently with project schedule. Include submittals required prior to field work. List those required to maintain orderly progress of the Work.
  3. Final Submittal: Submit all documentation required by LDEQ and EPA, including but not limited to waste disposal manifests, transportation tickets, DBRA compliance certifications (e.g., payroll), grant-related procurement logs, DBE documentation, and closeout summary reports

### 2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
- C. Activities: Comply with the following:
  1. Activity Duration: Define activities unless specific activities are defined by Environmental Consultant at the pre-construction or weekly meetings.
  2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
    - a. None anticipated
  3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
  4. Startup and Testing Time: N/A

5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Environmental Consultant's administrative procedures necessary for certification of Substantial Completion. Assume 5 days per event.
- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
  1. Phasing: Arrange list of activities on schedule by phase (may be modified by the Contractor):
    - a. Phase 1 – Site Prep/Mobilization
    - b. Phase 2 – Stormwater
    - c. Phase 3 – Excavation in AOI-1
    - d. Phase 4 – Excavation in AOI-2
    - e. Phase 5 – Reclaim Bullets Area
    - f. Phase 6 – Backfill and Compaction
    - g. Phase 7 - Demobilization
  2. Work under More Than One Contract: N/A
  3. Work by Client/Owner: N/A
  4. Products Ordered in Advance: N/A
  5. Owner-Furnished Products: N/A
  6. Work Restrictions: Show the effect of the following items on the schedule:
    - a. Seasonal variations - Rain/Flooding effects on disposal.
    - b. Environmental control.
    - c. Controlled Access
  7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
    - a. Subcontract awards.
    - b. Submittals.
    - c. Site Preparation
    - d. Excavation
    - e. Backfilling and Compaction
    - f. Inspections and Confirmation Sampling
    - g. Adjusting.
  8. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
    - a. Excavation in AOI-1
    - b. Excavation in AOI-2
    - c. Reclaim Bullets Area
    - d. Non-Contaminated Areas
  9. Other Constraints: N/A

- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion and the following interim milestones:
1. Phase 1 – Site Prep/Mobilization
  2. Phase 2 – Fence /Stormwater
  3. Phase 3 – Excavation in AOI-1
  4. Phase 4 – Excavation in AOI-2
  5. Phase 5 – Reclaim Bullets Area
  6. Phase 6 – Backfill and Compaction
  7. Phase 7 - Demobilization

PART 3 - First paragraph below establishes progress measured in dollar volume of the Work.

- A. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
1. Contractor shall assign cost to construction activities on the CPM schedule. Costs shall not be assigned to submittal activities unless specified otherwise but may, with Environmental Consultant's approval, be assigned to fabrication and delivery activities. Costs shall be under required principal subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training (if applicable), in the amount of 5 percent of the Contract Sum.
  2. Each activity cost shall reflect an accurate value subject to approval by Environmental Consultant.
  3. Total cost assigned to activities shall equal the total Contract Sum.
- B. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragments to demonstrate the effect of the proposed change on the overall project schedule.
- C. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.
1. Submit in PDF format

### 3.2 PRELIMINARY CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within **seven (7)** days of date established from **the Notice of Award**.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for the entire project.

**3.3 CONTRACTOR'S CONSTRUCTION SCHEDULE**

- A. Initial Issue of Schedule: Prepare initial network diagram from a list of straight "early start-total float" sort. Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
  2. Description of activity.
  3. Principal events of activity.
  4. Immediate preceding and succeeding activities.
  5. Early and late start dates.
  6. Early and late finish dates.
  7. Activity duration in workdays.
  8. Total float or slack time.
  9. Average size of workforce.
  10. Dollar value of activity (coordinated with the Schedule of Values).
- B. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
  2. Changes in early and late start dates.
  3. Changes in early and late finish dates.
  4. Changes in activity durations in workdays.
  5. Changes in the critical path.
  6. Changes in total float or slack time.
  7. Changes in the Contract Time.
- C. Value Summaries: N/A

**3.4 REPORTS**

- A. Daily Construction Reports: Prepare a daily construction report with the applicable information shown below:
1. List of subcontractors at Project site.
  2. List of separate contractors at Project site.
  3. Approximate count of personnel at Project site.
  4. Equipment at Project site.
  5. Material deliveries.
  6. High and low temperatures and general weather conditions.
  7. Accidents.
  8. Meetings and significant decisions.
  9. Unusual events (refer to special reports).
  10. Stoppages, delays, shortages, and losses.
  11. Meter readings and similar recordings.
  12. Emergency procedures.
  13. Orders and requests of authorities having jurisdiction.
  14. Change Orders received and implemented.
  15. Work Change Directives received and implemented.

16. Services connected and disconnected.
17. Substantial Completions authorized.

B. Material Location Reports: Not Applicable

C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

### 3.5 SPECIAL REPORTS

- A. General: Submit special reports directly to Client/Owner's Environmental Consultant within **one** day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Client/Owner's Environmental Consultant via telephone call or text once the event occurs.

## PART 4 - EXECUTION

### 4.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Scheduling Consultant: Not Applicable.
- B. Contractor's Construction Schedule Updating: At weekly intervals, update schedule to reflect actual construction progress and activities. Issue schedule at each regularly scheduled progress meeting.
  1. Revise schedule the day prior to each meeting or immediately after other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  3. As the Work progresses, indicate Actual Completion percentage for each activity.
- C. Distribution: Distribute copies of approved schedule to Environmental Consultant and Client/Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
  1. Post copies in Project meeting rooms and temporary field offices.
  2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have

completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 3200



## SECTION 01322

## PHOTOGRAPHIC DOCUMENTATION

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

## 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
  - 1. Preconstruction photographs.
  - 2. Periodic construction photographs.
  - 3. Final Completion construction photographs.
  - 4. Preconstruction video.
  - 5. Periodic construction video.
  - 6. Time-lapse sequence construction videotapes.

## 1.3 ALLOWANCE

- A. Costs: Photographer's services are to be included as part of the base fix fee bid.

## 1.4 UNIT PRICES

- A. Basis for Bids: N/A

## 1.5 SUBMITTALS

- A. Qualification Data: N/A
- B. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each **photograph** or **video**.
- C. Construction Photographs: Submit electronic files of all photographic at the progress meetings in electronic format.
  - 1. Format: Electronic PDF
  - 2. Identification: Name each Photograph with GCH-018D, Date and a unique name
  - 3. Digital Images: Submit a complete set of digital image via electronic files on CD-ROM or flash drive or cloud file link.

- D. Videos: If videos are to be taken submit weekly at the progress meetings in electronic format.

- 1. Identification: Name the file with GCH-0018D and Date:
  - 2. Video transmittal: Submit a complete set of digital videos via electronic files on CD-ROM or flash drive or cloud file link.

## 1.6 QUALITY ASSURANCE

- A. Photographer Qualifications: N/A.

## 1.7 COORDINATION

- A. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs without obscuring shadows.

## 1.8 USAGE RIGHTS

- A. Upon transfer of photographs or video the Contractor transfers all copyright usage rights to Client/Owner or their representatives for unlimited use and reproduction of photographic/video documentation.

## 1.9 EXTRA PRINTS

- A. Contractor Shall maintain copies of all photographs and videos for no less than three (3) years from completion of the SOW.

## PART 2 - PRODUCTS

### 2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in uncompressed JPG format, produced by a digital camera with minimum sensor size of 4.0 megapixels, and at an image resolution of not less than 1024 by 768 pixels.
- B. Video Format: Provide images in uncompressed Microsoft Media Player format.

**PART 3 - EXECUTION****3.1 CONSTRUCTION PHOTOGRAPHS**

- A. Photographer: Engage a qualified photographer to take construction photographs. This can be an employee of the Contractor and does not need to be a photographer for hire.
- B. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
  - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
  - 1. Date and Time: Include date and time in filename for each image.
  - 2. Field Office Images: Maintain one set of images in the field office at Project site, available at all times for reference. Identify images same as for those submitted to Environmental Consultant
- D. Preconstruction Photographs: Before commencement of site work take color , digital photographs and/or videos of Project site and surrounding properties, including existing items to remain during construction, from different vantage points to document existing conditions. Failure to document existing conditions will default to an intact condition and the Contractor will repair at their cost.
  - 1. Take photographs/videos to show existing conditions adjacent to property before starting the Work.
  - 2. Take photographs/videos of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
  - 3. Take additional photographs/videos as required to record settlement or cracking of adjacent structures, pavements, and improvements.
- E. Periodic Construction Photographs: color, digital photographs/videos weekly with the cutoff date associated with weekly meeting. Select vantage points to show status of construction and progress since last photographs/video were taken.
- F. Environmental Consultant-Directed Construction Photographs: From time to time, Environmental Consultant will instruct Contractor to take color, digital photographs/videos and general directions on vantage points. Select actual vantage points and take photographs to show the status of construction and progress since last photographs were taken.
- G. Time-Lapse Sequence Construction Photographs: At Contactors Discretion
- H. Final Completion Construction Photographs/Videos: Take color photographs/videos after date of Substantial Completion for submission as Project Record Documents.

- I. Additional Photographs: Client/Owner or LDEQ may request additional photographs, in addition to periodic photographs specified.

END OF SECTION 01322

## SECTION 01 3300

### SUBMITTAL PROCEDURES

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Subcontractors/materials list.
  - 2. Submittal schedule.
- B. Related Sections:
  - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section

##### **1.2 SUBCONTRACTORS/MATERIALS LIST**

- A. **General:** Promptly after Contract award, but not later than the Pre-Construction Conference specified, submit a list of proposed subcontractors and site remediation activities.
  - 1. Provide the names and addresses of all subcontractors. Indicate the portions of work to be performed by each, and a preliminary value of the work of each.
  - 2. Subcontractors named in the site remediation activities list will be approved or disapproved in accordance with the conditions of the Contract.

##### **1.3 SUBMITTAL SCHEDULE**

- A. **Requirements:** After development and acceptance of the Contractor's site remediation schedule, prepare a complete schedule of submittals in accordance with General Conditions. Submit the schedule within 10 days of the date required for establishment of the Contractor's construction schedule.
  - 1. Schedule shall be an integral component of the Project Management Software described in "Section 01 3200 - Construction Progress Documentation".
- B. **Preparation:** Prepare the schedule in chronological order. Provide the following information:
  - 1. Description of work and Section number.
  - 2. Scheduled date for the first submittal of each item.
  - 3. Scheduled date for Environmental Consultant's final release or approval.
- C. **Distribution:** Following response to initial submittal, print and distribute copies to the Environmental Consultant, Client/Owner, subcontractors, and other parties (including Grant Administrators) required to comply with submittal dates indicated. Revise and reissue the schedule after each meeting or activity, where revisions have been recognized or made.

#### **PART 2 - PRODUCTS (NOT USED)**

#### **PART 3 - EXECUTION (NOT USED)**

END OF SECTION

SECTION 01 4000  
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Environmental Consultant, Client/Owner or authorities having jurisdiction are not limited by provisions of this Section.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Environmental Consultant.
- C. Mockups: N/A
- D. Laboratory Mockups: N/A

- E. Preconstruction Testing: N/A
- F. Product Testing: N/A
- G. Compaction Testing: N/A
- H. Source Quality-Control Testing: Offsite fill will not be utilized.
- I. Field Quality-Control Testing: Tests and inspections that are performed on-site for completed Work.
- J. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing or analytical laboratory shall mean the same as testing agency.
- K. Installer/Applicator/Erector: N/A
- L. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five (5) previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

#### 1.4 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Environmental Consultant for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Environmental Consultant for a decision before proceeding.

#### 1.5 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Schedule of Tests and Inspections: If applicable, prepare in tabular form and include the following (where applicable):
  - 1. Specification Section number and title.
  - 2. Description of test and inspection.
  - 3. Identification of applicable standards.

4. Identification of test and inspection methods.
  5. Number of tests and inspections required.
  6. Time schedule or time span for tests and inspections.
  7. Entity responsible for performing tests and inspections.
  8. Requirements for obtaining samples.
  9. Unique characteristics of each quality-control service.
- C. Reports: Where applicable, prepare and submit certified written reports that include the following:
1. Date of issue.
  2. Project title and number.
  3. Name, address, and telephone number of testing agency.
  4. Dates and locations of samples and tests or inspections.
  5. Names of individuals making tests and inspections.
  6. Description of the Work and test and inspection method.
  7. Identification of product and Specification Section.
  8. Complete test or inspection data.
  9. Test and inspection results and an interpretation of test results.
  10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
  11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  12. Name and signature of laboratory inspector.
  13. Recommendations on retesting and reinspecting.
- D. Permits, Licenses, and Certificates: For Client/Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work to the Environmental Consultant. Include submittals required under EPA Brownfields funding, including DBRA compliance, procurement certifications, and audit trail documentation required by 2 CFR 200

## 1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: N/A
- D. Fabricator Qualifications: N/A
- E. Professional Engineer Qualifications: When warranted, a professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is



experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

- F. Specialists: When warranted, certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
  - 1. Requirement for specialists shall not supersede building codes and regulations governing the Work.
- G. Testing Agency Qualifications: A testing agency that is currently certified by LDEQ as a Louisiana Environmental Laboratory Accredited Program (LELAP) laboratory for the analysis being analyzed.
- H. Factory-Authorized Service Representative Qualifications: N/A.
- I. Preconstruction Testing: N/A
- J. Mockups: N/A
- K. Laboratory Mockups: N/A

#### 1.7 QUALITY CONTROL

- A. Client/Owner Responsibilities: Where quality-control services are indicated as Client/Owner's responsibility, Client/Owner will engage a qualified testing agency to perform these services to include daily lead and dust monitoring and final soil post-excavation soil sampling for lead.
  - 1. Client/Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform unless it is the Environmental Consultant.
  - 2. Payment for these services will be made from testing and inspecting will be made directly by the Client/Owner to the testing agencies they are responsible for hiring.
  - 3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order as a deduction.
  - 4. All testing and inspection activities funded through EPA Brownfield Grant mechanisms shall comply with oversight provisions under 2 CFR 200 and Davis-Bacon Act (29 CFR 5.5). Contractor shall not begin work on grant-funded activities until all required labor certifications are submitted and confirmed as received

- B. Tests and inspections not explicitly assigned to Client/Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall not employ same entity engaged by Client/Owner, unless agreed to in writing by Client/Owner.
  2. Notify testing agencies at least 24-hours in advance of time when Work that requires testing or inspecting will be performed.
  3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: N/A
- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Environmental Consultant and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Environmental Consultant and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
  3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
  6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.

3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents.
1. Distribution: Distribute schedule to Client/Owner, Environmental Consultant, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

## 1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: The Contractor will engage a qualified testing firm and/or individual to conduct special tests and inspections required by authorities having jurisdiction as follows:
- B. Special Tests and Inspections: If any special tests or inspections or warranted, the Contractor shall:
1. Verifying that testing/engineering firm maintains certifications/licenses and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
  2. Notifying Environmental Consultant and Client/Owner promptly of irregularities and deficiencies observed in the Work during performance of its services.
  3. Submitting a certified written report of each test, inspection, and similar quality-control service to Environmental Consultant and to authorities having jurisdiction.
  4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
  5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
  6. Retesting and reinspecting corrected work.

**PART 2 - PRODUCTS (Not Used)****PART 3 - EXECUTION****3.1 ACCEPTABLE TESTING AGENCIES**

- A. Compaction Testing – Not Applicable
- B. Utilities Capping – Not Applicable
- C. Vibration Testing – Active vibration monitoring is not required unless issues arise.
- D. Dust Monitoring – Real-time dust monitoring should be completed and lead exposure monitoring and perimeter lead monitoring will be performed to ensure that work activities do not spread lead dust to the surround areas.

**3.2 TEST AND INSPECTION LOG**

- A. Prepare a record of tests and inspections. Include the following:
  - 1. Date test or inspection was conducted.
  - 2. Description of the Work tested or inspected.
  - 3. Date test or inspection results were transmitted to Environmental Consultant.
  - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Environmental Consultant's reference during normal working hours.

**3.3 REPAIR AND PROTECTION**

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes. This includes removal of any vegetation/ bushes from the remaining backstop mound and flatten/grade the Site, to ensure uniformity of grade and eliminate mounding.
  - 1. Provide materials and comply with installation requirements specified in other Specification Sections.
  - 2. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400

## SECTION 01 4200

### REFERENCE STANDARDS AND DEFINITIONS

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes:
  - 1. General definitions for Specifications and other Contract Documents including the Drawings.
  - 2. Specification format and content explanation.
  - 3. Explanation of Industry Standards.

##### **1.2 DEFINITIONS**

- A. **General:** Basic Contract definitions are included in the General and Supplementary Conditions.
- B. **“Indicated”:** Shown, noted, inferred, scheduled and specified on the Drawings and/or in Specifications.
- C. **“Regulations”:** Laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction.
- D. **“Furnish”:** Supply and deliver to the project site.
- E. **“Install”:** Unload, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean and perform similar operations at the project site.
- F. **“Provide”:** Furnish and install, complete and ready for the intended use.
- G. **“Installer”:** An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction / remediation activity, including demolition, utility isolation/capping/, excavation, SWPPP implementation, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
  - 1. The term experienced, when used with the term Installer, means having a minimum of 5 previous projects similar in size and scope to this Project, being familiar with the special requirements indicated, and having complied with requirements of the authority having jurisdiction.
  - 2. Trades: Using terms such as plumber, electrician, remediator, heavy equipment operator or other such personnel/subcontractors does not imply certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name. It also does not imply that requirements specified apply exclusively to trades persons of the corresponding generic name.
  - 3. Assigning Specialists: Certain Sections of the Specifications require specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the Contractor

has no option. However, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.

- a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.
- H. **“Project Site or Site”:** The space available to the Contractor for performing construction activities, either exclusively or in conjunction, with others performing other work as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- I. **“Testing Agencies”:** A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

### 1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. **Specification Format:** These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 48 Division format and the MASTERFORMAT numbering system.
- B. **Specification Content:** This Specification uses certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
  1. **Abbreviated Language:** Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
  2. **Imperative and streamlined language** is used generally in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
    - a. The words "shall be" are implied wherever a colon (:) is used within a sentence or phrase.

### 1.4 INDUSTRY STANDARDS

- A. **Applicability of Standards:** Except where Contract Documents include more stringent or specific requirements, industry standards, which are referenced in the Specifications are made a part of the Contract Documents and have the same force and effect as if bound or copied directly into Contract Documents.
- B. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum, as appropriate for the context of the requirements. Refer uncertainties to the Architect for a decision before proceeding.
- C. **Publication Dates:** Where a date of issue or edition is not specified, comply with

standard in effect on the date of Contract Documents.

- D. Conflicting Requirements:** Where compliance with 2 or more standards are specified and where the standards may establish different or conflicting requirements for minimum quantities or quality levels, refer requirements that are different but apparently equal and uncertainties to the Environmental Consultant for a decision before proceeding.
1. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Architect for a decision before proceeding.
- E. Copies of Standards:** Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source.
- F. Abbreviations and Names:** Trade association names and titles of general standards are frequently abbreviated. Generally recognized acronyms or abbreviations are used in the Contract Documents.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 5000 - TEMPORARY FACILITIES and CONTROLS****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes requirements for construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection.

**1.2 USE CHARGES**

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Environmental Consultant, testing agencies, and authorities having jurisdiction.
- B. Electric Power Service: Not Applicable
- C. Water Service: Not Applicable
- D. Sanitary Services: Not Applicable

**1.3 INFORMATIONAL SUBMITTALS**

- A. Dust-Control Plan: Submit coordination drawing and narrative that indicates the dust-control measures proposed for use, proposed locations and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
  - 1. Locations of dust-control partitions at each phase of the work.
  - 2. Other dust-control measures.

**1.4 QUALITY ASSURANCE**

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
  - 1. Building code requirements.
  - 2. Life Safety code requirements.
  - 3. Health and safety regulations.
  - 4. Utility company regulations.



5. Police, fire department, and rescue squad rules.
6. Environmental protection regulations.

B. Inspections: Not Applicable

## 1.5 PROJECT CONDITIONS

- A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.
- B. Underground Conditions: There may be some underground utilities, including underground utility infrastructure work, that could be affected by the work of this Project. Prior to beginning any work the Contractor shall meet at the site with the utility companies, if necessary, to locate all utilities which pass through or within twenty feet of the Project area, or which may be located within or adjacent to equipment access routes.
  1. Any damage to existing utilities not indicated to be removed shall be immediately repaired by the Contractor at his own expense to restore the service, working at nights or on weekends if deemed necessary by the Client/Owner. Restoration may involve repair or replacement of damaged section with new, without credit for condition or useable life of the damaged utility.

## PART 2 - PRODUCTS

### 2.1 MATERIALS (Where Applicable)

- A. General: Provide new materials. If acceptable to the Environmental Consultant, the Contractor may use undamaged previously used materials in serviceable condition. Provide materials suitable for use intended.
- B. Lumber: No. 2 Southern Yellow Pine.
- C. Plywood: DOC PS-1, C-D Exposure 1 panels, square-edged; 3/4" thickness.
- D. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
- E. Open-Mesh Fencing: Not Applicable
- F. Stormwater control silt fencing: Construct per EPA Best Management Practices outlined in EPA-832-F-21-028AA or equivalent methods approved by the

Environmental Consultant. Practices shall comply with LDEQ Construction Stormwater Permit requirements and align with the project SWPPP

## 2.2 EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Water Hoses: Provide as needed to complete scope. Provide adjustable shutoff nozzles at hose discharge.
- C. Electrical Outlets: Not Applicable
- D. Electrical Power Cords: Not Applicable
- E. Lamps and Light Fixtures: Not Applicable
- F. Heating Units: Not Applicable
- G. Temporary Toilet Units: Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- H. Fire Extinguishers: Provide hand-carried, portable, UL-related, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.
  - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

## PART 3 - EXECUTION

### 3.1 INSTALLATION (Where Applicable)

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
  - 1. Locate facilities to limit site disturbance.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

### 3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Not Applicable

If necessary,

1. Arrange with Utility company to make connections for temporary services.
  2. Provide adequate capacity at each stage of construction.
  3. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Client/Owner or Environmental Consultant. Neither the Client/Owner nor Environmental Consultant will accept cost or use charges as a bases of claims for Change Orders.
- B. Temporary Electric Power Service: Not Applicable.
- C. Temporary Water Service: If warranted, install water service and distribution piping in sizes and pressures adequate for remediation.
- D. Temporary Lighting: Not Applicable
- E. Heating and Cooling: Not Applicable
- F. Ventilation: Not Applicable
- G. Temporary Wi-Fi Service: Not Applicable
- H. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
1. Provide toilet tissue, paper towels, soap, paper cups, and similar disposable materials for each facility. Provide covered waste containers for unused material.
- I. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
- J. Wash Facilities: Install appropriate wash facilities supplied with potable water at a convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Disposal of drainage properly. Supply cleaning compounds appropriate for each condition.
- K. Drinking-Water Facilities: Provide containerized, tap-dispenser, bottled-water drinking-water units (or equivalent), including paper supply.

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. Where applicable, locate field offices, storage enclosures, and other temporary construction and support facilities for easy access.
1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.

- B. Contractor's Field Office: Not Applicable
- C. Temporary Enclosures: N/A
- D. Collection and Disposal of Waste: Contractor shall segregate and document all remediation-related waste streams, including hazardous and non-hazardous soil, in accordance with the Corrective Action Plan and QAPP. All waste must be profiled, tracked, and disposed of in accordance with LDEQ and EPA Brownfields Grant conditions. Maintain disposal manifests on site and submit as part of final closeout documentation.
- E. Rodent and Pest Control: Not Applicable

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Provide protection, operate temporary facilities, and conduct construction in ways and my methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.
- B. Protect underground utilities from construction operations, including damage from heavy equipment that drive over the underground utilities.
- C. Temporary Fire Protection: Not Applicable
- D. Warning Signs: Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against.
- E. Temporary Tree Protection Fence: N/A
- F. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- G. Access Control: Provide and maintain temporary fencing and access control measures around work zones as described in the approved site plan. Install appropriate signage to identify hazardous work areas and restricted access in accordance with OSHA and EPA Brownfields guidance.

**3.5 OPERATION, TERMINATION, AND REMOVAL**

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Posting - Post Davis-Bacon Act wage determinations and worker rights notices in a conspicuous location within the contractor's area of control, per 29 CFR 5.5 and EPA Grant terms
- C. Maintenance: Maintain facilities in good operating condition until removal.
- D. Termination and Removal: Remove each temporary facility when need to its service has ended, when it has been replaced by authorized use of a permanent facility, or not earlier than Substantial Completion but no later than Final Completion notice. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
  - 1. Materials and facilities that constitute temporary facilities are property of Contractor with the exception of the fencing.

END OF SECTION 01 5000

**SECTION 01 5240  
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL**

**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

**1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for the following:
  - 1. Recycling/Disposal of non-contaminated demolition waste (vegetation – trees, shrubs, etc.) and disposal of contaminated or regulated soil per the CAP and QAPP.
  - 2. Reclamation of bullets from the affected (contaminated areas).
  - 3. Salvaging non-contaminated soil.

**1.3 DEFINITIONS**

- A. Demolition Waste: Vegetation – trees/shrubs located within the contaminated/regulated material/waste layer.
- B. Non-Contaminated Soil: Soil that is not in AOI-1, AOI-2, or the Reclaim Bullets Area on the bullets have been removed.
- C. Contaminated/Regulated Material/Waste: Soil in AOI-1 and AOI-2. Once bullets are removed from the Reclaim Bullets Area, so can be reapplied to the area.
- B. Disposal: Removal of material/waste off-site for deposit in landfill or incinerator acceptable to authorities having jurisdiction or other Environmental Consultant approved waste disposal facility.
- C. Recycle: Recovery of material/waste for subsequent processing in preparation for reuse. This includes bullets/lead shot from the Reclaim Bullets area.

**1.3 PERFORMANCE REQUIREMENTS**

- A. General: Achieve end-of-Project rates for salvage/recycling of at least 85 percent by weight of total non-contaminated solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including the following:
  - 1. Remediation Waste to be Recycled:

- a. Vegetation (trees/shrubs)
- b. Bullets/shot material

2. Remediation Material to be Salvaged:

- a. Non-Contaminated Soil to be reused as fill on-site.

1.4 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 7 days of date established for the Notice to Proceed.

1.5 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Program Reports: Concurrent with each Application for Payment, submit report. Use Demolition Waste Materials Audit Form included in Project Manual immediately following this Section, or alternate form approved by the Owner. Include the following information:
  - 1. Material description.
  - 2. Total quantity of waste in tons.
  - 3. Total quantity of waste recycled in tons.
  - 4. Total quantity of waste salvaged in tons.
  - 5. Total quantity of waste recovered (recycled and salvaged) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for recycling, salvage, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices. All disposal facilities shall be permitted by LDEQ and must be appropriate for the classification of the waste (i.e., Subtitle D for non-hazardous and Subtitle C for hazardous). EPA Brownfields grant-funded activities must include documentation that aligns with 2 CFR 200 and EPA Region 6 guidelines

**1.6 QUALITY ASSURANCE**

- A. Waste Management Coordinator Qualifications: Experienced person/firm, with a record of successful waste management coordination of projects with similar requirements.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Meeting: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:
  - 1. Review and discuss waste management plan including responsibilities of waste management coordinator.
  - 2. Review requirements for documenting quantities of each type of waste and its disposition.
  - 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
  - 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
  - 5. Review waste management requirements for each trade.

**1.7 WASTE MANAGEMENT PLANS**

- A. General: Develop as waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight.
- B. Waste Identification: Indicate anticipated types and quantities of demolition waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
  - 1. Salvaged Materials: For materials that will be salvaged, describe methods for preparing salvaged materials before incorporation into the Work.
  - 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
  - 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.



4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
  1. Distribute waste management plan to everyone concerned within three days of submittal return.
  2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  1. Clearly delineate staging areas for regulated versus non-regulated soil. Do not allow co-mingling. Use labeled containers and covered stockpiles to avoid run-off, dust, or unauthorized access

### 3.2 RECYCLING DEMOLITION WASTE, GENERAL

- A. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Where applicable, maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process. Recovered bullets and shot shall be segregated, cleaned of visible soil, and sent to a certified

recycler. The Contractor must retain records of bullet weight and sale or recycling documentation, including destination facility name and contact information.

- C. Procedures: Separate recyclable waste from other waste materials, trash and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
  - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin. Cover to prevent windblown dust.
    - a. Inspect containers and bins for contamination and remove contaminated materials if found.
  - 2. Remove recyclable waste from Client/Owner's property and transport to recycling receiver or processor.

### 3.3 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
  - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials from Client/Owner's property and legally dispose of them.

END OF SECTION 01 01 5240

## **SECTION 01 5300**

### **PIT WATER MANAGEMENT**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. This Section includes administrative and procedural requirements for the following:
  - 1. Pit water management. This includes removal from excavation pits, management/storage of pit water and discharge.
  - 2. The Contractor will coordinate with the Parish for discharge of pit water into the stormwater control system or sanitary sewerage system for approval and requirements. This may include temporary holding of pit water in aboveground tanks or vessels until analytical testing and analytical proves that the pit water can be released. All discharge activities, including temporary storage and treatment, must comply with EPA Brownfields grant conditions and LDEQ discharge permit regulations, including applicable requirements for General Stormwater Permits and pit water handling under LAC 33:IX Chapters 23 and 25
  - 3. Contractor will coordinate with LDEQ to determine how pit water can be managed.
- B. Related Sections:
  - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.
  - 2. Discharge Data - Testing shall include parameters required by LDEQ or Iberia Parish such as pH, TSS, oil and grease, lead, and other site-specific contaminants of concern. All testing must be conducted by a LELAP-accredited laboratory. Analytical results must 'pass' thresholds prior to authorization to discharge

##### **1.2 DEFINITIONS**

- A. Pit Water: Accumulated water in excavations as a result of the infiltration of groundwater and direct rainfall that cannot be prevented with engineering controls (i.e. temporary covering of pit or excavation area). The contractor will not allow stormwater to flow from the site into the excavation area. Failure to do so will result in the additional pit water that will need to be handled by the Contractor at their cost. This excludes flooding due to 100-year floods rainfalls or breeches in parish levees.
- B. Discharge: Pumping of stored pit water per approved Pit Water Discharge Plan.
- C. Mobile Storage Tank: A tank that is used to hold liquids – the generic term is 'frac tank'.
- D. Pit Water Discharge Plan: The Contractor will need to develop a plan for the management of Pit Water.
- E. Off-Site Treatment: Utilization of an off-site third party to treat and properly dispose of the pit water.

**1.3 SUBMITTALS**

- A. Pit Water Handling: Submit a Pit Water Management Plan to include drawings, data and narrative showing the methods including character and use of mobile storage tanks and filtration media within seven (7) day of NTP.
- B. Discharge Data: Testing records or other needed data required by Iberia Parish and/or LDEQ before discharge of pit water can occur. Submit data to the Environmental Consultant and Iberia Parish and/or LDEQ as needed to meet required discharge requests.

**1.4 QUALITY ASSURANCE**

- A. Handle water in accordance with local, state and federal codes, ordinance, laws and applicable authorities having jurisdiction.
- B. The Contractor will be responsible for testing the pit water prior to discharge.

**PART 2 - PRODUCTS****2.1 FILTRATION**

- A. Filtration Media for Intake: Water will be filtered at intake from the excavation pit prior to storage.
- B. Filtration Media for Discharge: Water will be discharged through filter medium.

**PART 3 - EXECUTION****3.1 APPLICATION**

- A. Pit Water will be pumped into holding tank(s) where the water will be allowed to settle prior to discharge. The Contractor will determine the number of holding tanks required for the project based on the Contractor's planned excavation activities.
- B. Pit Water should be filtered at intake and at the discharge end with a filter medium capable of collecting the silt contained in the water.
- C. Discharge testing will be performed by the Contractor as agreed to the Iberia Parish and/or LDEQ specification. The contractor will notify Iberia Parish and/or LDEQ and the Environmental Consultant 48-hour before the Holding Tank(s) is ready for discharge.

**3.2 CLOSE OUT OF FRAC TANKS & DISPOSAL OF WASTE**

- A. General: Remove waste materials from Project site and legally dispose of them in a landfill acceptable to authorities having jurisdiction.
  - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.

- B. The Contractor is responsible for cleaning all used holding tanks and properly disposing of any accumulated sludge or sediment under the contaminated/regulated material/waste profile. They may require drying or solidification prior to disposal in order to comply with landfill requirements (i.e. no free liquids – they must ‘pass’ paint filter requirements)
- C. The Contractor must dispose of filtration media under the contaminated/regulated material/waste profile. Filtration media may need to be dried prior to disposal in order to comply with landfill requirements (i.e. no free liquids – they must ‘pass’ paint filter requirements)

**END OF SECTION**

**SECTION 01 7810  
PROJECT RECORD DOCUMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Project Drawings
  - 2. Project Closeout Documentation.

**1.2 SUBMITTALS**

- A. Record Drawings: Submit one set of marked-up Record Prints.
- B. Record Closeout Documentation: Submit one electronic copy each (separately named) of transportation tickets, disposal records, fill load tickets, personnel monitoring (if completed), recycling tickets, permits, and other documents requested in the Specification, including addenda, contract modifications and prework, site work and end of project photographs/videos.

**PART 2 - PRODUCTS****2.1 RECORD DRAWINGS**

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
  - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is installer, subcontractor, or similar entity, to prepare marked-up Record Prints.
    - a. Give particular attention to information or concealed elements that would be difficult to identify or measure and record later.
    - b. Accurately record information in an understandable drawing technique.
    - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
  - 2. Content: Types of items requiring marking include, but are not limited to, the following:
    - a. Dimensional changes to Drawings of excavation.
    - b. Revisions to details shown on Drawings.

- c. Locations and depths of underground utilities.
    - d. Locations of concealed internal utilities.
    - e. Changes made by Change Order.
    - f. Changes made following Environmental Consultant's written orders.
    - g. Details not on the original Contract Drawings.
    - h. Field records for variable and concealed conditions.
    - i. Record information on the Work that is shown only schematically.
  - 3. Mark the Contract Drawings completely and accurately.
  - 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  - 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  - 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

## 2.2 PROJECT CLOSEOUT DOCUMENTS

- A. Preparation: Provide all requested documents for the work being performed to allow for the Environmental Consultant to develop the LDEQ closure report as requested in various sections of this Specification and attachments.
- 1. Weight tickets
  - 2. Fill Tickets
  - 3. Waste Profile for contaminated / regulated materials
  - 4. Disposal manifests
  - 5. Recycling tickets
  - 6. Daily Logs
  - 7. Pit Water management records

## 2.3 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Section for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

# PART 3 - EXECUTION

## 3.1 RECORDING AND MAINTENANCE

- A. Recording: Post changes and modifications to Project Record Documents as they occur; do not wait until the end of the Project.

- B. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 01 7810



## **DIVISION 2**

## **SECTION 02 2600**

### **EXCAVATION SUPPORT AND PROTECTION**

#### **PART 1 - GENERAL**

##### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

##### **1.2 SUMMARY**

- A. This Section includes temporary excavation support and protection systems.
- B. Related Sections include the following:
  - 1. Division 1 Section "Temporary Facilities and Controls" for temporary utilities and support facilities.
  - 2. Division 2 Section "Dewatering" for dewatering excavations.
  - 3. Division 2 Section "Earthwork" for excavating and backfilling and for existing utilities.

##### **1.3 PERFORMANCE REQUIREMENTS**

- A. Design furnish, install, monitor, and maintain excavation support and protection system capable of supporting excavation sidewalls and of resisting soil and hydrostatic pressure and superimposed and construction loads.
  - 1. Provide professional engineering services needed to assume engineering responsibility, including preparation of Shop Drawings and a comprehensive engineering analysis by a qualified professional engineer, as needed.
  - 2. Prevent surface water from entering excavations by grading, dikes, or other means.
  - 3. Install excavation support and protection systems without damaging neighboring buildings, pavements, and other improvements adjacent to excavation.

##### **1.4 SUBMITTALS**

- A. Shop Drawings for Information: Prepared by or under the supervision of a qualified professional engineer for excavation support and protection systems.
  - 1. Include Shop Drawings signed and sealed by the qualified professional engineer responsible for their preparation.

- B. Qualification Data: For Installer and professional engineer.
- C. Photographs or video, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by the absence of, the installation of, or the performance of excavation support and protection systems.

## 1.5 PROJECT CONDITIONS

- A. Existing Utilities: Not Anticipated
- B. Make additional test borings and conduct other exploratory operations necessary for excavation support and protection.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide materials that are either new or in serviceable condition.
- B. Structural Steel: ASTM A 36/A 36M, ASTM A 690/A 690M, or ASTM A 992/A 992M.
- C. Steel Sheet Piling: ASTM A 328/A 328M, ASTM A 572/A 572M, or ASTM A 690/A 690M; with continuous interlocks.
- D. Wood Lagging: Lumber, mixed hardwood, nominal rough thickness used.
- E. Other: To be designed by Contractor's Professional Engineer.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect fencing, roads, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.
  - 1. Shore, support, and protect utilities encountered.
- B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

- C. Locate excavation support and protection systems clear of permanent construction so that forming and finishing of concrete surfaces is not impeded.
- D. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure that excavation support and protection systems remain stable.
- E. Promptly repair damages to adjacent facilities caused by installing excavation support and protection systems.

### 3.2 SOLDIER BEAMS AND LAGGING – Not Applicable

### 3.3 SHEET PILING – Not Applicable

### 3.4 TIEBACKS

- A. Tiebacks: Drill for, install, grout, and tension tiebacks into position. Test load-carrying capacity of each tieback and replace and retest deficient tiebacks.
  - 1. Test loading shall be observed by a qualified professional engineer responsible for design of excavation support and protection system.
  - 2. Maintain tiebacks in place until permanent construction is able to withstand lateral earth and hydrostatic pressures.
- B. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and bear soil and hydrostatic pressures. Remove in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities, and utilities.
  - 1. Remove excavation support and protection systems.
  - 2. Repair or replace, as approved by Environmental Consultant, adjacent work damaged or displaced by removing excavation support and protection systems.

END OF SECTION 02 2600

## **DIVISION 31**

## **SECTION 31 1000**

### **SITE CLEARING**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A.** This Section includes the following:
  - 1. Removing existing trees and shrubs.
  - 2. Removing above- and below-grade site improvements.
  - 3. Disconnecting and capping or sealing site utilities.
  - 4. Temporary erosion and sedimentation control measures (SWPPP BMPs).
- B.** Related Section:
  - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

##### **1.2 MATERIAL OWNERSHIP**

- A.** Except for stripped non-contaminated/non-regulated or other materials indicated as Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

##### **1.3 SUBMITTALS**

- A.** Photographs or video, sufficiently detailed, of existing conditions of adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing and remediation.
- B.** Record drawings, according to Division 01 Section "Closeout Procedures" identifying and accurately locating excavation depths, capped utilities and other subsurface structural, electrical, and mechanical conditions.
- C.** The Contractor's Storm Water Pollution Prevention Plan (SWPPP) and LDEQ Notice of Intent (NOI) must comply with all EPA Brownfield Grant and LDEQ General Permit requirements, and shall be included in the final project record documentation
- D.** Contractor Utility Work Plan.
- E.** Contractor Work Plan including Site Schedule: The Contractor shall address the sequencing and schedule of all site excavation activities and phases and backfilling and dust control measures.
- F.** Severe Weather Plan to address issues such as high winds and heavy rains.
- G.** Contractor Pit Water Management Plan.

**1.4 PROJECT CONDITIONS**

- A.** Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Environmental Consultant and/or authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- B.** Salvable Improvements: Carefully remove items indicated to be salvaged and store on Client/Owner's premises where indicated.
- C.** Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D.** Do not commence site clearing operations until all plans and submittals are approved and temporary erosion and sedimentation control measures are in place.
- E.** Site clearing work must conform to the areas and procedures outlined in the approved Corrective Action Plan, Analysis of Brownfields Cleanup Alternatives, and Quality Assurance Project Plan.

**PART 2 - PRODUCTS****2.1 SOIL MATERIALS**

- A.** Excavated Soil Materials: Requirements for excavated soil materials are specified in Division 31.

**PART 3 - EXECUTION****3.1 PREPARATION**

- A.** Protect and maintain benchmarks and survey control points from disturbance during excavation.
- B.** Protect existing site improvements to remain from damage during excavation as applicable.
  - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

**3.2 TEMPORARY EROSION AND FLOODING CONTROL**

- A.** During construction operations, the Contractor shall install and maintain temporary erosion and flooding control features to the extent necessary to prevent pollution of storm drains, detrimental effects on public or private property adjacent to the construction or damage to work on the Project. Additional erosion control devices may be requested by the Environmental Consultant to protect the property described above during the Plan review process. This shall be done immediately when directed at no

additional cost to the Client/Owner if request was to correct an error or omission in the Contractor's submitted plan.

- B.** Provide temporary erosion, sedimentation control measures and dust suppression measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
- C.** Temporary features may include, but not be limited to silt fences, temporary grassing, sodding, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings or berms. All City, Parish, State and Federal ordinances shall be in compliance.
- D.** Inspect, repair, and maintain erosion and sedimentation control measures during all remedial activities.

### **3.3 UTILITIES**

- A.** Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.: Not Anticipated.
- B.** Existing Utilities: Do not interrupt utilities serving facilities occupied by Client/Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated for temporary Facilities:

### **3.4 CLEARING AND GRUBBING**

- A.** Remove all trees and shrubs from contaminated areas and from other mounded areas where soil will be flattened and spread uniformly.

### **3.5 SITE IMPROVEMENTS**

- A.** Not Applicable

### **3.6 DISPOSAL**

- A.** Disposal: Remove above or at grade obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Client/Owner's property.

**END OF SECTION**



## **SECTION 31 2000**

### **NON-REGULATED EARTH MOVING – EXCAVATION OF NON-CONTAMINATED SOIL**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A.** Section Includes:
  - 1. Excavation of site non-regulated, non-contaminated soils from area prior to backfill.
- B.** Related Sections:
  - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section

##### **1.2 DEFINITIONS**

- A.** Non-Contaminated Excavation: The removal of non-contaminated soils as identified in the site-specific Corrective Action Plan (CAP). This includes material in the “Reclaim Bullets Area” and the remainder of the soil in the backstop/berm that is not part of AOI-1 and AOI-2.
  - 2. All non-contaminated excavated materials shall be reused on the site.
    - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Environmental Consultant (EC). Authorized additional excavation will be paid for according to Contract provisions for changes in the Work of Non-Contaminated Excavation and deducted from Contaminated Excavation.
    - 2. Bulk Excavation: Excavation of site non-contaminated soils to a depth shown on Areas of Excavation as shown in the CAP. Excavation will proceed with inspection and release approved by the EC.
    - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by EC. Unauthorized excavation, as well as remedial work directed by EC, shall be without additional compensation.
- B.** Restricted Areas: Any areas on ULL property that are not considered to be within site boundaries of the Shooting Range area (with the exception of the driving path to access the Subject Area).
- C.** Non-Restricted Areas: The Former Shooting Range Area of the Site where Excavation is to occur.
- D.** Subgrade: Uppermost surface of an excavation proceeding downward into the earth.
- E.** Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services to previous demolished buildings.
- F.** Non-Contaminated Soil: Soil that is not contaminated with constituents of concern (COCs). Sampling and analysis of these soils have shown that COC (if present) are below Louisiana Department of Environmental Quality (LDEQ) Risk Evaluation and Corrective

Action Plan (RECAP) concentrations protective of human (including children) exposure in a non-industrial (residential) setting.

### **1.3 SUBMITTALS**

- A.** Pre-excavation Photographs or Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth moving operations.
- B.** Utility Location: Documentation that all utilities have been contacted and located including those that have not been located by Louisiana One Call to include but not is limited to the following: Electric, Gas, Oil, Steam, Dangerous Materials, Telephone and other communications, Water Systems and Sewer Systems.
- C.** Contractor Work Plan including site Schedule: The Contractor shall address the sequencing and schedule of all site excavation activities and phases.
- D.** Contractor Health and Safety Plan: For excavation stages, the plan shall document worker training and certificates, PPE requirements, Air Monitoring including dust control measures.

### **1.4 QUALITY ASSURANCE**

- A.** Pre-excavation Conference: Conduct conference at Client or Environmental Consultant's office.

### **1.5 PROJECT CONDITIONS**

- A.** Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
  - 3. Provide traffic route plan which shall address, at a minimum, the number of soil transport trucks per day, hours of operation and designated routes from point of origin at the site to final destination including all waste transfer.
- B.** Utility Locator Service: Notify Louisiana One Call as well as additional utility locating services for area where Project is located before beginning earth moving operations.
- C.** Clearly make physical markings on the site, which are maintained throughout the project duration, that define the following areas as indicated on the drawings:
  - 1. Horizontal limits of excavation (30 feet from nearest street) unless otherwise noted on plans
  - 2. Excavation Areas of Contaminated (AOI-1 and AOI-2), Reclaim Bullets Area, and Non Contaminated Soils/Material/Waste

3. The process of tracking additional quantities of soil removed from site is as follows:  
As the project progresses, tonnage of waste will be tallied. The EC will be documenting the weights with information provided by the Contractor in the form of landfill weight tickets for addition of tonnage incurred as result field testing results that require over excavating.
  4. Non-Regulated Areas: Areas of the ULL Site where contaminated material/waste is not located. Access to this area is not restricted and only requires OSHA awareness training for potential chemical exposure. All other OSHA training and Contractor health and safety requirements apply.
  5. Regulated Area: Areas of the ULL Site where contaminated material/waste is located (Former Shooting Range Area). Access to this area is restricted and requires OSHA 40-Hour HAZWOPER training and supplemental 8-hour annual refreshers. All other OSHA training and Contractor health and safety requirements apply.
- D. Do not commence earth moving operations until all plans have been approved and temporary erosion- and sedimentation-control measures, specified in Division 01 Section "Temporary Facilities and Controls" and Division 31 Section "Site Clearing" are in place.
- E. The following practices are prohibited within the Site:
1. Prolonged storage (in excess of one (1) week or seven (7) days) of contaminated excavated material.
  2. Impoundment of water. (in excess of Substantial Project Completion Notification)
- F. Prohibit heat sources, flames, ignition sources, and smoking on the Site.

## **PART 2 - PRODUCTS**

### **2.1 ACCESSORIES**

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility; colored as follows:
1. Red: Electric.
  2. Yellow: Gas, oil, steam, and dangerous materials.
  3. Orange: Telephone and other communications.
  4. Blue: Water systems.
  5. Green: Sewer systems.
- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored as follows:
1. Red: Electric.
  2. Yellow: Gas, oil, steam, and dangerous materials.
  3. Orange: Telephone and other communications.
  4. Blue: Water systems.

5. Green: Sewer systems.

- C. Restricted Area Marking: Orange plastic barricade fencing, cones or other identification barriers will be installed to isolate the non-regulated areas from the regulated areas. Contractor is not to disturb fencing or access restricted areas while performing non-contaminated excavation within Regulated Areas.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A. Protect temporary structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost.

#### **3.2 DEWATERING**

- A. Prevent surface water from entering excavations and all pit water from ponding on prepared subgrades (excavated areas). Manage Pit Water as specified in Division 01 5300.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
- C. Coordinate backfilling activities to minimize groundwater intrusion into excavation. Backfilling cannot be performed without approval from the EC as a visual inspection by the EC has to be performed to clear the area for backfilling.

#### **3.3 EXPLOSIVES**

- A. Explosives: Do not use explosives.

#### **3.4 EXCAVATION, GENERAL**

- A. Soil and Debris Excavation: Excavate to subgrade elevations, as indicated on drawings, regardless of the character of surface and subsurface conditions encountered unless otherwise directed by EC. Excavated materials may include gravel sized debris, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for removal of large obstructions.
1. All non-contaminated excavated soil will be stockpiled for reuse onsite.

2. All contaminated excavated soil, vegetation, trash, debris or waste will be stockpiled for no more than seven (7) days before transporting the material for proper disposal. All regulated excavated material will be placed on two layers of 6-mil polyethylene sheeting and covered and secured at the end of the day's work activities.
  3. All personnel performing site work relating to soil excavation shall be employed by or under direct supervision of the Contractor.
- B.** Utility Excavation: Contractor shall excavate up to and around located utility corridors within designated subgrade elevations. The remainder of subgrade elevation excavation shall be hand dug to minimize damage to and expose existing utilities.
- C.** Subgrade Obstruction Excavation: Contractor shall excavate up to and around obstructions that exceed designated subgrade elevations. If directed by EC, the remainder of subgrade elevation excavation shall be hand dug to minimize damage to and expose existing obstruction.

### **3.5 SUBGRADE INSPECTION**

- A.** Notify EC when excavations have reached required subgrade. The EC will be performing visual inspections to determine if all regulated material has been removed.
- B.** If EC determines that excavation elevation is unsatisfactory, continue excavation to required subgrade elevation as directed.
- C.** Authorized additional excavation will be paid for according to Contract provisions for changes in the Work unit rates.

### **3.6 STORAGE OF SOIL MATERIALS**

- A.** Stockpiling of excavated non-contaminated soil materials shall be stockpiled to allow for reuse as backfill material once visual clearance has been provided by the EC. Stockpiled material should be managed to limit air-borne dust for being generated.

### **3.7 FIELD QUALITY CONTROL**

- A.** Special Inspections: the EC will be present to perform the following special inspections:
1. Determine that specified subgrade depth is achieved and documented.
- B.** The EC will be performing lead air and dust monitoring each day of Contractor field work that incorporates heavy equipment and/or truck traffic.

### **3.8 PROTECTION**

- A.** Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

**3.9 DISPOSAL OF SURPLUS AND MATERIALS**

- A.** Remove surplus materials, including trash and debris, and legally dispose of them off Client/Owner's property.

**END OF SECTION 31 2000**

## **SECTION 31 2001**

### **REGULATED EARTH MOVING – EXCAVATION OF CONTAMINATED SOIL**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A.** Section Includes:
  - 1. Excavation of contaminated/regulated site soils prior to excavation of site non-regulated, non-contaminated soils
- B.** Related Sections:
  - 1. Excavation activities shall strictly follow the boundaries and depth intervals specified in the approved Corrective Action Plan (CAP). All deviations must be approved in writing by the Environmental Consultant.

##### **1.2 DEFINITIONS**

- A.** Contaminated Excavation: Removal of material encountered at AOI-1 and AOI-2 (to lines and dimensions indicated in the Corrective Action Plan (CAP). No contaminated excavated materials shall be reused on the site or off site and must be transported for disposal at an approved offsite facility.
  - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Environmental Consultant (EC). Authorized additional excavation will be paid for according to Contract provisions for changes in the Work of Contaminated Excavation and deducted from Non-Contaminated Excavation.
  - 2. Bulk Excavation: Excavation of site contaminated soils to a depth shown on Areas of Excavation, as shown in the CAP. Excavation will proceed with inspection and release approved by the EC.
  - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by EC. Unauthorized excavation, as well as remedial work directed by EC, shall be without additional compensation.
- B.** Restricted Areas: Any areas on ULL property that are not considered to be within site boundaries of the Former Shooting Range area (with the exception of the driving path to access the Subject Area).
- C.** Non-Restricted Areas: The Shooting Range Area of the Site where Excavation is to occur.
- D.** Subgrade: Uppermost surface of an excavation proceeding downward into the earth.
- E.** Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services to previous demolished buildings.
- F.** Contaminated Soil: Soil that has been demonstrated by sampling and analysis to contain constituents of concern (COC) above Louisiana Department of Environmental Quality (LDEQ) Risk Evaluation and Corrective Action Plan (RECAP) concentrations

protective of human (including children) exposure in a non-industrial (residential) setting.

- G.** Regulated Earth Moving: excavation of contaminated soils as part of the CAP.
- H.** Hazardous Material/Waste: For the purposes of this SOW, hazardous material/waste is a material or waste that has been found to contain elevated levels of chemicals via laboratory analysis. As a result, exposure to personnel could cause adverse effects; therefore, the Contractor selected to perform the work must be licensed by the Louisiana Board of Contractors as a Hazardous Materials Contractor or other acceptable contractor's license as defined previously in this SOW. Personnel handle, digging, or manipulating the material/waste will be required to have been trained per OSHA's Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations (in general industry, 29 CFR 1910.120; and construction 29 CFR 1926.65) and maintain current 8-hour refresher certification.
- I.** Non-hazardous Waste: solid waste that is not regulated as RCRA hazardous waste. Soil at this site has passed Toxicity Characteristic Leaching Procedure (TCLP) and is contaminated but not considered hazardous waste for purposes of transportation and disposal.

### **1.3 SUBMITTALS**

- A.** Pre-excavation Photographs or Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth moving operations.
- B.** Utility Location: Documentation that all utilities have been contacted and located including those that have not been located by Louisiana One Call to include but not is limited to the following: Electric, Gas, Oil, Steam, Dangerous Materials, Telephone and other communications, Water Systems and Sewer Systems.
- C.** Contractor Work Plan including site Schedule: The Contractor shall address the sequencing and schedule of all site excavation activities and phases.
- D.** Contractor Health and Safety Plan: For excavation stages, the plan shall document worker training and certificates, PPE requirements, Air Monitoring including dust control measures.

### **1.4 QUALITY ASSURANCE**

- A.** Pre-excavation Conference: Conduct conference at Client or Environmental Consultant's office.

### **1.5 PROJECT CONDITIONS**

- A.** Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.



2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
  3. Provide traffic route plan which shall address, at a minimum, the number of soil transport trucks per day, hours of operation and designated routes from point of origin at the site to final destination including all waste transfer.
- B.** Utility Locator Service: Notify Louisiana One Call as well as additional utility locating services for area where Project is located before beginning earth moving operations.
- C.** Clearly make physical markings on the site, which are maintained throughout the project duration, that define the following areas as indicated on the drawings:
1. Horizontal limits of excavation (30 feet from nearest street) unless otherwise noted on plans
  2. Excavation Areas of Contaminated (AOI-1 and AOI-2), Reclaim Bullets Area, and Non Contaminated Soils/Material/Waste
  3. The process of tracking additional quantities of soil removed from site is as follows: As the project progresses, tonnage of waste will be tallied. The EC will be documenting the weights with information provided by the Contractor in the form of landfill weight tickets for addition of tonnage incurred as result field testing results that require over excavating.
  4. Non-Regulated Areas: Areas of the ULL Site where contaminated material/waste is not located. Access to this area is not restricted and only requires OSHA awareness training for potential chemical exposure. All other OSHA training and Contractor health and safety requirements apply.
  5. Regulated Area: Areas of the ULL Site where contaminated material/waste is located (Former Shooting Range Area). Access to this area is restricted and requires OSHA 40-Hour HAZWOPER training and supplemental 8-hour annual refreshers. All other OSHA training and Contractor health and safety requirements apply.
- D.** Do not commence earth moving operations until all plans have been approved and temporary erosion- and sedimentation-control measures, specified in Division 01 Section "Temporary Facilities and Controls" and Division 31 Section "Site Clearing" are in place.
- E.** The following practices are prohibited within the Site:
1. Prolonged storage (in excess of one (1) week or seven (7) days) of contaminated excavated material.
  2. Impoundment of water. (in excess of Substantial Project Completion Notification)
- F.** Prohibit heat sources, flames, ignition sources, and smoking on the Site.

## **PART 2 - PRODUCTS**

### **2.1 ACCESSORIES**

- A.** Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches (150 mm) wide and 4 mils

(0.1 mm) thick, continuously inscribed with a description of the utility; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

- B.** Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

- C.** Restricted Area Marking: Orange plastic barricade fencing, cones or other identification barriers will be installed to isolate the non-regulated areas from the regulated areas. Contractor is not to disturb fencing or access restricted areas while performing non-contaminated excavation within Regulated Areas.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A.** Protect temporary structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B.** Protect and maintain erosion and sedimentation controls during earth moving operations.
- C.** Protect subgrades and foundation soils from freezing temperatures and frost.

#### **3.2 DEWATERING**

- A.** Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area. Pit Water Management is specified in Division 01 5300.
- B.** Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

- C. Coordinate backfilling activities to minimize groundwater intrusion into excavation. Backfilling cannot be performed without approval from the EC as a visual inspection by the EC has to be performed to clear the area for backfilling.

### **3.3 EXPLOSIVES**

- A. Explosives: Do not use explosives.

### **3.4 EXCAVATION, GENERAL**

- A. Soil and Debris Excavation: Excavate to subgrade elevations, as indicated on drawings, regardless of the character of surface and subsurface conditions encountered unless otherwise directed by EC. Excavated materials may include gravel sized debris, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for removal of large obstructions.
  - 1. All non-contaminated excavated soil will be stockpiled for reuse onsite.
  - 2. All contaminated excavated soil, vegetation, trash, debris or waste will be stockpiled for no more than seven (7) days before transporting the material for proper disposal. All regulated excavated material will be placed on two layers of 6-mil polyethylene sheeting and covered and secured at the end of the day's work activities.
  - 3. All personnel performing site work relating to soil excavation shall be employed by or under direct supervision of the Contractor.
- B. Utility Excavation: Contractor shall excavate up to and around located utility corridors within designated subgrade elevations. The remainder of subgrade elevation excavation shall be hand dug to minimize damage to and expose existing utilities.

Subgrade Obstruction Excavation: Contractor shall excavate up to and around obstructions that exceed designated subgrade elevations. If directed by EC, the remainder of subgrade elevation excavation shall be hand dug to minimize damage to and expose existing obstruction.

### **3.5 SUBGRADE INSPECTION**

- A. Notify EC when excavations have reached required subgrade. The EC will be performing visual inspections to determine if all regulated material has been removed.
- B. If EC determines that excavation elevation is unsatisfactory, continue excavation to required subgrade elevation as directed.
- C. Authorized additional excavation will be paid for according to Contract provisions for changes in the Work unit rates.

### **3.6 STORAGE OF SOIL MATERIALS**

- A. Stockpiling of excavated contaminated soil materials shall be limited based upon truck load out sequencing. Place, grade, and shape stockpiles to drain stormwater. All regulated excavated material will be placed on two layers of 6-mil polyethylene sheeting and covered and secured at the end of the day's work activities.

**3.7 FIELD QUALITY CONTROL**

- A.** Special Inspections: the EC will be present to perform the following special inspections:
  - 1. Determine that specified subgrade depth is achieved and documented and that all contaminated material/waste has been removed.
- B.** The EC will be performing lead air and dust monitoring each day of Contractor field work that incorporates heavy equipment and/or truck traffic.

**3.8 PROTECTION**

- A.** Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

**3.9 DISPOSAL OF SURPLUS MATERIALS**

- A.** Remove surplus materials, including trash and debris, and legally dispose of them off Client/Owner's property.

**END OF SECTION 31 2001**

## **SECTION 31 2003**

### **PERIMETER MONITORING**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A.** This Section includes the following:
1. Perimeter air monitoring during the project to demonstrate protection of the adjacent areas from exposure to airborne dust, air-borne Constituents of Concern (COCs) via airborne dust.
  2. Baseline perimeter monitoring prior to site work to establish existing conditions.
  3. Establishment of perimeter air quality action levels to: (1) provide real-time warnings when dust levels approach limits, (2) require implementation of engineering controls when levels are exceeded, and (3) temporarily suspend work if controls are ineffective.
- B.** Related Sections:
1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

##### **1.2 SUBMITTALS**

- A.** Perimeter Air Monitoring:
1. The Environmental Consultant (EC) will monitor the perimeter of the Site for elevated levels of particulate matter (PM) in real time that may adversely impact the adjacent areas during work activities. The EC will also monitor for lead in air during excavation. Real time monitoring of PM will be performed to allow the EC to alert the Contractor when action levels are close to being exceeded and if PM action levels are exceeded.
  2. Real-time dust monitoring stations will be placed on each side (N, S, E and W) of excavation activities, the air quality parameters to be measured will be Total Particulate, action levels for parameters to be measured based on regulatory standards.
  3. Three air samples will be collected from downwind/crosswind direction each day by the EC and sent to a qualified laboratory for analysis of lead. These samples support environmental compliance and are not intended for personal exposure assessments under OSHA or NIOSH standards. Contractors are responsible for their own OSHA compliance.
- B.** Perimeter Vibration Monitoring: Not Applicable

##### **1.3 PROJECT CONDITIONS**

- A.** Baseline Perimeter Air Monitoring shall begin prior to site work, to establish baseline conditions.

- B.** Perimeter Air Monitoring shall be performed during the course of Contractor field activities, except for Temporary Facilities installation.

**PART 2 - PRODUCTS (Not Used)****PART 3 - EXECUTION****3.1 PREPARATION**

- A.** Baseline Air Quality Conditions will be established.

**3.2 ENGINEERING CONTROLS**

- A.** The Dust Control Plan must include at minimum: water misting, wind-sensitive scheduling, equipment staging zones, and limits on material drop heights. The EC may require additional controls based on weather or downwind observations.

**3.3 WORK ACTIVITIES**

- A.** Perimeter Air Monitoring will continue during work activities including but not limited to the following; demolition/removal of vegetation, excavation, and waste removal in accordance with the Corrective Action Plan.
- B.** Work will continue as long as the Perimeter Air Monitoring indicates that the activities are not degrading the nearby air quality.
- C.** Additional controls will be implemented when air quality degrades and Action Levels are reached.
- D.** Work will stop if the air quality exceeds the standards until a remedy is implemented.

**END OF SECTION 31-2003**

**SECTION 31 3000****CONTAMINATED / REGULATED AREAS****PART 1 – GENERAL****1.1 SUMMARY****A. This Section includes the following:**

1. Contaminated / Regulated Areas where unacceptable chemical contamination in soil is present. These areas are defined in the approved Corrective Action Plan (CAP) and are regulated by the Louisiana Department of Environmental Quality (LDEQ). Work must conform to CAP-defined boundaries and procedures, and all changes must be field-confirmed by the Environmental Consultant.
2. The Contaminated / Regulated Area that contains contaminated fill that will need removal by excavation, transportation off site and disposal is identified on drawing (attached).
3. At the beginning of the work there is limited access into the entire Contaminated / Regulated area to protect workers and to prevent movement of contamination from the Contaminated / Regulated area to the non-Contaminated / Regulated areas.
4. The limits of the Regulated Area may expand or contract during field work based on observations of staining, odor, debris, or laboratory confirmation. All adjustments will be determined by the Environmental Consultant and documented accordingly.
5. Contaminated / Regulated areas should not be disturbed except by remedial activities. Access to these areas needs to be restricted to 40-Hour OSHA HAZWOPER trained personnel.

**B. Related Sections**

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

**1.4 DESCRIPTION OF WORK:**

- A.** Work of this section consists of preparing Contaminated / Regulated Area for work of the following specification sections only. Do not use procedures set forth in this section in connection with any other work unless instructed.

1. Section 31 3002 Entry Into Contaminated / Regulated Areas

**1.5 SUBMITTALS**

- A. Contractors Work Plan Submittal – This shall include a Site Plan that demarcates regulated and non-regulated areas: Include a color-coded or otherwise visually distinct map showing current Regulated Area boundaries. Update as field conditions evolve .
- B. Site Specific Health and Safety Plan
- C. Construction Stormwater Plan
- D. Submit product information.

- E. Submit examples of signage

## **PART 2 - PRODUCTS**

- A. Regulated / Contaminated Area Isolation cones, caution/danger tape or other restrictive barriers (I.e. Orange Fencing).
- B. Signs

## **PART 3 - EXECUTION**

### **3.0 SECURING CONTAMINATED / REGULATED AREA:**

#### **A. Demarcation:**

1. Install temporary fencing, barricade cones, and signage to restrict access to the Contaminated / Regulated Areas. Fencing must be maintained and repositioned as necessary if boundaries shift during work.
2. Signs: Post warning signs where workers enter the Contaminated / Regulated Area that carry appropriate wording in both English and Spanish (as needed) or otherwise stipulated by state or federal regulations.

### **3.1 SCHEDULING:**

- A. **Work may be carried out** during normal working hours.

### **3.2 GENERAL PROCEDURES:**

- A. **The following precautions and procedures** have application to work of this section. Workers must exercise caution to avoid release of dust into the air:

1. Setup and management of the Contaminated / Regulated area is to be under the supervision of an OSHA Competent Person as described in OSHA 29 CFR 1926.62
2. Before start of work comply with requirement for Worker Protection in Section 31 3004 and Respiratory Protection, if necessary, in Section 31 3006 and confirm that all personnel entering the Regulated Area have active 40-Hour HAZWOPER certification and appropriate PPE as defined by the site-specific Health and Safety Plan (HASP).
3. Do not allow eating, drinking, smoking, chewing tobacco, gum, or applying cosmetics in the Contaminated / Regulated Area.

- B. **At completion of work** require all workers to complete decontamination procedures in accordance with Section 31 3004 Worker Protection.

**END OF SECTION 31-3000**



## **SECTION 31 3002**

### **ENTRY INTO CONTAMINATED / REGULATED AREAS**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A.** This Section includes the following:
  - 1. Requirements for qualified personnel entering Contaminated / Regulated Areas where exposure to subsurface contaminants identified in the CAP, ABCA, and QAPP may present inhalation, dermal, or other health risks.
  - 2. To provide requirements to make a negative assessment of chemical exposure or a determination whether respirators are required for entry into the Contaminated / Regulated Areas.
  - 3. It specifically addresses site specific exposure.
- B.** Related Sections:
  - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

##### **1.2 SUBMITTALS**

- A.** Work Plan
- B.** Training records of workers who can access the Contaminated / Regulated Areas. Training records must include name, date of training, training type (e.g., HAZWOPER, Hazard Communication), certifying trainer, and expiration date. These records must be available on-site and submitted electronically prior to initial site mobilization
- C.** Air monitoring records and/or negative assessments.
- D.** Site Specific Health and Safety Plan.
- E.** Access documentation.
- F.** Fitness for Duty Documentation and Chemical/Metal Baselines

#### **PART 2 - PRODUCTS (Not Used)**

#### **PART 3 - EXECUTION**

##### **3.1 CONTAMINATED / REGULATED AREA**

- A.** Prior to beginning work in this area establish a Contaminated / Regulated area as described in Section 31 3000 Contaminated / Regulated Areas.

**3.2 DESCRIPTION OF WORK**

- A.** The provisions of this section apply when entry is required into an area where such entry could cause contamination of other portions of the site or surrounding neighborhood and/or where respiratory or other worker protection measures are required such as dust suppression.
- B.** Worker Protection: For all site chemical/metals, the Contractor must initially determine if any employees may be exposed to chemical/metals at or above the action level (AL) and Permissible Exposure Level (PEL) as detailed by OSHA or other regulatory agencies and measured as an 8-hour Time Weighted Average (TWA). Additional protection may be needed dependent upon the Environmental Hazards being used, disturbed, or removed.
- C.** Negative Assessment: If respiratory protection is not required then the contractor must prove that the work being performed does not expose the workers to contaminants above the PEL. A negative exposure assessment has been established when the workplace conditions "closely resemble" the process, type of material, control methods, work practices, environmental assessment, and should be available at each new worksite. Each employer who has a workplace or work operation covered by the OSHA standard shall ensure that a "qualified person" conducts an exposure assessment immediately before or at the initiation of the operation to ascertain expected exposures during that operation or at that workplace. The assessment must be completed in time to comply with requirements which are triggered by exposure data or the lack of a "negative exposure assessment," and to provide information necessary to assure that all control systems planned are appropriate for that operation and will work properly.

**3.3 ENTRY INTO CONTAMINATED / REGULATED AREAS**

- A.** Allow only workers into the Contaminated / Regulated Area that are trained in hazard awareness, have the proper PPE and have completed the appropriate physicals. If necessary document access.
- B.** If access is into an area that is considered an environmental hazard, ensure that all PPE and engineering controls are in-place as required by the Site Specific Health and Safety Plan to be developed by the Contractor.
- C.** The Contractor is responsible for ensuring that non-approved personnel do not access the Contaminated / Regulated areas.

**3.4 PERSONNEL DECONTAMINATION**

- A.** The Contractor will provide a decontamination station at the exit from the Contaminated / Regulated Area(s). The decontamination will be appropriate for the contaminant of concern. No one will exit the Contaminated / Regulated Area(s) without following these procedures.

**END OF SECTION**

## SECTION 31 3004

### WORKER PROTECTION

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. This Section includes the following:
  - 1. The equipment and procedures required for protecting workers against Environmental Hazard(s) contamination and other workplace hazards except for respiratory protection.
  - 2. Reference regulations and standards pertaining to the worker's protection.
- B. Related Sections:
  - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

##### **1.2 SUBMITTALS**

- A. Work Scope to address CAP requirements
- B. Certificate of Worker's Acknowledgement (an example to be modified at the End of this Section).
- C. Contractors Site Specific Health and Safety Plan.
- D. Fitness for Duty release.
- E. Chemical/Metals Awareness Training Certificates - Submit valid training certificates for all site personnel, indicating completion of 40-hour HAZWOPER (where required), hazard communication, and chemical/metals hazard training as applicable. Include training date, expiration, and trainer name.

##### **1.3 WORKER TRAINING**

- A. OSHA Worker Awareness Training: All workers that will be exposed to Environmental Hazards will be trained as required by 29 CFR 1910 and/or 1926.
  - 1. Lead and other Metals: The Contractor will ensure that all workers are trained in accordance with 29 CFR 1910.1025 and/or 1926.62 as required by the work.
  - 2. Other Environmental Hazards: The Contractor will ensure that all workers are trained in accordance with 29 CFR 1910 and 1926 Subpart Z (Toxic and Hazardous Substances) applicable to each Environmental Hazard defined.
- B. **OSHA Hazardous Waste Training:** Workers handling hazardous waste shall be trained as required by 29 CFR 1910.120 and/or 1926.65 as appropriate for the work being proposed. This includes having at least one person to oversee the work activities with supervisor training as required by 29 CFR 1910 or 1926.

- C. DOTD Hazardous Material Regulations:** All workers handling hazardous materials will be required training in the handling of hazardous materials as required by 49 CFR Part 100 through 185.
- D. State and Local License:** All workers will be trained, certified and accredited as required by the state, local code or regulations. All transporters of contaminated waste must be licensed by the State to transport solid waste (with a specialty in contaminated waste). All vehicles transporting contaminated / regulated waste will have an LDEQ Transporter I.D No. (T-number) as required by LAC 33:VII.505. If waste is not to be rendered non-hazardous than the transporter will need to be licensed as a hazardous materials transporter per Louisiana Department of Transportation and Development and/or other jurisdictions (i.e. other States) that hazardous waste will be transported through.
- E.** Daily safety meetings shall include but not limited to the following: continuous training in hazards; lessons learned; updated safety information; notice of inclement weather or any other topic appropriate for the daily work activities.

#### **1.4 MEDICAL SURVEILLANCE:**

- A. Provide a medical surveillance program** for all employees in accordance with OSHA 29 CFR 1910.134 and 29 CFR 1926.62, and must assess the worker's fitness for duty based on expected exposure, physical strain, and temperature conditions.
- B. Provide a medical surveillance program** and physician's opinion before a respirator is assigned as required by 29 CFR 1910.134 and 29 CFR 1926.103(e)(10).
- C. Provide medical examination** at a minimum to meet OSHA requirements as set forth in 29 CFR 1910 and/or 1926. In addition, The physician shall provide an evaluation of each individual worker's ability to perform work in environments capable of producing types of Heat Stress, if applicable.

### **PART 2 - EQUIPMENT**

#### **2.1 PROTECTIVE CLOTHING:**

- A. General:** Provide the required use of protective clothing, including but not limited to the following; such as respirators, coveralls or similar whole-body clothing, head covering, gloves, and foot covering for any employee exposed to airborne concentrations of Environmental Hazards that exceed the TWA and/or excursion limits prescribed by 29 CFR 1926 or for which a required negative exposure assessment is not produced.
- B. Coveralls:** If determined to be necessary, provide disposable full-body coveralls and head covers. It is required that protective attire to be worn by all workers in the Restricted Areas. Provide a sufficient number of protective clothing for all required changes, for all workers and authorized visitors in the Restricted areas.
  - 1. Require that workers change coveralls in the Personnel Decontamination Unit. Dispose of coveralls per the specific environmental hazard (i.e. Lead) waste requires at completion of work.

- C. Additional Protective Clothing:** Provide each worker with protective clothing as required by Federal, State and local regulations. This includes, but is not limited to the following: Hardhats, Cold weather gear, Glove, boots and goggles.
- D. Boots:** Work boots should have non-skid soles and foot protection as required by OSHA. Do not allow boots to be removed from the Restricted Work Area for any reason, after being contaminated with site Environmental Hazards. Dispose of boots per the specific Environmental hazard waste (i.e. asbestos, lead) at the end of the work or decontaminate.
- E. Hard Hats:** Provide head protective (hard hats) as required by OSHA for all workers, and provide 4 spares for use by project visitors. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the Work Area throughout the work in the restricted areas. Thoroughly clean, decontaminate and bag hats before removing them from the Restricted Work Areas at the end of the work.
- F. Goggles:** Provide eye protection (goggles) as required by OSHA for all workers involved in any activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from the Work Area at the end of the work in restricted work areas.
- G. Gloves:** Provide work gloves to all workers as required by OSHA. Do not remove gloves from the Work Areas and dispose of the gloves as required per specific Environmental Hazard(s) waste (i.e. lead) at completion of all work in restricted work areas.

## 2.2 ADDITIONAL PROTECTIVE EQUIPMENT:

- A.** If necessary disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for other authorized representatives who may inspect the job site. Provide at least a minimum of six (6) complete coveralls per day.

## **PART 3 - EXECUTION**

### **3.1 GENERAL**

- A.** Provide worker protection as required by OSHA/EPA/DOTD standards applying the most stringent applicable to the work.
- B.** Each time the Restricted Area is entered workers should put on all applicable personnel protective equipment.

### **3.2 DECONTAMINATION PROCEDURES:**

- A.** If the Regulated / Contaminated area is accessed, any personnel at a minimum shall clean boots and wash hands and face. Special care must be taken to prevent the contamination into eating and smoking areas. It is unlikely that there will be exposure above the AL or PEL for any of the COCs in which case 'dry decon' may meet the requirements for the worker's protection. Alternatively a wet decon may be necessary. Specific methods to be used should be in the Contractors Site Specific Health and Safety Plan. Contractor must provide written decontamination protocol in the Site-

Specific HASP, identifying specific exit procedures by contamination level and activity type.

- B. Dry Decontamination:** Personal decontamination must be required each time workers leave the Restricted Areas and at the completion of the environmental service work. Personal decontamination should be done within each work area where recontamination cannot occur. Contaminated PPE should not be transported outside the work area except for disposal purposes. Methods should be delineated to ensure that work clothes and footwear worn during work in the restricted area does not contaminate the non-restricted area. Any PPE used while carrying out the work must not be taken home. Personal hygiene and careful washing are essential. Particular attention should be paid to the hands, fingernails, face and head.
- C. Wet Decontamination:** These procedures will be necessary whenever workers leave the Restricted Areas containing airborne contaminants above the PEL. If this occurs, work should be stopped and the Environmental Consultant should be contacted to reevaluate excavation methods. If wet decon is triggered, work must stop until the Environmental Consultant evaluates and adjusts the excavation protocol or PPE level accordingly.
- D. Within Regulated / Contaminated Area:** The workers should NOT eat, drink, smoke, chew tobacco, gum, or apply cosmetics in the Restricted Area. Workers shall follow the procedure described above when eating, drinking or smoking and dress in street clothes before entering the Unrestricted Areas of the building.

### 3.3 CERTIFICATE OF WORKER'S ACKNOWLEDGEMENT:

- A.** Following this section is a Worker's Training Certificate: Certificates must be maintained onsite and made available for audit or inspection at any time by the Environmental Consultant, Client/Owner, or regulatory agency.

**END OF SECTION**

**EXAMPLE CERTIFICATE OF WORKER'S ACKNOWLEDGEMENT**

CONTRACTOR'S NAME \_\_\_\_\_

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper PPE and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination if required by OSHA. These things are to have been done at no cost to you.

**RESPIRATORY PROTECTION:** You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

**HAZARD COMMUNICATION:** You must have been trained by your employer in accordance with OSHA's hazard communication standard to protect employees who may be exposed to hazardous chemicals. 29 CFR 1910.1200 standards requires that your employer develop written documents to explain how they will implement each standard, provide training to employees, and protect the health and safety of their workers.

**TRAINING AND CERTIFICATION:** You must have been trained in the dangers inherent in handling lead-based paint and hazardous materials as required by State and federal regulations.

**MEDICAL EXAMINATION:** You have been included in any medical surveillance required by OSHA.

By signing this document you are acknowledging only that the Owner of the facility where you are about to work ~~in~~ has advised you of your rights to training and protection relative to your employer.

Employee Signature \_\_\_\_\_ Printed Name: \_\_\_\_\_

By signing this document you acknowledge that you have provided or have ensured that the employee above has been trained in accordance with the state and federal regulations for the hazards associated with this project and that your company maintains a written health and safety program to ensure that the employees of your company are protected from exposure to Environmental Hazards including Lead and PAHs in soil while working for your company.

Officer Signature \_\_\_\_\_ Printed Name: \_\_\_\_\_

## **SECTION 31 3006**

### **RESPIRATORY PROTECTION**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A.** This section includes the following
  1. Methods of respirator selection and use if use is necessary in the Contaminated / Regulated areas. Use respiratory protection appropriate for the contaminant level encountered in the workplace or as required for other toxic or oxygen-deficient situations encountered.
  2. Instruction and training for each worker in proper respirator use involved in handling site Environmental Hazards pertaining to the each identified hazard.
  3. Requirements that each worker always wear a respirator, properly fitted on the face, in the Contaminated / Regulated Area from the start of any operation which may cause airborne contaminants above the PEL until the Contaminated / Regulated Area is completely decontaminated.
  4. A negative exposure assessment, if used to waive the requirement for respiratory protection, must be approved by a Certified Industrial Hygienist (CIH) and include representative data, task comparisons, and confirmation of control measures. The Contractor must submit this documentation for review before proceeding without respiratory protection.
  5. Reference regulations and standards pertaining to respiratory protection
- B.** Related Sections
  1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

##### **1.2 SUBMITTALS:**

- A.** Certificate of Worker's Acknowledgement
- B.** Contractors Site Specific Health and Safety Plan.
- C.** Fitness for Duty release.
- D.** Respiratory protection program
- E.** Respirator fit test
- F.** Negative assessment
- G.** Initial hazard assessment

##### **1.2 DEFINITIONS:**



- A. "Negative Pressure Respirator": A respirator in which the air pressure inside the respiratory - inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
- B. "Protection Factor": The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- C. "Respirator": A device designed to protect the wearer from the inhalation of harmful atmospheres.

### 1.3 STANDARDS:

- A. **Except to the extent** that more stringent requirements are written directly into the Contract Documents, the latest edition of the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.
  - 1. **OSHA:** U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards Section 29 CFR 1910.134, 1910.1025 (for general industry) and 1926.62 (for construction).
  - 2. **ANSI:** American National Standard Practices for Respiratory Protection, ANSI Z88.2.
  - 3. **NIOSH:** EPA-560-OPTS-86-001 (September 1986);-42 CFR 84, NIOSH Standard for Certification of Non-Powered Air Purifying Respirator filters;-30 CFR 11, NIOSH - Certification of Respirators

### 1.6 AIR QUALITY FOR SUPPLIED AIR RESPIRATORY SYSTEMS:

- A. Provide air used for breathing in supplied air respiratory systems that meets or exceeds standards set for C.G.A. type 1 (Gaseous Air) Grade H or CSA Z180.1 whichever presents the more stringent quality standard:

### 1.7 ALLOWABLE CONTAMINANTS:

- A. **Supply air** that has a concentration no greater than outside ambient conditions for all site Environmental Hazards.
- B. **Supply air** that meets the level of contaminants allowed according to the air quality standard specified by OSHA, NIOSH and/or MSHA.

### 1.8 DELIVERY:

- A. **Deliver replacement parts**, etc., not otherwise labeled by NIOSH or MSHA to job site in manufacturer's containers.

**PART 2 - EQUIPMENT****2.1 AIR PURIFYING RESPIRATORS**

- A. Respirator Bodies:** Provide half face or full-face type respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit (0 degrees Celsius).
- B. Filter Cartridges:** Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with 42 CFR Part 84 and ANSI Z228.2. Also, additional cartridge sections may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.
- C. Non-permitted respirators.** Do not use single use, disposable or quarter face respirators.

**2.2 SUPPLIED AIR RESPIRATOR SYSTEMS (If utilized)**

- A. Provide equipment** capable of producing air of the quality and volume required by the above reference standards applied to the job site conditions and crew size. Comply with provisions of this specification if more stringent than the governing standard.
- B. Face piece and Hose:** Provide full face piece and hose by same manufacturer that has been certified by NIOSH/MSHA as an approved Type "C" respirator assembly operating in pressure demand mode with a positive pressure face piece.
- C. Auxiliary backup system:** In atmospheres which contain sufficient oxygen (greater than or equal to 19.5 percent oxygen) provide a pressure-demand full face piece supplied air respirator equipped with an emergency back up HEPA filter.
- D. Escape air supply:** In atmospheres which are oxygen deficient (less than 19.5 percent oxygen) provide a pressure-demand full face piece supplied air respirator incorporating an auxiliary self-contained breathing apparatus (SCBA) which automatically maintains an uninterrupted air supply in pressure demand mode with a positive pressure face piece.
- E. Backup air supply:** Provide a reservoir of compressed air located outside the Work Area which will automatically maintain a continuous uninterruptible source of air automatically available to each connected face piece and hose assembly in the event of compressor shut-down, contamination of air delivered by compressor, power loss or other failure. Provide sufficient capacity in the back-up air supply to allow a minimum escape time of one-half hour times the number of connections available to the Work Area. Air requirement at each connection is the air requirement of the respirators in use plus the air requirement of an average-sized adult male engaged in moderately strenuous activity.
- F. Warning device:** Provide a warning device that will operate independently of the building's power supply. Locate so that an alarm is clearly audible above the noise level produced by equipment and work procedures in use, in all parts of the Work Area and at

the compressor. Connect alarm to warn of:

1. Compressor shut down or other fault requiring use of backup air supply
2. Carbon Monoxide (CO) levels in excess of 5 PPM/V

**G. Carbon Monoxide (CO) Monitor:** Continuously monitor and record on a strip chart recorder Carbon Monoxide (CO) level. Place monitors in the air line between compressor and back-up air supply and between backup air supply and workers. Connect monitors so that they also sound an alarm as specified under "Warning Devices".

**H. Compressor Shut Down:** Interconnect monitors, alarms and compressor so that compressor is automatically shut down and the alarms sound if any of the following occur:

1. Carbon Monoxide (CO) concentrations exceed 5 PPM/v in the air line between the filter bank and backup air supply
2. Compressor temperature exceeds normal operating range

**I. Compressor Motor:** Provide a compressor driven by an electric motor. Do not use a gas or diesel engine to drive compressor. Insure that electrical supply available at the work site is adequate to energize motor.

**J. Compressor Location:** Locate compressor outside of building in location that will not impede access to the building, and that will not cause a nuisance by virtue of noise or fumes to occupied portions of the building.

**K. Air Intake:** Locate air intake remotely from any source of automobile exhaust or any exhaust from engines, motors, auxiliary generator or buildings.

**L. After-Cooler:** Provide an after-cooler at entry to filter system which is capable of reducing temperatures to outside ambient air temperatures.

**M. Self Contained Breathing Apparatus (SCBA):** Configure system to permit the recharging of 1/2 hour 2260 PSI (15.58 MPa) SCBA cylinders.

### **PART 3 - EXECUTION**

#### **3.1 GENERAL:**

**A. Respiratory Protection Program:** Comply with ANSI Z88.2 "Practices for Respiratory Protection" and OSHA 29 CFR 1910.134 and 1926.103.

**B. Require** that respirators be used in the following circumstances:

1. During work that will expose a worker to contaminant levels above the PEL for all site Environmental Hazards.

**C. Require** that respiratory protection be used at all times that there is any possibility of disturbance of identified contaminants whether intentional or accidental that will result in exposure above the PEL.

#### **3.2 FIT TESTING:**

**A. Initial Fitting:** Provide initial fitting of respiratory protection during a respiratory protection

course of training set up and administered by an individual qualified to do fit testing. Fit types and sizes of respirator to be worn by each individual. Allow an individual to use only those respirators for which training and fit testing have been provided.

- B. Upon Each Wearing:** Contractor shall document initial and annual fit testing for each worker and retain certificates on site. Field checks (positive and negative pressure) must be documented in the daily safety log during regulated work.

### 3.3 TYPE OF RESPIRATORY PROTECTION REQUIRED:

- A. General:** After reducing contaminant levels to the lowest feasible level with engineering controls and work practices, provide respiratory protection as necessary to ensure that workers are not exposed to a contaminant concentration in excess of the Permissible Exposure Limits (PEL).
- B. Level of Respiratory Protection:** Determine the proper level of respiratory protection by dividing the expected or actual airborne levels in the Contaminated / Regulated Area by the "protection factors" given below. The level of respiratory protection which supplies an airborne level inside the respirator, at the breathing zone of the wearer, at or below the Permissible Exposure Limits (PEL).

### 3.4 RESPIRATORY PROTECTION FACTOR:

| <b>A. Respirator Type</b>                    |  | <b>Protection Factor</b> |
|----------------------------------------------|--|--------------------------|
| <b>1. Air purifying:</b>                     |  | 10                       |
| a. Negative pressure respirator              |  |                          |
| b. High efficiency filter                    |  |                          |
| c. Half face piece                           |  |                          |
| <b>2. Air purifying:</b>                     |  | 50                       |
| a. Negative pressure respirator              |  |                          |
| b. High efficiency filter                    |  |                          |
| c. Full face piece                           |  |                          |
| <b>3. Powered Air Purifying (PAPR):</b>      |  | 50                       |
| a. Positive pressure respirator              |  |                          |
| b. High efficiency filter                    |  |                          |
| c. Half face piece                           |  |                          |
| <b>4. Powered air - purifying respirator</b> |  | 100                      |
| a. equipped with high efficiency             |  |                          |
| b. filters or any supplied air               |  |                          |
| c. respirator operated in continuous         |  |                          |
| d. flow mode.                                |  |                          |
| e. Full face piece                           |  |                          |
| <b>5. Supplied air:</b>                      |  | 1,000                    |
| a. Positive pressure respirator              |  |                          |
| b. Pressure demand or other                  |  |                          |
| c. positive pressure mode                    |  |                          |
| d. Full face piece                           |  |                          |
| e. Equipped with an                          |  |                          |
| f. auxiliary HEPA cartridge                  |  |                          |

- g. or positive pressure
- h. Self-contained breathing
- i. apparatus (SCBA) for escape

### 3.5 AIR PURIFYING RESPIRATORS:

- A. Negative pressure - half or full face mask:** Supply a sufficient quantity of respirator filters approved for site Environmental Hazards, so that workers can change filters during the work day, if necessary. ~~Require that respirators be wet-rinsed, and filters discarded, each time a worker leaves the Work Area. Require that new filters be installed each time a worker re-enters the Work Area.~~ Store respirators and filters at the job site in the changing room and protect totally from exposure to environmental hazards prior to their use.
- B. Powered air purifying - half or full face mask:** Supply a sufficient quantity of high efficiency respirator filters approved for site Environmental Hazards so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, be washed each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

### 3.6 SUPPLIED AIR RESPIRATOR:

- A. Air Systems Monitor:** Continuously monitor the air system operation including compressor operation, filter system operation, backup air capacity and all warning and monitoring devices at all times that system is in operation. Assign an individual, trained by manufacturer of the equipment in use or by a Certified Industrial Hygienist, in the operation and maintenance of the system to provide this monitoring. Assign no other duties to this individual which will take him away from monitoring the air system.

**END OF SECTION**

**EXAMPLE INITIAL EXPOSURE ASSESSMENT**  
**Contractor will need to develop their own form**

Date: \_\_\_\_\_

Project Name: \_\_\_\_\_

Facility: \_\_\_\_\_

Work Area(s): \_\_\_\_\_

**Reference Job:**

\_\_\_\_\_

Description of Work:

\_\_\_\_\_

| Task                              | Personal Monitoring Level |     |      | Respirator | Comments |
|-----------------------------------|---------------------------|-----|------|------------|----------|
|                                   | High                      | Low | Ave. | Worn       |          |
| Prep / Set up                     |                           |     |      |            |          |
| Removal of Contaminated Materials |                           |     |      |            |          |
| Removal of Pilings                |                           |     |      |            |          |
| Removal of Misc Mat.              |                           |     |      |            |          |
| Load Out                          |                           |     |      |            |          |
| Clean Up                          |                           |     |      |            |          |
| Other                             |                           |     |      |            |          |

**Other Environment Hazard(s) Containing Materials**

**Other Concentration**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

| Task          | Personal Monitoring Level |     |      | Respirator | Comments |
|---------------|---------------------------|-----|------|------------|----------|
|               | High                      | Low | Ave. | Worn       |          |
| Prep / Set up |                           |     |      |            |          |
| Removal of    |                           |     |      |            |          |
| Cutting of    |                           |     |      |            |          |
| Load Out      |                           |     |      |            |          |
| Clean Up      |                           |     |      |            |          |
| Other         |                           |     |      |            |          |

Experience Level of Work Force:

\_\_\_\_\_

## **SECTION 31 7400**

### **EXCAVATION WASTE MANAGEMENT AND DISPOSAL**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. This Section includes administrative and procedural requirements for the following:
  - 1. Transporting and disposing of excavation waste materials.
- B. Related Sections:
  - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.

##### **1.2 DEFINITIONS**

- A. Excavation Reuse: Site grade and subgrade materials, non-contaminated, resulting from excavation operations shall be reused on-site
- B. Excavated Waste: Subgrade materials, non-contaminated, resulting from excavation operations – vegetation (trees, bushes, etc.).
- C. Contaminated Waste: Excavation Waste that is removed from within Contaminated / Regulated Areas of Excavation which are cordoned off with orange barricade fencing requiring OSHA training in chemical exposure for handling this waste(s). This includes hazardous soil (unless it can be rendered non-hazardous by onsite treatment).
- D. Disposal: Removal off-site of excavation waste for disposal in landfill acceptable to authorities having jurisdiction.
- E. Recycling: Materials that are removed as a result of site activities that do not come in contact with the contaminated materials and can be recycled (I.e. bullets/shot from the Reclaimed Bullets Area).
- F. Non-contaminated Waste: Waste generated during the course of the project that is generated during day to day site activities.

##### **1.3 SUBMITTALS**

- A. Waste Management Work Plan: Submit 3 copies of plan within 7 days of date established for the Notice to Proceed including but not limited to:
  - 1. Generation point of waste.
  - 2. Total quantity of waste in tons.
  - 3. Contractor Schedule
  - 4. LDEQ Certified Waste Hauler Identification and Certificate of Insurance
  - 5. Contractor Laydown Areas

6. Designated truck Load Out Areas
7. Designated Landfill
8. Designated Recyclers
9. Equipment and Materials
10. Required Documentation and Forms
- B. Landfill Disposal Records: Indicate receipt and acceptance of waste by landfills licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- C. Recycler Records: Include manifests, weight tickets, receipts, and invoices.
- D. Waste Manifests: Submit completed copies, including originals, signed by Owner, Transporter and Landfill representatives for each transported load.
- E. Generator Waste Profile: Submit a copy of the "Generator Waster Profile" as provided to the designated landfill including acceptance laboratory analysis as needed.
- F. Certified Hauler: Submit copies of designated Transporter(s) LDEQ Certified Waste Hauler Number and Insurance Certificate, as applicable. This should include documentation to hall hazardous waste.
- G. Truck Inspection Reports: Submit copies of the Transporters "Truck Inspection Reports".
- H. Contractor Site Specific Health and Safety Plan: Submit a plan addressing worker training and certifications, air monitoring measures and PPE requirements.
- I. Weights of waste leaving site every 24 hours.

#### **1.4 QUALITY ASSURANCE**

- A. Waste Management Conference: Conduct conference at Project site before work.

#### **1.5 WASTE MANAGEMENT PLAN**

- A. General: Develop work plan consisting of waste identification, transportation and disposal. Indicate quantities by weight or volume but use same units of measure throughout waste management plan.
- B. Generation point of waste: Indicate areas within the site where waste will be generated; Contaminated / Regulated and non-Contaminated / Regulated areas.
- C. Waste Identification: Indicate anticipated types and quantities of site-clearing and site excavated waste(s) generated by the Work. Include estimated quantities and assumptions for estimates.
- D. Contractor Schedule: Indicate anticipated schedule and phasing related to all wastes generated, transported and disposal.
- E. LDEQ Certified Waste Hauler Identification and Certificate of Insurance: Submit the certified waste haulers LDEQ Identification Number and a copy of current certificate of insurance. This should include any and all documentation for transport of hazardous waste in Louisiana or tother States.
- F. Contractor Laydown Areas: Identify all areas for contractor laydown areas to include construction trailers, personnel vehicle and equipment storage areas. Contractor laydown areas shall not be located in Contaminated / Regulated areas.
- G. Truck Load Out Areas: Identify all truck waste load out areas. Contractor shall insure that load out areas will be stabilized (with gravel where applicable). Waste truck tires should not contact site contaminated fill at any time but if they do they are subject to wheel wash before accessing non-Contaminated / Regulated areas or public roadways, as applicable.



- H. Designated Landfill and LDOTD approved routes: State the name, location and anticipated LDOTD approved trucking route for over the road hauling of waste(s).
- I. Equipment and Materials: Submit a detailed list of all site equipment and materials (include number/quantity) to be used for excavation and loading of site waste such as frontend loaders, excavators, skid steers, etc.
- J. Forms: Prepare waste management plan on forms included at end of Part 3.

**PART 2 - PRODUCTS (Not Used)****PART 3 - EXECUTION****3.1 PLAN IMPLEMENTATION**

- A. General: Implement waste management plan as approved by the Environmental Consultant. Provide handling, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Training: Train workers and subcontractors on proper waste management procedures, as appropriate for the Work occurring at Project site.
  - 1. Distribute waste management plan to everyone concerned within **three** days of submittal return.
  - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for disposal.
- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent properties and facilities.
  - 1. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.
- D. Decontamination of Site Machinery and Equipment: A machinery (including vehicles) and equipment decontamination area will be provided for all machinery and/or equipment that are exposed to environmental constituents prior to leaving the Contaminated / Regulated areas. If necessary, all wheels and/or surfaces contacting contaminated fill/groundwater will be washed to ensure that contaminated material or debris is not tracked onto the non-Contaminated / Regulated areas or the public streets. All decontaminated water will be contained. The Contractor will document discharge/management of collected water in accordance with the regulations.
  - 1. The contractor shall install and maintain a decontamination area (wheel wash station) for site machinery and equipment transgressing between Contaminated / Regulated to non-Contaminated / non-Regulated areas.
  - 2. Whenever possible, machinery and equipment performing work within Contaminated / Regulated areas shall remain within those Contaminated / Regulated areas to prevent cross contamination of site Contaminated / Regulated and non-Contaminated / non-Regulated materials/areas.
- E. Loading Waste for Transport: Loading site wastes for transport shall occur only within designated areas. Truck load-out surfaces shall be stabilized (with gravel where applicable) and have non-Contaminated / Regulated access to public roadways. Site machinery and equipment utilized for truck loading shall be placed adjacent stabilized truck load out pad.
  - 1. Load out documentation and inspection shall be performed by Environmental Consultant.

2. Placement of 6mm Poly shall be placed up to and around truck load out pad in an effort to contain any contaminated fill which fail to be loaded properly during loading.
3. Short-term soil stockpiling shall be placed adjacent to loading pad within reach of loader for placement into transport trucks.

### **3.2 DISPOSAL OF WASTE**

- A. General: Remove waste materials from Project site and legally dispose of them in a landfill acceptable to authorities having jurisdiction.
  1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
  2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off Owner's property and legally dispose of them.
- D. Waste will be visually sorted into vegetive waste, construction debris waste and Sub-Title C waste. Each waste stream will be disposed in accordance with LAC 33:VII.Subpart 1 and LAC 33:V. Subpart 1 as applicable.

**END OF SECTION**

## SECTION 31 7700

### ENVIRONMENTAL CLOSEOUT PROCEDURES FOR THE EXCAVATION OF THE RESTRICTED AREA

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. **Section Includes:** Administrative and procedural requirements for contract closeout, including, but not limited to, the following:
1. Inspection, and acceptance procedures for excavation completion per sampling and analysis of excavated areas to meet LDEQs requirements.
  2. Procedures to close out the excavation in half acre or less increments to limit pit water accumulation. Exceptions to this minimum requirement will require the Environmental Consultant written signoff in the way of an Request For Information before a large area will be allowed.
  3. Procedures for the inspection and sampling requirements for the horizontal and vertical extent of the excavation where confirmatory samples will be taken from the side walls and bottom.
  4. Procedures for initiating additional excavation if the confirmatory samples are unacceptable.
  5. Closeout procedures.
  6. Final cleaning.
- B. **Related Sections:**  
Drawings and general provisions of the Contract, including General and Supplementary Conditions, other Division 01, 02, 31 Specification Sections and Environmental Attachments, apply to this Section.
- C. **The Requirements of this Section**
1. Documents to be provided to the Environmental Consultant to assist in the development of the Corrective Action Completion Report.

##### 1.2 SUBSTANTIAL COMPLETION

- A. **Preliminary Procedures:** Before requesting inspection for certification of Substantial Completion, complete the following. **List exceptions in the request.**
1. When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Environmental Consultant a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.
  2. Advise Environmental Consultant that project is ready for inspection.
  3. When the inspection shows that the excavation has removed the landfill debris and/or excavated to the proposed depths then the Environmental Consultant will inspect the area.
  4. Once the Environmental Consultant field person has given verbal approval backfilling can begin backfill requirements.
  7. Advise Owner of pending insurance change over requirements.
  8. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities.

9. Make final change over of permanent locks and keys to the Owner for fence gates (if applicable).
10. Remove temporary facilities, construction equipment, and temporary services. Restore disturbed items to original condition, or better.
11. Complete final clean up requirements.
12. Storm Water Pollution Prevention Plan, submit a copy of the Completion Report form filled out in its entirety.

**B. Inspection Procedures:** On receipt of a request for inspection, Environmental Consultant will either proceed with inspection or advise the Contractor of unfilled requirements. The Environmental Consultant will prepare the Recommendation of Acceptance, or advise Contractor of construction that must be completed or corrected before the Recommendation will be issued.

1. Environmental Consultant will perform inspection when assured that the Work has been substantially completed.
2. Environmental final acceptance will be provided on each ½ acre parcel evaluated by the Environmental Consultant.
3. Results of the completed inspection will form the basis of requirements of final acceptance.

### 1.3 FINAL ACCEPTANCE

**A. Preliminary Procedures:** Before requesting final inspection for certification of final acceptance and final payment, complete the following.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
2. Submit an updated final statement, accounting for final changes to the Contract Sum.
3. Submit properly executed Lien and Privilege Certificate.
4. Submit a certified copy of the Engineer's / Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Engineer / Architect.
5. Submit consent of surety to final payment on AIA Form G707.
6. Submit a final liquidated damages settlement statement, if applicable.
7. Submit evidence that taxes, fees and similar obligations have been paid.
8. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

**B. Re-inspection Procedure:** The Environmental Consultant will reinspect the Work upon receipt of notice that the Work, including items from earlier inspections, has been completed.

1. Upon completion of reinspection, the Engineer/Architect will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance.

**C. Additional Requirements:** Refer to General Conditions.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION**

**3.1 CLEAN UP**

On completion of work of this section and after removal of all debris, leave site and adjacent streets in clean condition satisfactory to the Environmental Consultant, Client, and LDEQ.

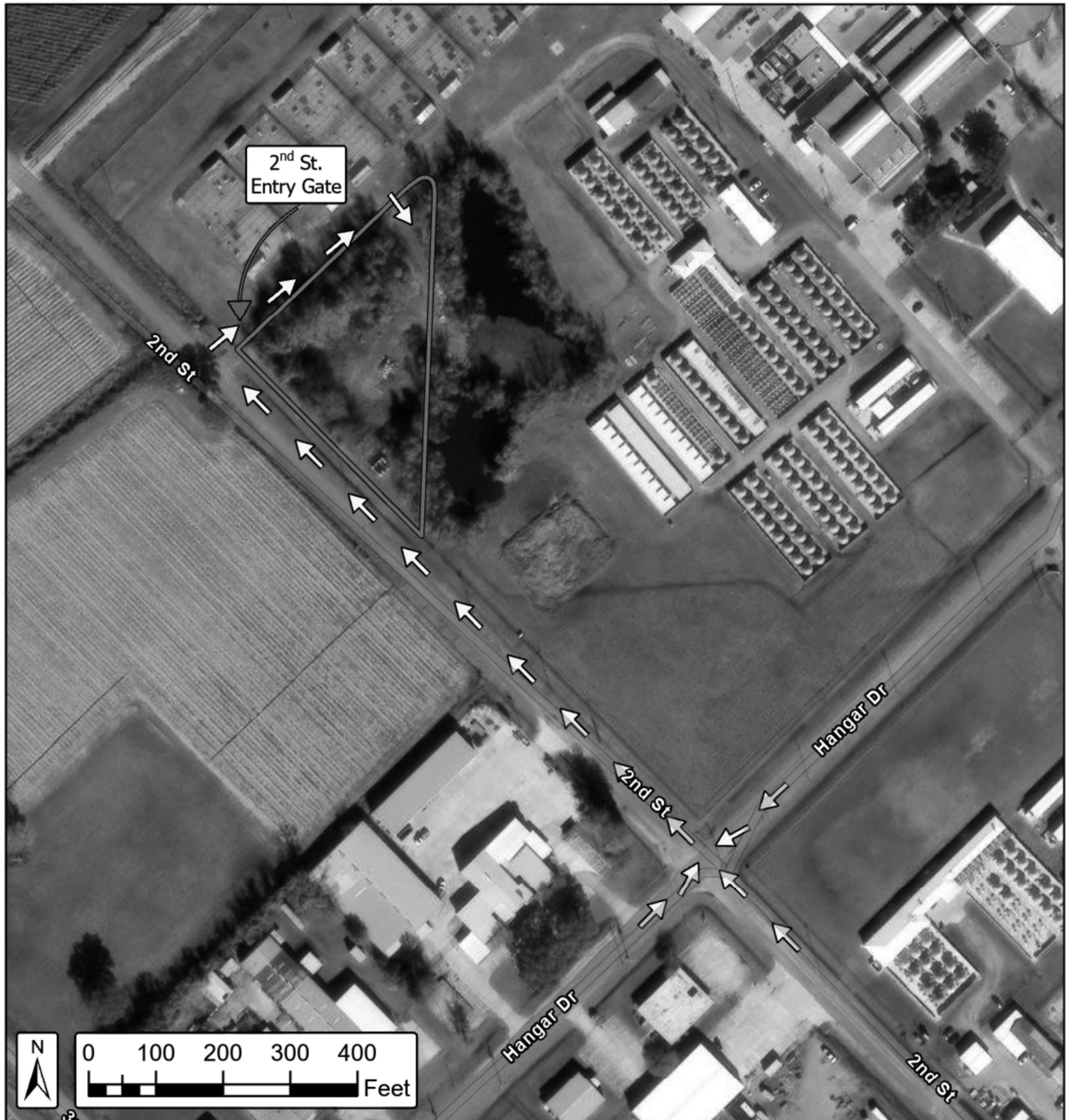
**END OF SECTION**

## **SIGNATURES**

The information presented in this document was prepared based on the information available to Leaaf at the time of its development. Should the conditions of the sites differ from the information presented in this document or the work being requested by the Owner/Owner's Representative change, changes to this plan will be required. It is the responsibility of the Contractor to ask questions prior to the bid date if conflicting information is being presented. If contradictions are present in this document, the document section that benefits the Owner will prevail unless addressed through a response to the Contractor's question(s).

Jim Blazek, Jr.  
Sr. Environmental Professional  
Leaaf Environmental, LLC

# FIGURES



## Legend

-  Site Location
-  Traffic Flow

**Figure 1**

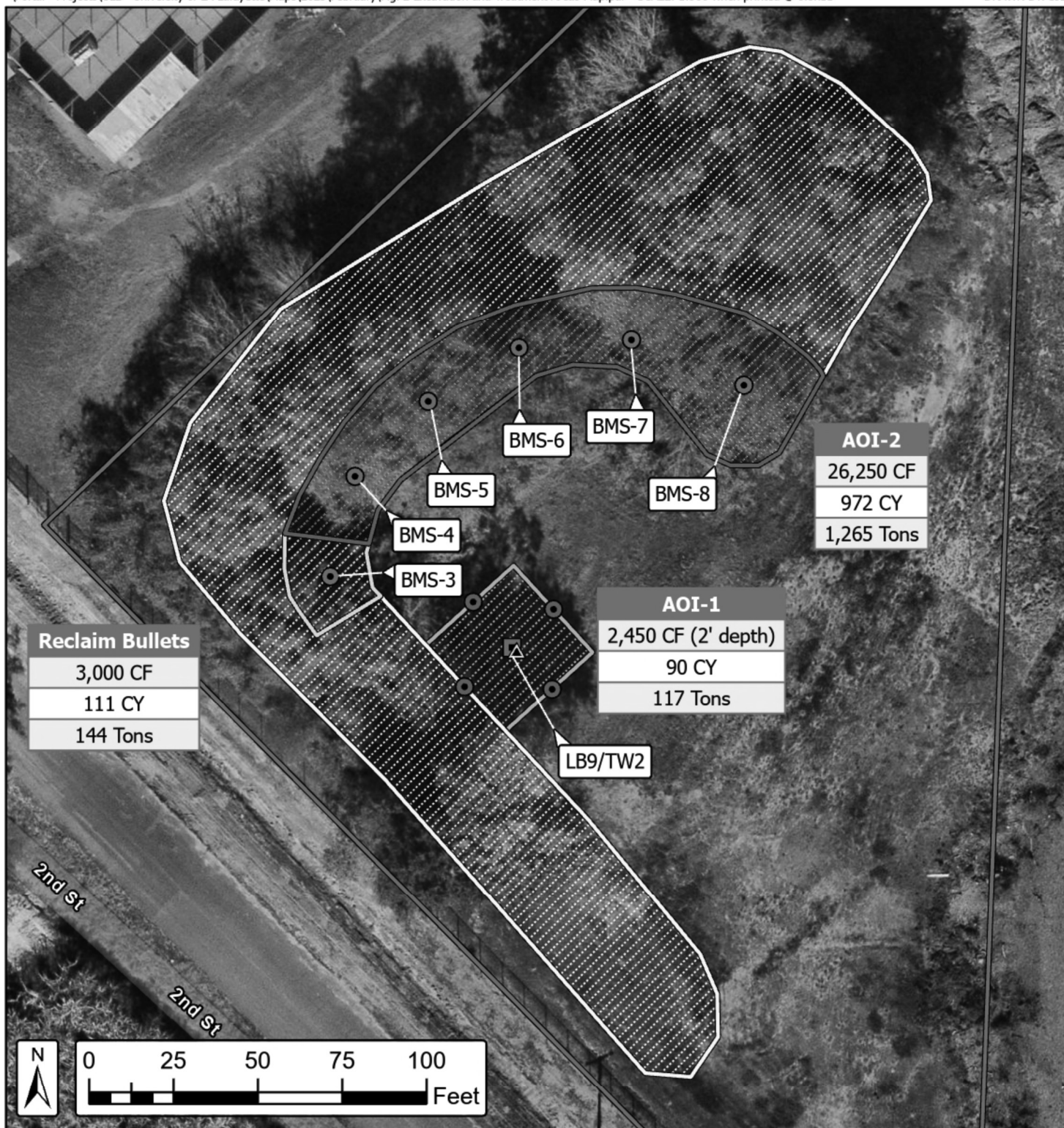
**Traffic Direction Map**



**Notes:** Enter at 2<sup>nd</sup> St. gate.

New Iberia Research Center  
Shooting Range  
4401 W. Admiral Doyle Dr.,  
New Iberia, LA  
AI# 2716  
02/24/2025





## Legend

- |                      |            |                  |
|----------------------|------------|------------------|
| Site Location        | AOI-1      | Bottom Sample    |
| Berm                 | AOI-2      | Side Wall Sample |
| Reclaim Bullets Area | BMS Boring | Boring Location  |



### Notes:

**AOI-1 Excavation:** 2'(depth) x 35' (wide) x 35' (length)  
**AOI-2 Excavation:** 5' + 1' bgs (depth) x 25' (wide) x 175' (length)  
**Reclaim Bullets Excavation:** 5'(depth) x 20' (wide) x 30' (length)

All quantities are approximate.

## Figure 2

### Excavation and Treatment Areas Map

New Iberia Research Center  
 Shooting Range  
 4401 W. Admiral Doyle Dr.,  
 New Iberia, LA  
 AI# 2716  
 03/18/2025

# **DBRA REQUIREMENTS**

## **DBRA Requirements for Contracts in Excess of \$100,000 Under EPA Grants**

Under the Davis-Bacon and Related Acts (DBRA), all contracts awarded under EPA assistance agreements (grants) in excess of \$100,000 that involve the employment of mechanics or laborers require contractors and subcontractors to comply with the overtime provisions of the Contract Wage Hours and Safety Standards Act (CWHSSA) at 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations in 29 CFR Part 5 and 2 CFR 200 Appendix II(E). By accepting this contract, you agree to comply with the requirements of CWHSSA described below, in addition to the DBRA Requirements for Contractors Under EPA Grants.

These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence. For the purposes of this provision, the terms "laborers and mechanics" include watchpersons and guards.

### ***(b) Contract Work Hours and Safety Standards Act (CWHSSA).***

#### **(1) Overtime requirements**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

#### **(2) Violation; Liability for Unpaid Wages; Liquidated Damages**

In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$31 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1).

#### **(3) Withholding for Unpaid Wages and Liquidated Damages**

##### ***(i) Withholding process.***

The EPA, recipient, or subrecipient at any tier, and/or contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this paragraph (b) on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or

assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

*(ii) Priority to withheld funds*

The Department has priority to funds withheld or to be withheld in accordance with paragraph (a)(2)(i) or (b)(3)(i) of this section, or both, over claims to those funds by:

(A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(B) A contracting agency for its reprocurement costs;

(C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(D) A contractor's assignee(s);

(E) A contractor's successor(s); or

(F) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

**(4) Subcontracts**

The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs (b)(1) through (5) of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

**(5) Anti-Retaliation**

It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

(i) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

(ii) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

(iii) Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

(iv) Informing any other person about their rights under CWHSSA or this part

# **ENVIRONMENTAL REPORTS**

**ABCA**  
**CAP**  
**QAPP**



# **ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES**

**University of Louisiana, Lafayette  
New Iberia Research Center  
Former Shooting Range  
4401 West Admiral Doyle Dr.  
New Iberia, LA 70560  
LDEQ Agency Interest No. 2716**

**LaGov Contract No. 2000590641  
Work Order No. 37  
EPA-LDEQ Cooperative Agreement No.  
BF-01F07301**

**Leaaf  
Environmental  
LLC**

**2301 Whitney Avenue  
Gretna, LA 70056**

**(504) 342-2687 office  
(504) 342-2715 fax**

**[www.leaaf.com](http://www.leaaf.com)**

**Prepared by:  
Leaaf Environmental LLC**

**Prepared for:  
Louisiana Department of Environmental Quality  
602 N. Fifth Street  
Baton Rouge, LA 70802**

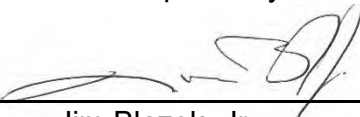
**April 2025  
LTBA-025C**

## **ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES**

University of Louisiana, Lafayette  
New Iberia Research Center  
Former Shooting Range  
4401 West Admiral Doyle Drive  
New Iberia, LA 70560  
LDEQ Agency Interest No. 2716

Prepared for:  
Louisiana Department of Environmental Quality  
602 N. Fifth Street  
Baton Rouge, LA 70802

Prepared by:



Jim Blazek, Jr  
Leaaf Project Manager

April 17, 2025

Date

Approved by:



Emily Reeves  
Leaaf QA Manager

April 17, 2025

Date

## Table of Contents

|       |                                                                         |   |
|-------|-------------------------------------------------------------------------|---|
| 1.0   | INTRODUCTION.....                                                       | 1 |
| 2.0   | BACKGROUND.....                                                         | 1 |
| 2.1   | Site Location and Description .....                                     | 2 |
| 2.2   | Previous Land Use .....                                                 | 2 |
| 2.3   | Current Land use.....                                                   | 2 |
| 2.4   | Future Land Use.....                                                    | 2 |
| 2.5   | Vicinity Land Use.....                                                  | 2 |
| 2.6   | Summary of Previous Assessments .....                                   | 2 |
| 2.7   | Exposure Pathways of Concern.....                                       | 5 |
| 2.8   | Objectives.....                                                         | 6 |
| 3.0   | IDENTIFICATION AND ANALYSIS OF REMEDIAL ACTION ALTERNATIVES.....        | 6 |
| 3.1   | Identification and Description of Remedial Action Alternatives.....     | 6 |
| 3.1.1 | No Action Alternative .....                                             | 6 |
| 3.1.2 | Removal of All Metals Contaminated Soil and Bullet Containing Soil..... | 6 |
| 3.1.3 | Removal of High-Risk Lead-Impacted Soil and Bullets .....               | 7 |
| 3.2   | Evaluation of Alternatives .....                                        | 7 |
| 3.2.1 | No Action Alternative .....                                             | 7 |
| 3.2.2 | Removal of All Metals Contaminated Soil and Bullet Containing Soil..... | 8 |
| 3.2.3 | Removal of High-Risk Lead-Impacted Soils and Bullets .....              | 8 |
| 4.0   | RECOMMENDED REMEDIAL ACTION ALTERNATIVE .....                           | 9 |

## APPENDICES

APPENDIX A Figures  
APPENDIX B References

The Analysis of Brownfields Corrective Actions (ABCA) reported herein was funded wholly or in part through a cooperative agreement between the Environmental Protection Agency's (EPA's) Brownfield and Land Revitalization Program and the Louisiana Department of Environmental Quality's (LDEQ's) Brownfields Program (EPA Cooperative Agreement No. BF-01F07301). The contents of this document do not necessarily reflect the views and policies of the EPA or the LDEQ, nor does the EPA or LDEQ endorse trade names or recommend the use of commercial products mentioned in this document.



## **1.0 INTRODUCTION**

Leaaf Environmental, LLC (Leaaf) has prepared this Analysis of Brownfields Cleanup Alternatives (ABCA) for the University of Louisiana, Lafayette (ULL), New Iberia Research Center (NIRC), Former Shooting Range (Shooting Range) located at 4401 West Admiral Doyle Drive, New Iberia, LA 70560. The ABCA was requested by the Louisiana Department of Environmental Quality (LDEQ) as Work Order Number 37 of the Targeted Brownfields Assessment (TBA) Services V Contract (LaGov 2000590641). The Louisiana South Central Planning and Development Commission (SCPDC) is also involved in the project via the South Louisiana Brownfield Coalition Revolving Loan Fund Program. SCPDC will perform general oversight to ensure that all necessary environmental documents are completed and submitted to EPA for approval in order to issue eligible cleanup funds to ULL during the remediation work.

## **2.0 BACKGROUND**

The property formerly served as a civil airport between 1946 and 1954. In 1954, the Department of Defense selected the location for development of a naval air station. Commissioned in 1960, the Naval Auxiliary Air Station (NAAS) that covered an area of 4,347 acres was formed. The NAAS primarily supported the Training Squadron Twenty-Seven (VT-27) which operated Grumman TS-2A Trackers. Approximately 1,000 military and 100 civilian workers were stationed at the facility until it was closed in January 1965. In 1970, a 2,000-acre portion of the NAAS was granted to Iberia Parish to be used as the Acadiana Regional Airport. A total of 69.37 acres of the airport property was sectioned off and was being used as a research center by Gulf South Research Institute (1968 – 1984), of which an approximately 1.3-acre portion was the Shooting Range. The Shooting Range was used by the military and the Iberia Sheriff's Office for firearm training until 1984 when ULL was granted the research center to form the NIRC. The former Shooting Range has not been used since 1984. The reason for the environmental work is that the ULL NIRC would like to expand the facility and redevelop the area in the direction of the Shooting Range.

In 2020, sampling of the former Shooting Range area was conducted to determine whether hazardous concentrations of lead were present. Samples were collected from three areas of the earthen backstop (rear, left and right sides) and analyzed for total and Toxicity Characteristic Leachate Procedure (TCLP) lead. One sample was analyzed for Synthetic Precipitation Leachate Procedure (SPLP) lead. The results indicated that the samples from the right side and the rear exceeded LDEQ's Risk Evaluation/Corrective Action Program (RECAP) screening standards. Additionally, the samples from the right side and rear were determined to have hazardous concentrations of lead.

A Phase II Environmental Site Assessment (PII-ESA) was completed by Leaaf in May 2023. Sampling results of the PII ESA indicated impacts from historical shooting range activities. Bullets were observed within the mounded backstop at four locations, and metals concentrations that exceeded the RECAP Limiting Screening Standards (LSS) were detected in the center portion of the front side of the backstop.

The objective of this ABCA is to identify and evaluate cleanup alternatives to address the Lead in order to facilitate redevelopment and reuse of the property as part of the research center.

## **2.1 Site Location and Description**

The Shooting Range consists of an improved firing line (now deteriorating), support building, and a mounded backstop starting at the firing line and proceeding in a NW direction (left side) of the firing range for approximately 190 feet, then taking a 90 degree turn to the NE to form the rear backstop (approximately 109 feet), and then another 90 degree turn to the SE to form the right side of the backstop (approximately 80 feet). A Site Location Map is included as Figure 1 in Appendix A.

## **2.2 Previous Land Use**

The Shooting Range was located on a larger tract of land that in 1946 was used as a regional airport. In 1954, the US Department of Defense took over control of the property and used the property as a Naval Air Base until the base was decommissioned in 1964. In 1970, the land was granted to Iberia Parish where the former Shooting Range was used by the Iberia Sheriff's Office for firearm training until 1984.

## **2.3 Current Land use**

The Shooting Range has been unused since 1984 and part of the large facility operated as the ULL NIRC. The area that makes up the ULL NIRC which includes the Shooting range is zoned as Industrial – 1 (I-1).

## **2.4 Future Land Use**

The envisioned use of the Shooting Range is to expand the NIRC operational area (buildings and/or other support structures) into the area of the Shooting Range.

## **2.5 Vicinity Land Use**

The property is located in Iberia Parish. Land use in the vicinity of the ULL NIRC is Industrial 1. A Site Vicinity Map is included as Figure 2 in Appendix A.

## **2.6 Summary of Previous Assessments**

### **2.6.1 Initial Waste Characterization Soil Survey**

A Waste Characterization Soil Survey was performed on October 28, 2020, on behalf of ULL. Based on the finding of the Survey the soil backstops and surround soil areas were found to contain Lead as follows:

|                                                                       |  |     |
|-----------------------------------------------------------------------|--|-----|
| Left Downrange Backstop (90% from firing station)                     |  |     |
| Total Lead Concentrations Greater than RECAP Soil Screening Standards |  | No  |
| Hazardous                                                             |  | No  |
| Rear Downrange Backstop                                               |  |     |
| Total Lead Concentrations Greater than RECAP Soil Screening Standards |  | Yes |
| Hazardous                                                             |  | Yes |

Right Downrange Backstop

|                                                                       |     |
|-----------------------------------------------------------------------|-----|
| Total Lead Concentrations Greater than RECAP Soil Screening Standards | Yes |
| Hazardous                                                             | Yes |

Left Downrange Backstop (10% rear portion) and Ground Surface bracketed by the three sides of the backdrop

|                                                                       |             |
|-----------------------------------------------------------------------|-------------|
| Total Lead Concentrations Greater than RECAP Soil Screening Standards | Assumed Yes |
| Hazardous                                                             | Assumed Yes |

The following table summarizes the soil level for its respective named sample locations:

| Sample Location | Sample Number | TCLP Results (mg/L) | Total Results (mg/kg)  |
|-----------------|---------------|---------------------|------------------------|
| Left Side       | RCE-004-SL-L  | ND                  | 133<br>SPLP 0.030 mg/L |
| Right Side      | RCE-004-SL-R  | 9.2                 | 956                    |
| Rear            | RCE-004-SL-B  | 395                 | 14,000                 |

ND = Not Detected

The following table compares the results to the RECAP Soil Screening Standards:

| Sample Location | Total Results (mg/kg)  | RECAP Soil Screening Standards | Acceptable                                                                                                      |
|-----------------|------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Left Side       | 133<br>SPLP 0.030 mg/L | 100 SSgw<br>400 SSni           | Yes, once SPLP results were completed, resulting in an acceptable value of 289 mg/kg (refer to Section 2.6.2.1) |
| Right Side      | 956                    | 100 SSgw<br>400 SSni           | No                                                                                                              |

SSgw = Soil protective of groundwater, SSni = Soil Protective of Non-Industrial

The following table compares the results to the Environmental Protection Agency (EPA) Hazardous Waste levels:

| Sample Location | TCLP-Lead Results (mg/L) | EPA Haz Waste Lead Level (mg/L) | Hazardous |
|-----------------|--------------------------|---------------------------------|-----------|
| Left Side       | ND                       | 5                               | No        |
| Right Side      | 9.2                      | 5                               | Yes       |
| Rear            | 395                      | 5                               | Yes       |

## 2.6.2 Phase II ESA

A Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) dated October 2022 were prepared for this site and approved by LDEQ in December 2022. This Phase II ESA was executed in accordance with the approved SAP/QAPP, applicable portions of ASTM E 1903-19, and the LDEQ's RECAP guidelines. All field work was conducted March 13-15, 2023, in accordance with a site-specific health and safety plan.

Sixteen samples were collected from the mounded backstop. Three samples exceeded the LSS for antimony, arsenic, and/or lead. The lead concentrations in these samples exceeded the concentration that passed SPLP; therefore, corrective action will be required for the

mounded backstop between BMS4 and extending past BMS8 (Area of Investigation [AOI]-2). The elevated antimony and arsenic concentrations in these samples would also be addressed by corrective action. Further evaluation under a higher RECAP Management Option (MO) tier will not eliminate the need for corrective action or reduce the area of corrective action.

The remainder of the mounded backstop did not contain constituents of concern (COCs) in excess of LSS; however, field observations noted that bullets were present at BMS3. If backstop soil outside of the impacted area (AOI-2) is to be reused, removal of bullets prior to reuse is recommended.

The Phase II ESA sampling results are detailed in the following sections.

### 2.6.2.1 Soil

Twelve soil borings were advanced on the front side of the dirt mounded backstop, and three on the backside. Soil in four of the borings closest to the backstop contained arsenic in excess of the LSS of 12 milligrams per kilogram (mg/kg); however, the mean arsenic concentration for the surface soil AOI-1 was less than 12 mg/kg. Therefore, no further evaluation of arsenic in surface soil is recommended.

Soil sampling results were compared to the LDEQ RECAP Table 1 LSS for non-industrial (residential) land use. The LSS for surface soils (0-15 feet below ground surface [bgs]) is the more conservative of the soil non-industrial standard (Soil\_SSni) and soil protective of groundwater (Soil\_SSGW). No subsurface soils were analyzed.

Two samples (LB9 0-2 and BMS14) that exceeded the Soil\_SSGW for lead were analyzed following the SPLP for lead. The results of the SPLP analyses were compared to the RECAP Table GW1 standard multiplied by 20 per RECAP guidance. The SPLP concentration at LB9 0-2 (total lead 696 mg/kg) exceeded the GW1x20 standard of 0.3 milligrams per liter (mg/L). The SPLP concentration at BMS14 (total lead 289 mg/kg) was less than 0.3 mg/L. Therefore, lead concentrations less than 289 mg/kg are protective of the soil to groundwater risk pathway and are evaluated with respect to Soil\_SSni.

The following backstop soil samples exceeded the LSS:

#### Backstop Soil

| COC      | LSS (mg/kg) | Location         | High concentration (mg/kg) |
|----------|-------------|------------------|----------------------------|
| Antimony | 3.1         | BMS5, BMS8       | 48.1 (BMS5)                |
| Arsenic  | 12          | BMS5, BMS6       | 28.6 (BMS6)                |
| Lead     | 100*        | BMS5, BMS6, BMS8 | 5,240 (BMS5)               |

\*Based on SPLP results, up to 289 mg/kg in soil is considered acceptable

The following surface soil samples exceeded the LSS:

#### Surface Soil

| COC     | LSS (mg/kg) | Location                                     | High concentration (mg/kg) |
|---------|-------------|----------------------------------------------|----------------------------|
| Arsenic | 12          | LB9 14-15, LB10 10-12,<br>LB12 0-1, LB14 2-4 | 35.2 (LB12 0-1)            |
| Lead    | 100*        | LB9 0-2                                      | 696 (LB9 0-2)              |

\*Based on SPLP results, up to 289 mg/kg in soil is considered acceptable

Soil in four of the borings closest to the backstop contained arsenic in excess of the LSS of 12 mg/kg; however, the mean arsenic concentration for the surface soil AOI-1 was less than 12 mg/kg. Therefore, no further evaluation of arsenic in surface soil is recommended.

Soil in one sample (LB9 0-2) exceeded the LSS for lead. This sample also failed SPLP lead analysis. The elevated concentration is delineated vertically and horizontally. This area will require corrective action; further evaluation under a higher RECAP MO tier will not eliminate the need for corrective action or reduce the area of corrective action. No other sampled COCs exceeded the LSS.

RECAP allows the mean of arsenic concentrations in the AOI to be compared to the LSS. In the surface soil AOI-1 that includes the borings installed closest to the dirt mounded backstop (LB9 – LB12 and LB14), the mean of the detected arsenic concentrations was 9.24 mg/kg, which is below the LSS of 12 mg/kg. Therefore, the elevated arsenic concentrations in the AOI-1 do not require further evaluation.

#### **2.6.2.2 Groundwater**

Groundwater sampling results were compared to the LDEQ RECAP Table 1 Groundwater Screening Standards (GW\_SS). Detected concentrations exceeded the GW\_SS in the following samples: total arsenic and total lead in TW1; and total lead in TW2. No COCs exceeded GW\_SS in the dissolved fraction analyses, indicating that the elevated detections were associated with groundwater turbidity. Therefore, no further evaluation is warranted.

#### **2.6.2.3 Conclusion**

The results of the Phase II ESA sampling indicate impacts from historical Shooting Range activities. Bullets were observed within the mounded backstop at four locations, and metals concentrations that exceeded LSS were detected in the center portion of the front side of the backstop. Corrective action to remove the impacted soils is recommended. If the remaining soil in the backstop is approved for reuse, removal of bullets prior to reuse is recommended.

### **2.7 Exposure Pathways of Concern**

The sources of potential health risks at the site include lead impacted soils found within the Shooting Range section of the property.

Lead is a concern because increased levels of lead in the blood due to inhalation or ingestion may cause irreversible neurological damage as well as renal disease, cardiovascular effects, and reproductive toxicity. Direct exposure pathways for lead include inhalation and/or ingestion of lead dust from presence of lead contaminated soil associated with the use of the area as a shooting range by workers performing the new construction. Indirect exposure pathways include transport of lead dust through wind, tracking on the clothing or hair of people performing work or subjects housed on the facility and subsequent inhalation/ ingestion by people or subjects with whom they come in contact.

## **2.8 Objectives**

The planned reuse of the Shooting Range is to expand facilities of operations for the ULL NIRC. The objective of the Cleanup Plan is to remove hazardous materials and their associated health risks to allow for unrestricted construction of new facilities to support ongoing research. The objective of this ABCA is to identify and evaluate cleanup alternatives to address the lead to allow the area to be redeveloped.

## **3.0 IDENTIFICATION AND ANALYSIS OF REMEDIAL ACTION ALTERNATIVES**

Cleanup alternatives were evaluated with specific consideration of applicable federal and state regulations regarding the presence and remediation of lead. Regulations that govern these activities in commercial facilities include:

- EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61, Subpart M)
- Occupational Safety and Health Administration (OSHA) Lead in Construction Regulations (29 CFR 1926.62)
- OSHA Hazardous Waste Operations and Emergency Response (29 CFR 1926.62)
- LDEQ RECAP (LAC: 33: I, Chapter 13)
- LDEQ Hazardous Waste and Hazardous Materials Regulations (LAC 33: V, Subpart 1)

### **3.1 Identification and Description of Remedial Action Alternatives**

Three alternatives have been identified as viable remedial action alternatives for the lead identified within the Shooting Rangel. These alternatives are:

- No Action Alternative
- Removal of all Lead Bullets and Metals Contaminated Soil
- Removal of High-Risk Lead Contaminated Soils and Bullet Containing Soil

Additional information regarding each of these alternatives is discussed below.

#### **3.1.1 No Action Alternative**

The No Action Alternative must be considered as part of the ABCA process. This alternative involves no remedial activity; therefore, the Shooting Range Site would be left in its current condition.

#### **3.1.2 Removal of All Metals Contaminated Soil and Bullet Containing Soil**

This alternative involves the removal of all soils that have been identified in the survey as containing heavy metals in excess of the RECAP Soil Screening Standards and soils identified as having bullets. Prior to commencement of remedial activities, a Corrective Action Plan (CAP) will be prepared. This plan will be submitted to the LDEQ Remediation Division for approval. The plan will include the scope of work, methods to be utilized, and specifications regarding project monitoring and confirmation sampling. This will include removal of all soil containing heavy metals identified in the survey at concentrations above the RECAP Screening Standards, including bullets.

All remediation and disposal activities will be conducted by a Louisiana Hazardous Materials/Waste licensed contractor, hazardous waste transporter and hazardous waste disposal facility. All personnel completing the remedial action will be required to comply with OSHA Hazardous Materials training. All waste materials generated as a result of the remediation activities will be transported to an offsite facility permitted to accept hazardous waste impacted soil and bullets.

### **3.1.3 Removal of High-Risk Lead-Impacted Soil and Bullets**

This alternative includes the onsite sifting and treatment of lead contaminated soil and eventual removal and disposal as non-hazardous. Based on a pilot study that was performed on the contaminated soil at the site, the method to render the soil non-hazardous is suggested to be by fixation and stabilization via use of Blastox® or similar material or methods (i.e. chemical oxidation, chemical stabilization, etc.). However, this CAP allows the contractor to determine the most efficient and cost-effective method to remediate the site. These soils are those that will present a high risk as identified through the RECAP risk management process of the heavy metals identified at the site. The RECAP risk assessment process was able to eliminate arsenic and antimony for the entire site and lead from specific areas of the site. This will allow for the treatment, removal, and disposal of only a specific area that exceeds the risk-based regulatory levels.

Similar to the above options, a CAP will be prepared prior to commencement of remedial activities. This plan will be submitted to the LDEQ Remediation Division for approval. The plan will include the scope of work, methods to be utilized, and specifications regarding project monitoring and confirmation sampling.

## **3.2 Evaluation of Alternatives**

Each of the remedial alternatives identified were assessed for effectiveness, implementability, and costs. The cost estimates presented below are preliminary estimates based on visual observations and sampling of building materials, publicly available cost information from similar projects, and general discussions with abatement contractors. Conservative assumptions were used in development of the costs; however, actual costs may vary based on final remediation/renovation plans and site-specific characteristics. These preliminary ABCA cost estimates are intended for planning purposes and should be used for relative comparison only.

### **3.2.1 No Action Alternative**

Under the no action alternative, the area would remain in its present condition. The area has been found to contain elevated concentrations of lead above regulatory standards and physical bullets that over time can contaminate additional soil. This alternative is not considered effective, as the toxicity of the materials would not decrease over time. Rather, as the materials further deteriorate, exposure to these hazards will increase. There are no costs associated with the no action alternative. However, over a period of time, cleanup costs will become higher as the lead bullets will deteriorate and contaminate additional soil. Therefore, the No Action Alternative is not considered feasible.

### 3.2.2 Removal of All Metals Contaminated Soil and Bullet Containing Soil

This alternative would provide short- and long-term effectiveness as all heavy metal affected soil and bullets identified would be permanently removed, resulting in a reduction of contaminant volume and toxicity at the site. This alternative is implementable but may not be necessary to mitigate risk. This alternative is the most expensive and is not economically feasible as all waste would be considered hazardous. Costs are based on the materials quantified during the survey. Additional materials may be present in areas adjacent to the remediation as they become exposed. Corrective Action for this option is expected to take 5 – 6 weeks to complete.

Costs associated with complete removal, including permitting and hazardous waste disposal are itemized below:

|                               |                                        |
|-------------------------------|----------------------------------------|
| Left and Rear Backstop        | 43,200 CF or 1,600 CY or 2,080 Tons    |
| Right Side Backstop           | 36,000 CF or 1,333 CY or 1,733 Tons    |
| <u>Surrounded Ground Area</u> | <u>8,400 CF or 3,11 CY or 404 Tons</u> |
| Total Disposal                | 84,600 CF or 3,244 CY or 4,217 Tons    |

|                                                                                                 |                       |
|-------------------------------------------------------------------------------------------------|-----------------------|
| The estimate for the CAP                                                                        | \$ 7,500.00           |
| The estimated cost to remediate 3,244 CY<br>(personnel, equipment, supplies, samples/ analysis) | \$ 275,740.00         |
| Transportation of 3,244 CY (180 Truckloads)                                                     | \$ 318,660.00         |
| <u>Disposal of 4,217 tons</u>                                                                   | <u>\$1,969,632.00</u> |

|                             |                       |
|-----------------------------|-----------------------|
| <b>Total Estimated Cost</b> | <b>\$2,571,532.00</b> |
|-----------------------------|-----------------------|

### 3.2.3 Removal of High-Risk Lead-Impacted Soils and Bullets

This alternative would provide short- and long-term effectiveness, while minimizing costs, as the materials that would present the highest risk would be treated (chemical oxidation/chemical stabilization) and disposed as non-hazardous; thereby eliminating disposal as hazardous which is more costly. Corrective Action for this option is expected to take 4 – 5 weeks to complete.

Costs associated with sifting/removal of bullets, treatment, excavation, transportation, and non-hazardous disposal of high-risk lead impacted soils are itemized below:

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| AOI-1 Surface Soil (around LB9)        | 2,450 CF or 90 CY or 117 Tons            |
| <u>AOI-2 Backstop (BMS4-Past BMS8)</u> | <u>26,250 CF or 972 CY or 1,265 Tons</u> |
| Total Disposal                         | 28,700 CF or 1,062 CY or 1,382 Tons      |

|                                                                                                            |               |
|------------------------------------------------------------------------------------------------------------|---------------|
| The estimate for the CAP                                                                                   | \$ 7,500.00   |
| The estimated cost to treat contaminated soil<br>Excavate, Transport and dispose as<br>Non-hazardous waste | \$ 846,490.00 |

|                                            |              |
|--------------------------------------------|--------------|
| Subtotal Soil Treatment and Disposal Costs | \$853,990.00 |
|--------------------------------------------|--------------|

|                               |                                |
|-------------------------------|--------------------------------|
| Sifting (or similar method)   |                                |
| Reclaim Bullets (around BMS3) | 3,000 CF or 111 CY or 144 Tons |
|                               | \$ 26,000.00                   |



---

|                               |                                   |                       |
|-------------------------------|-----------------------------------|-----------------------|
| AOI-1                         | 2,450 CF or 90 CY or 117 Tons     |                       |
|                               |                                   | \$ 21,100.00          |
| AOI-2                         | 26,250 CF or 972 CY or 1,265 Tons |                       |
|                               |                                   | \$227,500.00          |
| Recovery Value and Shipping   |                                   | \$ 0.00               |
| <u>Subtotal Sifting Costs</u> |                                   | <u>\$274,600.00</u>   |
| <b>Total Estimated Cost</b>   |                                   | <b>\$1,081,490.00</b> |

#### 4.0 RECOMMENDED REMEDIAL ACTION ALTERNATIVE

Based on the information discussed in the previous sections, the three remedial action alternatives were evaluated for effectiveness, implementability, and cost. The No Action Alternative is the least favorable, as it is not effective in protecting human health or the environment and will not allow for the proposed reuse of the land. The removal of All Metals Contaminated Soil and Bullet Containing Soil alternative is protective of human health and the environment as it removes all hazardous materials and will allow for the facilities to be expanded for unrestricted reuse of the site. However, this remedial action alternative is the most expensive of the three. The Removal of High-Risk Lead-Impacted Soils and Bullets alternative is also protective of human health and the environment as it selectively removes materials which are likely to present a hazard and is more cost effective.

Therefore, the Removal of High-Risk Lead-Impacted Soils and Bullet alternative is the lesser of the two alternatives, along with still being protective of human health. The Removal of High-Risk Lead-Impacted Soils and Bullets alternative is the recommended remedial option.

## **APPENDIX A**

### **Figures**

**Figure 1****Site Location Map****New Iberia Research Center - Shooting Range**

4401 West Admiral Doyle Dr.

New Iberia, LA

**Legend**

— Site Location

Notes:

**Leaaf Environmental, LLC**  
 2301 Whitney Ave., Gretna, LA 70056  
[www.leaaf.com](http://www.leaaf.com)  
 (504) 342-2687 (Main)  
 (504) 342-2715 (Fax)





**Figure 2**

**Site Vicinity Map**

**New Iberia Research Center - Shooting Range**

4401 West Admiral Doyle Dr.  
New Iberia, LA

**Legend**

— Site Location

Notes:

**Leaaf Environmental, LLC**  
2301 Whitney Ave., Gretna, LA 70056  
[www.leaaf.com](http://www.leaaf.com)  
(504) 342-2687 (Main)  
(504) 342-2715 (Fax)



## APPENDIX B

### References

Leaaf Environmental, LLC. Waste Characterization Soil Survey Report, Former Firing Range, ULL New Iberia Research Center. December 19, 2020.

Leaaf Environmental, LLC. Phase II Environmental Site Assessment, University of Louisiana at Lafayette, New Iberia Research Center – Shooting Range. May 2023

EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61, Subpart M)

Occupational Safety and Health Administration (OSHA) Lead in Construction Regulations (29 CFR 1926.62)

OSHA Hazardous Waste Operations and Emergency Response (29 CFR 1926.62)

Louisiana Department of Environmental Quality (LDEQ) Risk Evaluation/Corrective Action Program (RECAP) (LAC: 33: I, Chapter 13)

LDEQ Hazardous Waste and Hazardous Materials Regulations (LAC 33: V, Subpart 1)



**Leaaf  
Environmental  
LLC**

**2301 Whitney Ave  
Gretna, LA 70056**

**(504) 342-2687 office  
(504) 342-2715 fax**

**[www.leaaf.com](http://www.leaaf.com)**

# **CORRECTIVE ACTION PLAN**

**University of Louisiana, Lafayette  
New Iberia Research Center  
Former Shooting Range  
4401 West Admiral Doyle Dr.  
New Iberia, LA 70560  
LDEQ Agency Interest No. 2716**

**LaGov Contract No. 2000590641  
Work Order No. 37  
EPA-LDEQ Cooperative Agreement No.  
BF-01F07301**

**Prepared by:  
Leaaf Environmental LLC**

**Prepared for:  
Louisiana Department of Environmental Quality  
602 N. Fifth Street  
Baton Rouge, LA 70802**

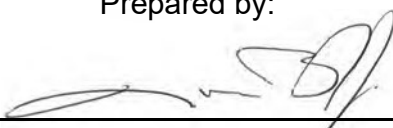
**April 2025  
LTBA-025C**

## CORRECTIVE ACTION PLAN

University of Louisiana, Lafayette  
New Iberia Research Center  
Former Shooting Range  
4401 West Admiral Doyle Drive  
New Iberia, LA 70560  
LDEQ Agency Interest No. 2716

Prepared for:  
Louisiana Department of Environmental Quality  
602 N. Fifth Street  
Baton Rouge, LA 70802

Prepared by:

  
\_\_\_\_\_  
Jim Blazek, Jr.  
Leaaf Project Manager

April 17, 2025  
\_\_\_\_\_  
Date

Approved by:

  
\_\_\_\_\_  
Emily Reeves, MSPH  
Leaaf QA Manager

April 17, 2025  
\_\_\_\_\_  
Date

## TABLE OF CONTENTS

|     |                                                                          |   |
|-----|--------------------------------------------------------------------------|---|
| 1.0 | INTRODUCTION.....                                                        | 1 |
| 2.0 | BACKGROUND.....                                                          | 1 |
| 3.0 | GOAL .....                                                               | 2 |
| 4.0 | CORRECTIVE ACTION STANDARDS.....                                         | 2 |
| 5.0 | CORRECTIVE ACTION METHODOLOGY.....                                       | 3 |
| 6.0 | CORRECTIVE ACTION EXTENT DETERMINATION AND CONFIRMATORY<br>SAMPLING..... | 4 |
| 7.0 | LABORATORY ANALYSIS .....                                                | 5 |
| 8.0 | GROUNDWATER REMEDIATION .....                                            | 5 |
| 9.0 | PROJECT COMPLETION REPORTS .....                                         | 5 |

## APPENDICES

APPENDIX A: Figures

APPENDIX B: References

The Corrective Action Plan (CAP) reported herein was funded wholly or in part through a cooperative agreement between the Environmental Protection Agency's (EPA's) Brownfield and Land Revitalization Program and the Louisiana Department of Environmental Quality's (LDEQ's) Brownfields Program (EPA Cooperative Agreement No. BF-01F07301). The contents of this document do not necessarily reflect the views and policies of the EPA or the LDEQ, nor does the EPA or LDEQ endorse trade names or recommend the use of commercial products mentioned in this document.



## **1.0 INTRODUCTION**

Leaaf Environmental, LLC (Leaaf) has prepared this Corrective Action Plan (CAP) for the University of Louisiana, Lafayette (ULL), New Iberia Research Center (NIRC), Former Shooting Range (Shooting Range) project located at 4401 West Admiral Doyle Drive, New Iberia, LA 70560. The CAP was requested by the Louisiana Department of Environmental Quality (LDEQ) as Work Order Number 37 of the Targeted Brownfields Assessment (TBA) Services V Contract (LaGov 2000590641). The Louisiana South Central Planning and Development Commission (SCPDC) is also involved in the project via the South Louisiana Brownfield Coalition Revolving Loan Fund Program. SCPDC will perform general oversight to ensure that all necessary environmental documents are completed and submitted to EPA for approval in order to issue eligible cleanup funds to ULL during the remediation work.

## **2.0 BACKGROUND**

The property formerly served as a civil airport between 1946 and 1954. In 1954, the Department of Defense selected the location for development of a naval air station. Commissioned in 1960, the Naval Auxiliary Air Station (NAAS) that covered an area of 4,347 acres was formed. The NAAS primarily supported the Training Squadron Twenty-Seven (VT-27) which operated Grumman TS-2A Trackers. Approximately 1,000 military and 100 civilian workers were stationed at the facility until it was closed in January 1965. In 1970, a 2,000-acre portion of the NAAS was granted to Iberia Parish to be used as the Acadiana Regional Airport. A total of 69.37 acres of the airport property was sectioned off and was being used as a research center by Gulf South Research Institute (1968 – 1984) of which an approximately 1.3-acre portion was the Shooting Range. The Shooting Range was used by the military and the Iberia Sheriff's Office for firearm training until 1984 when ULL was granted the research center to form the NIRC. The former Shooting Range has not been used since 1984. The reason for the environmental work is that the ULL NIRC would like to expand the facility and redevelop the area in the direction of the Shooting Range. Figures 1 (Topographic Map) and 2 (Site Vicinity Map), are provided within Appendix A.

In 2020, sampling of the former Shooting Range area was conducted to determine whether hazardous concentrations of lead were present. Samples were collected from three areas of the earthen backstop (rear, left and right sides) and analyzed for total and Toxicity Characteristic Leachate Procedure (TCLP) lead. One sample was analyzed for Synthetic Precipitation Leachate Procedure (SPLP) lead. The results indicated that the sample from the right side exceeded LDEQ's Risk Evaluation/Corrective Action Program (RECAP) Screening Standards. Additionally, the samples from the right side and rear were determined to have hazardous concentrations of lead.

A Phase II Environmental Site Assessment (ESA) was completed by Leaaf in May 2023. Sampling results of the PII ESA indicated impacts from historical shooting range activities. Bullets were observed within the mounded backstop at four locations, and metals concentrations that exceeded the RECAP Limiting Screening Standards (LSS) were detected in the center portion of the front side of the backstop.

This CAP details the remedial actions at the site based on the recommendations presented in the Analysis of Brownfields Cleanup Alternatives (ABCA).

### **3.0 GOAL**

The purpose of this CAP is to summarize the goals and procedures to be used to remediate elevated concentrations of lead in the mounded backstop and surface soil near the mounded backstop. This CAP also details actions to address any additional environmental concerns that may arise during remediation as the soil has been found to be contaminated and/or hazardous (as identified by previous TCLP testing) for purposes of remediation, transportation and disposal. The focus of this corrective action is surface soil and soil in the mounded backstops. Groundwater should not be encountered as part of this remediation; however, should groundwater or stormwater become present in the excavation, the contractor will need to filter the water before discharging from the excavation area. Note: The soil to groundwater exposure pathway has previously been eliminated by acceptable leach test results for soil with concentrations up to 289 mg/kg; therefore 289 mg/kg is the value that must be achieved. Corrective action and sampling activities will be performed in accordance with Appendix B of the RECAP Guidance document.

The goal of this effort is to remediate the impacted soil in the vicinity of BMS4 through BMS8 in the shooting range mounded backstop and an area encompassing LB9/TW2 to a level less than the aforementioned SPLP evaluation value of 289 mg/kg. This will allow unrestricted redevelopment of the site and will negate the need for environmental institutional or engineering controls on the soil. If additional environmental concerns are discovered during soil confirmation sampling, then additional corrective actions (if needed) in accordance with RECAP guidance and in consultation with LDEQ's Team Leader will be performed. Additional environmental concerns that may be encountered include loose bullets found in non-contaminated soil and lead contaminated dust generated during the course of the remediation process.

This CAP is being developed to assist the Owners in the development of bid documents to be used to remediate the site. Previous testing of the soil has indicated that the soil in some areas is considered hazardous for lead content. In order to reduce costs that would incur for hazardous waste transportation and disposal, an attempt to treat the soil to render it non-hazardous should be completed by the selected contractor. It is expected that after the completion of the activities outlined in this CAP, LDEQ will not require further assessment or corrective action of the soil or groundwater so that redevelopment of the site can commence. A "No Further Action at This Time" (NFA-ATT) determination from LDEQ will be requested based on the results of the corrective action and previous investigations.

### **4.0 CORRECTIVE ACTION STANDARDS**

The corrective action standard used at the site will be the SPLP evaluation value for the soil to groundwater pathway of 289 mg/kg. The primary goal of this corrective action is to reduce the Area of Investigation Concentration (AOIC) of lead at the Areas of Investigation (AOIs) to less than 289 mg/kg. Therefore, to achieve this goal it is required that all soils from AOIs 1 and 2 be remediated and disposed of offsite. See Section 5.0 for additional details.

The soil from the Reclaim Bullets area was sampled and determined to be less than 289 mg/kg; therefore protective of human health and the environment and can be left onsite once reclamation of bullets occurs, via sifting or use of another effective method. Refer to Figures 3.1 through 3.3, Appendix A for illustrations of these areas.

## 5.0 CORRECTIVE ACTION METHODOLOGY

Prior to implementing corrective actions, the contractor will submit a workplan to LDEQ with specifications regarding the chosen stabilization/treatment method for the soil. In addition, the contractor will notify the utility locator service in accordance with local practices (LA One Call) no less than 48-hours prior to mobilization to the site. LDEQ will be notified at least seven days prior to the initiation of corrective action activities. Onsite safety equipment requirements will be determined prior to the initiation of field activities and adjusted during the project as needed.

The corrective action effort currently includes removal of vegetation, sifting of bullets, and excavation of soils as detailed in this section. Previous testing of the soil has indicated that the soil is considered hazardous for lead content at AOI-1 and AOI-2. See the Soil Exceedance Map, provided in Appendix A, as Figure 4. In order to reduce costs that would incur for hazardous waste transportation and disposal, it is recommended that the soils be sifted to remove larger bullets/ bullet fragments and then treated to render it non-hazardous. Based on a pilot study that was performed on the contaminated soil at the site, the method to render the soil non-hazardous is suggested to be by fixation and stabilization via use of Blastox® or similar material or methods (i.e. chemical oxidation, chemical stabilization, etc.). The pilot study indicated successful treatment of the soil using Blastox® 215; at least a 5% mixture of Blastox® 215 to soil ratio was sufficient to render the soil non-hazardous.

This CAP allows the contractor to determine the most efficient and cost-effective method to remediate the site. If the contractor has alternative methods to properly treat and/or dispose of the affected material successfully and within regulatory requirements, at less costs than the aforementioned method using Blastox®, then this option is available. It should be noted that if other methods are utilized (than those presented in the aforementioned pilot study), it is at contractor's own financial risk.

Once treatment of the affected soil is completed (this can/may need to be in batches based on additional sampling requirements required by the landfill), samples will be collected to determine if the excavated material from each AOI has been sufficiently treated for landfill compatibility as non-hazardous. The ULL Environmental Consultant will need to work with the disposal facility for waste profiling and to determine how often samples of waste should be taken (e.g. one every five roll-offs, etc). They must include in their workplan to LDEQ specifics on sample collection for waste disposal including, number of samples, how often samples will be collected, batch size if samples are collected per batch, etc. All sampling results will need to be submitted to LDEQ for review and acceptance. If the attempted Blastox® method to render the soil non-hazardous is unsuccessful, disposal of the soil as hazardous may be considered. Additional details for treatment and waste sampling are presented in the Environmental Remediation Request for Proposal (RFP).

Once soil has been treated and characterized and the disposal option has been selected, treated soil will be removed by the contractor with excavation or similar equipment. Excavated soil will be loaded directly into trucks or a roll-off box for offsite transportation. Contaminated soil may be stockpiled on plastic sheeting or other fluid impervious surface and covered completely to ensure that dust is not released or stormwater does not impact the lead-containing soil. For the Reclaim Bullets area, once sifting (or similar method) is completed, the soil in this area can be leveled.

All work will be performed by a contractor licensed with the Louisiana Board of Contractors for Hazardous Materials and/or a specialty license in Hazardous Waste Treatment or Removal. All personnel will be 40-hour HAZWOPER Trained with annual refreshers.

If stormwater accumulates in the excavation during soil removal, it will be treated or disposed of in accordance with applicable regulations. Groundwater accumulation is not anticipated based on the shallow depth of the excavation. If needed, permits shall be obtained by the contractor as required by regulatory authority. The contractor may line or cover the excavation pit with poly sheeting or other materials to ensure that stormwater does not enter. This will allow for the contractor to directly pump non-contact stormwater from the excavation without testing.

Environmental air monitoring will be completed by ULL's Environmental Consultant during corrective action activities. It is up to the contractor to determine if data being collected by ULL's Environmental Consultant will suffice for Occupational Safety and Health Administration (OSHA) monitoring purposes, in order to ensure the safety and health of their employees, and their subcontractors.

## **6.0 CORRECTIVE ACTION EXTENT DETERMINATION AND CONFIRMATORY SAMPLING**

The vertical and horizontal extent of impact was defined in the May 2023 Phase II ESA. Approximate dimensions and quantities are shown in Figures 3.1, 3.2, and 3.3 and shown below:

- AOI-1 – 2' (depth) x 35' (wide) x 35' (length)
- AOI-2 – 5' (depth w/ an extra 1' bgs) x 25' (wide) x 175' (length)
- Reclaim Bullets Area – 5' (depth) x 20' (wide) x 30' (length)

The elevated lead was detected within the shooting range mounded backstop (AOI-2) and within an area located at the front of the mounded backstop down to two feet (ft) below ground surface (bgs), AOI-1. Soils within the mounded backstop will be removed down to one ft bgs (5 ft. of backstop plus one ft into the subsurface) and the soil in front of the mounded backstop will be removed down to two ft bgs. At that point the soil will be screened by ULL's Environmental Consultant with a portable X-ray fluorescence (XRF) unit. If screening indicates that soil levels are at or below 100 parts per million (ppm), then confirmatory soil sampling (as presented below) will be completed by ULL's Environmental Consultant.

- AOI-1 - Four sidewall and one bottom of excavation
- AOI-2 - Eight sidewall and four bottom of excavation
- Reclaim Bullets Area – Sampling not necessary as previous sampling results indicate soil is less than the aforementioned value of 289 mg/kg.

The excavation pit will be backfilled by the contractor with fill taken from an area within the mounded backstop that was found to not have elevated levels of lead (i.e. not more than 289 mg/kg). Vegetation should be removed from the remaining mounded areas and soil spread evenly across the site. Corrective action work will be coordinated to ensure that the excavation pit does not remain open for an extended period of time so as to accumulate stormwater.

Confirmation samples will be collected into appropriate sample jars via EPA Method SW-846 6010/6020, labeled with a unique identification number, and immediately placed in an ice chest

with sufficient ice to cool the sample to 4°C. At a minimum, the sample label information will include the sample number, date, time, sample location, sampler's name, sample type, analysis to be performed and preservatives used. Clean gloves will be worn during soil sampling to protect sample integrity and to provide dermal protection.

Samples will be packaged and delivered to a Louisiana-accredited laboratory under chain of custody and within regulatory holding times. Quality Assurance/Quality Control (QA/QC) samples will be collected per RECAP Guidelines, as listed below:

- One rinsate sample per 20 field samples;
- One field blank per day;
- One field duplicate sample per 20 field samples; and,
- One matrix spike/matrix spike duplicate from the site per 20 field samples.

## **7.0 LABORATORY ANALYSIS**

Laboratory analyses for only lead shall be conducted in accordance with the latest approved edition of the EPA SW-846, Test Methods for Evaluating Solid Waste and other pertinent EPA methods for soil confirmation samples. Analyses will be performed at detection limits below the RECAP LSS. Laboratory analyses will be completed by a Louisiana-accredited laboratory in accordance with Louisiana Administrative Code (LAC) 33:1, Subpart 3. Applicable QA/QC samples will be collected as mentioned above.

Laboratory analysis shall be conducted to allow for profiling of the contaminated soil to determine disposal method. The laboratory analysis for material to be disposed of offsite will include a TCLP via EPA SW-846 Method 1311 and Reactivity, Corrosivity and Ignitability (RCI) via EPA SW-846 Methods 7.1.2, 7.3.3, 7.3.4, 1010 and 9045) for the quantity and/or frequency required by the landfill.

## **8.0 GROUNDWATER REMEDIATION**

Groundwater remediation is not included in this scope of work, as there were no groundwater exceedances of applicable RECAP Screening Standards determined during the Phase II ESA. Groundwater was not encountered until approximately 13 ft bgs, well above the maximum 2 ft depth of excavation required for this project. Groundwater accumulation is not anticipated based on the shallow depth of the excavations. Permits shall be obtained as required by regulatory authority prior to any discharge of water.

## **9.0 PROJECT COMPLETION REPORTS**

The following reports will be completed once the corrective action is complete.

### Remediation Completion Report

A Remediation Completion Report detailing the remediation activities that were completed shall be prepared by ULL's Environmental Consultant and submitted to ULL and the SCPDC, within 45 days of completion of Corrective Action. The report shall include:

- A general description of the corrective action activities conducted at the site, to include measurements and photographs of areas remediated.

- A summary of soil sample locations, analytical results, and copies of laboratory analytical reports.
- A summary of air sampling and dust sampling results and copies of laboratory analytical reports.
- A summary of the total quantity of waste disposed, the final disposal location, and copies of waste manifests for wastes that were removed from the site.
- Summary and Project Conclusions.

#### Project Completion Report

A Project Completion Report will be prepared by Leaaf for SPPDC and submitted to SCPDC/LDEQ for submittal to EPA, within 30 days of receiving the aforementioned Remediation Completion Report. The report shall include:

- A summary of the corrective action activities completed at the site.
- A demonstration that the corrective action activities have resulted in the attainment of the corrective action goals.

#### Corrective Action Report

Once the project is complete and the necessary information/reports are submitted by ULL's Environmental Consultant to close out the SCPDC, Revolving Loan Fund portion of the project, Leaaf, will prepare a Corrective Action Report that will present the completed project work scope, confirmatory analytical data, and request for NFA or similar determination from LDEQ.

# **APPENDIX A**

## **Figures**

Figure 1: Site Topographic Map

Figure 2: Site Vicinity Map

Figure 3.1: AOI-1 Map

Figure 3.2: AOI-2 Map

Figure 3.3: Reclaim Bullets Area Map

Figure 4: Soil Exceedances Map

**Figure 1****Site Topographic Map****New Iberia Research Center - Shooting Range**

4401 West Admiral Doyle Dr.

New Iberia, LA

**Legend**

— Site Location

Notes:

**Leaaf Environmental, LLC**  
 2301 Whitney Ave., Gretna, LA 70056  
[www.leaaf.com](http://www.leaaf.com)  
 (504) 342-2687 (Main)  
 (504) 342-2715 (Fax)







Figure 2

## Site Vicinity Map

### New Iberia Research Center - Shooting Range

4401 West Admiral Doyle Dr.  
New Iberia, LA

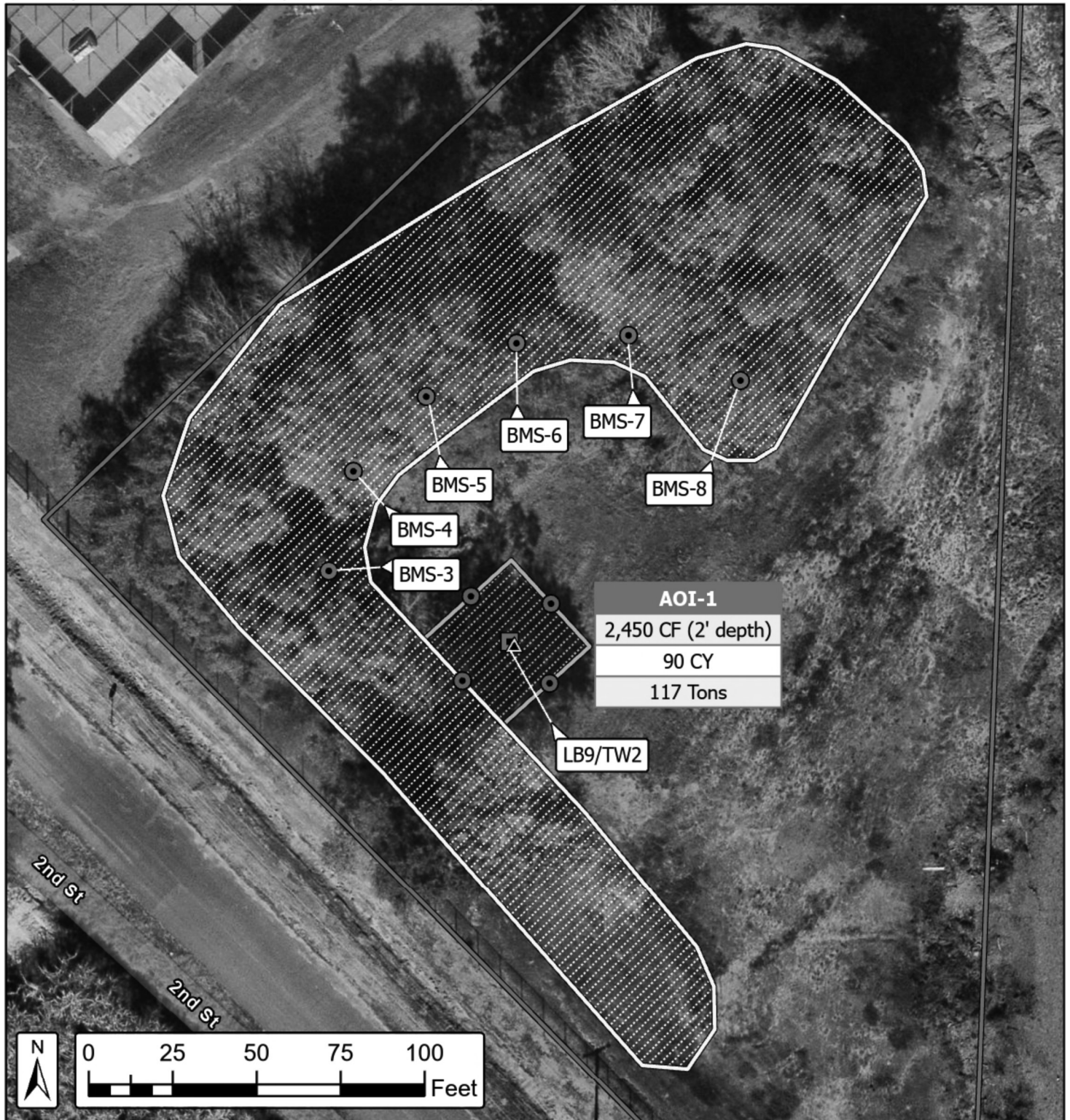
#### Legend

— Site Location

#### Notes:

Leaaf Environmental, LLC  
2301 Whitney Ave., Gretna, LA 70056  
[www.leaaf.com](http://www.leaaf.com)  
(504) 342-2687 (Main)  
(504) 342-2715 (Fax)





## Legend

- |               |                  |                 |
|---------------|------------------|-----------------|
| Site Location | Bottom Sample    | Boring Location |
| Berm          | Side Wall Sample |                 |
| AOI-1         | BMS Boring       |                 |

**Figure 3.1**  
**AOI-1 Map**

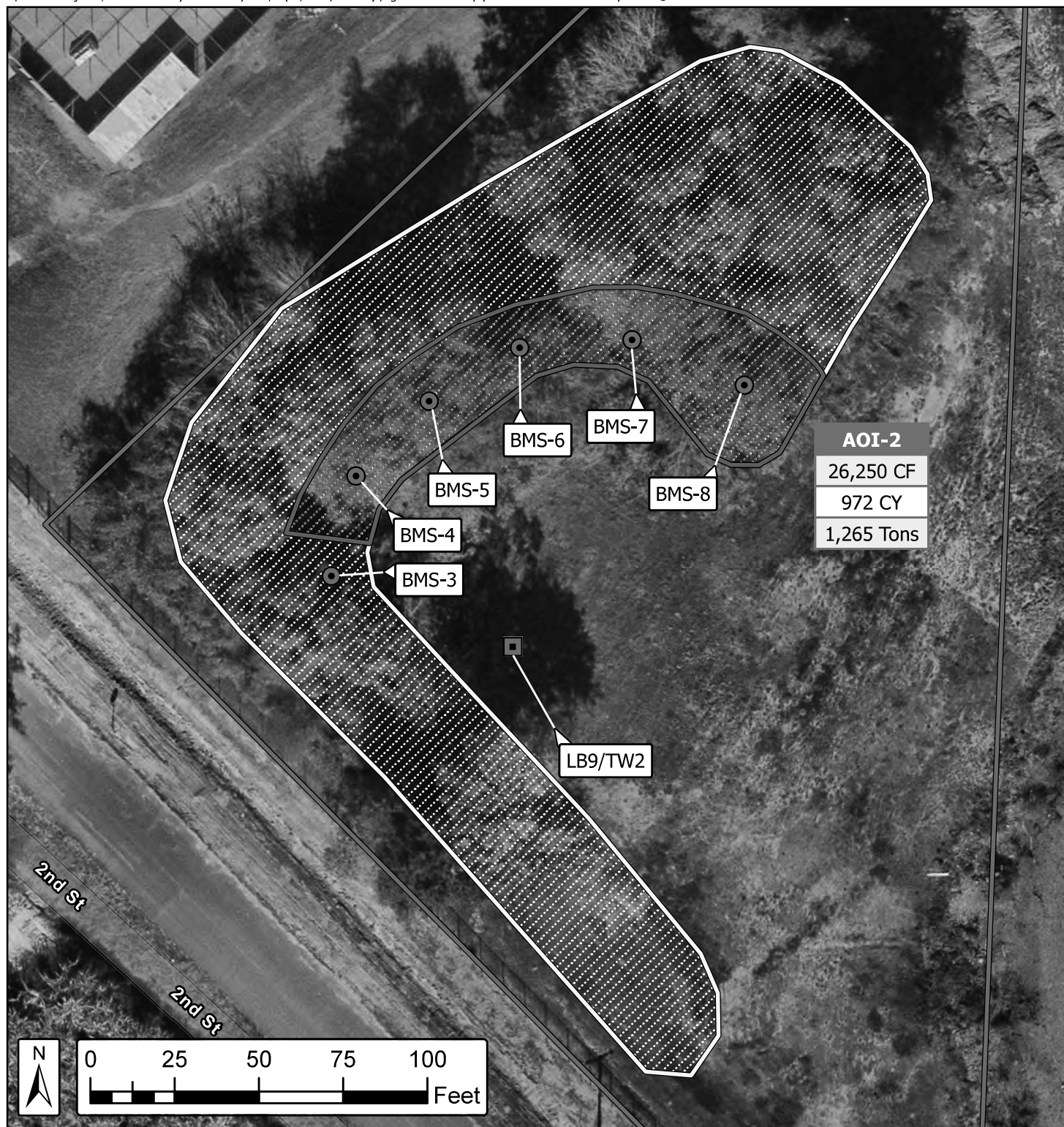


### Notes:

**AOI-1 Excavation:** 2'(depth) x 35' (wide) x 35' (length)

All quantities are approximate.

New Iberia Research Center  
Shooting Range  
4401 W. Admiral Doyle Dr.,  
New Iberia, LA  
AI# 2716  
03/11/2025



## Legend

- Site Location
- Berm
- AOI-2
- Boring Location
- BMS Boring

**Figure 3.2**  
**AOI-2 Map**



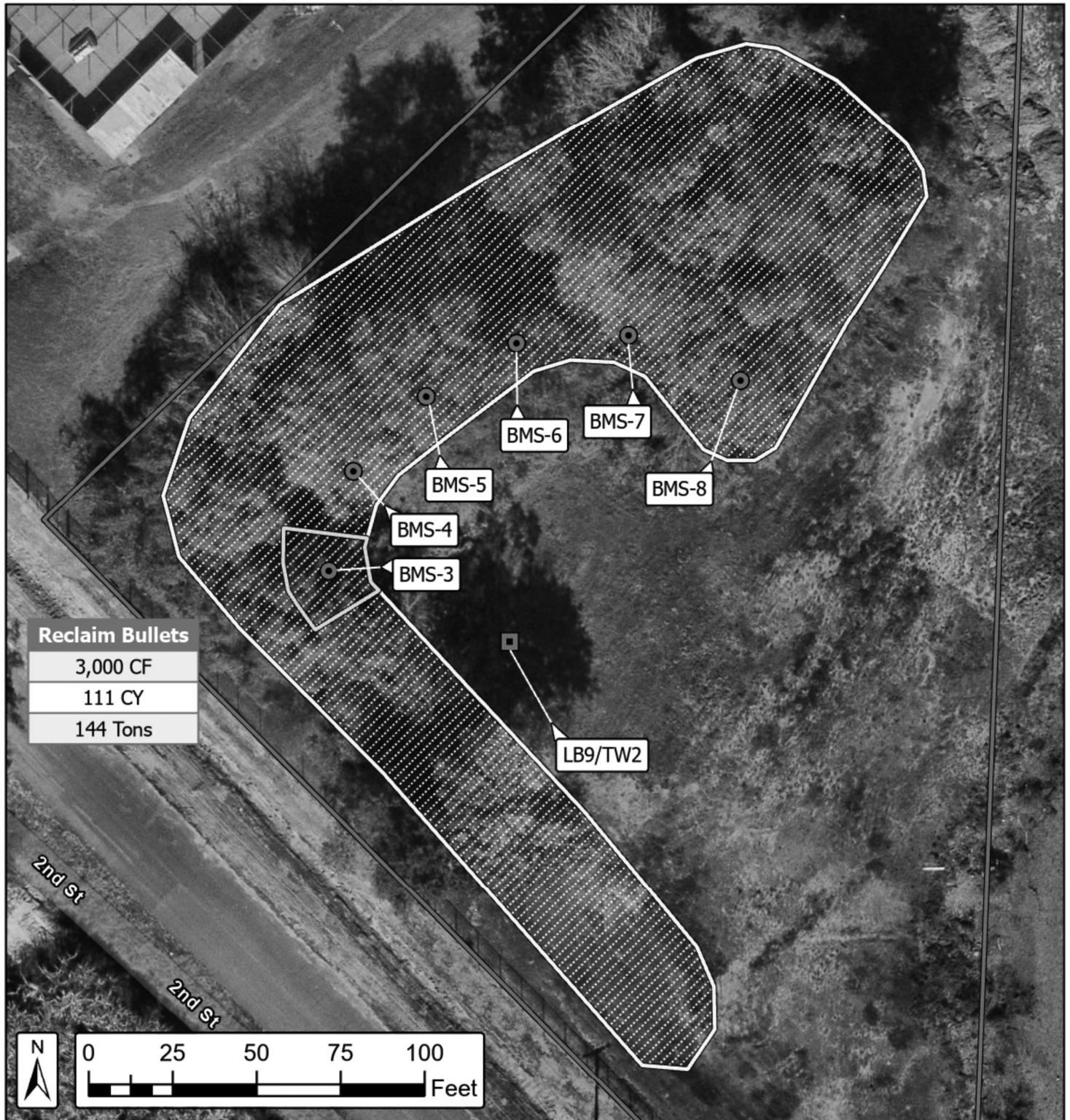
### Notes:

**AOI-2 Excavation:** 5' + 1' bgs (depth) x 25' (wide) x 175' (length)

All quantities are approximate.

New Iberia Research Center  
Shooting Range  
4401 W. Admiral Doyle Dr.,  
New Iberia, LA  
AI# 2716  
03/21/2025





#### Reclaim Bullets

3,000 CF

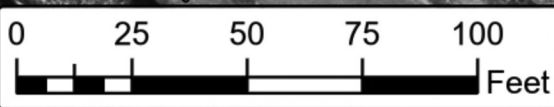
111 CY

144 Tons

LB9/TW2

2nd St

2nd St



#### Legend

- Site Location
- Berm
- Reclaim Bullets Area
- Boring Location
- BMS Boring

#### Figure 3.3

#### Reclaim Bullets Area Map

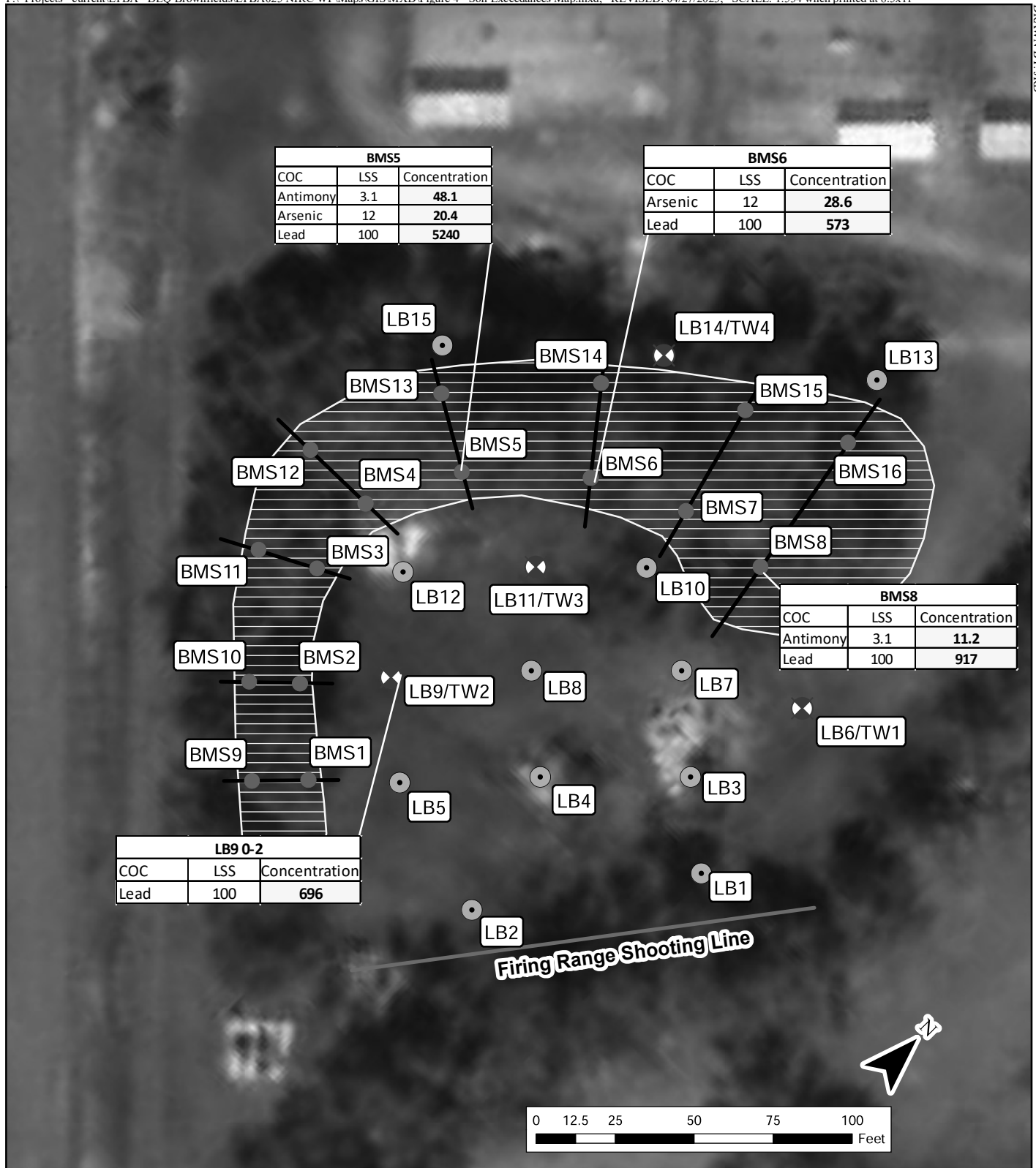


#### Notes:

**Reclaim Bullets Excavation:** 5'(depth) x 20' (wide) x 30' (length)

All quantities are approximate.

New Iberia Research Center  
Shooting Range  
4401 W. Admiral Doyle Dr.,  
New Iberia, LA  
AI# 2716  
03/13/2025



## Legend

-  Soil Boring and Temporary Monitoring Well Location
-  Approximate Extent of Soil Berm
-  Soil Berm Sample Location
-  Soil Boring Location
-  Trenching Location

Notes:  
Concentrations are in mg/kg.

**Figure 4**  
**Soil Exceedances Map**  
New Iberia Research Center - Shooting Range  
4401 West Admiral Doyle Dr, New Iberia, LA  
AI # 2716  
04/27/2023

**Leaaf Environmental, LLC**  
2301 Whitney Ave., Gretna, LA 70056  
[www.leaaf.com](http://www.leaaf.com)  
(504) 342-2687 (Main)  
(504) 342-2715 (Fax)



## **APPENDIX B**

### **References**

## REFERENCES

Leaaf Environmental, LLC. Waste Characterization Soil Survey Report, Former Firing Range, ULL New Iberia Research Center. December 19, 2020.

Leaaf Environmental, LLC. Phase II Environmental Site Assessment, University of Louisiana at Lafayette, New Iberia Research Center – Shooting Range. May 2023

Leaaf Environmental, LLC. Analysis of Brownfields Cleanup Alternatives, University of Louisiana at Lafayette, New Iberia Research Center – Former Shooting Range. April 2025

Leaaf Environmental, LLC. Quality Assurance Project Plan, University of Louisiana at Lafayette, New Iberia Research Center – Former Shooting Range. April 2025

EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61, Subpart M)

Occupational Safety and Health Administration (OSHA) Lead in Construction Regulations (29 CFR 1926.62)

OSHA Hazardous Waste Operations and Emergency Response (29 CFR 1926.62)

Louisiana Department of Environmental Quality (LDEQ) Risk Evaluation/Corrective Action Program (RECAP) (LAC: 33: I, Chapter 13). October 2003.

LDEQ Hazardous Waste and Hazardous Materials Regulations (LAC 33: V, Subpart 1)

National Institute of Safety and Health (NIOSH). Method 7082 Lead by Flame AAS.

U.S. Environmental Protection Agency (EPA). 2000. Guidance for the Data Quality Objective Process (G-4) (EPA/600/R-96/055) August 2000.

EPA. 2001. EPA Requirements for Quality Assurance Project Plans (QA/R-5) (EPA/240/B-01/003) March 2001.

EPA. 2003. Guidance for Quality Assurance Project Plans (QA/G-5) (EPA/240/R-02/009) December 2002.

EPA. 2017. <https://www.epa.gov/hw-sw846/sw-846-compendium>

U.S. Department of Occupation Safety and Health Administration (OSHA). Code of Federal Regulations (CFR) Title 29 Part 1910.1025 Lead, July 01, 2001.



# **QUALITY ASSURANCE PROJECT PLAN**

**University of Louisiana, Lafayette  
New Iberia Research Center  
Former Shooting Range  
4401 West Admiral Doyle Dr.  
New Iberia, LA 70560  
LDEQ Agency Interest No. 2716**

**LaGov Contract No. 2000590641  
Work Order No. 37  
EPA-LDEQ Cooperative Agreement No.  
BF-01F07301**

**Leaaf  
Environmental  
LLC**

**2301 Whitney Avenue  
Gretna, LA 70056**

**(504) 342-2687 office  
(504) 342-2715 fax**

**[www.leaaf.com](http://www.leaaf.com)**

**Prepared by:  
Leaaf Environmental LLC**

**Prepared for:  
Louisiana Department of Environmental Quality  
602 N. Fifth Street  
Baton Rouge, LA 70802**

**April 2025  
LTBA-025C**



## QUALITY ASSURANCE PROJECT PLAN REVISION 1

University of Louisiana, Lafayette  
New Iberia Research Center  
Former Shooting Range  
4401 West Admiral Doyle Drive  
New Iberia, LA 70560  
LDEQ Agency Interest No. 2716

Prepared for:  
Louisiana Department of Environmental Quality  
602 N. Fifth Street  
Baton Rouge, LA 70802

Prepared by:



April 17, 2025

Jim Blazek, Jr.  
Leaaf Project Manager



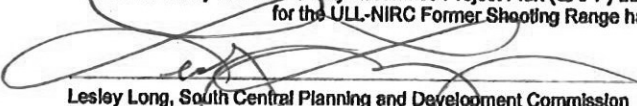
April 17, 2025

Emily Reeves, MSPH  
Leaaf QA Manager

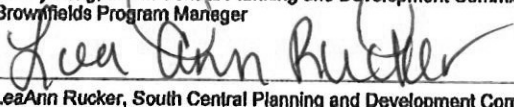
**QUALITY ASSURANCE PROJECT PLAN  
SOUTH CENTRAL PLANNING & DEVELOPMENT COMMISSION  
SIGNATURE PAGE**

**For the  
University of Louisiana, Lafayette (ULL)  
New Iberia Research Center (NIRC)  
Former Shooting Range  
4401 West Admiral Doyle Drive  
New Iberia, LA 70560  
LDEQ Agency Interest No. 2716**

This is to certify that this Quality Assurance Project Plan (QAPP) addressing the remediation of hazardous lead contaminated soil for the ULL-NIRC Former Shooting Range has been examined by the undersigned.

  
Lesley Long, South Central Planning and Development Commission  
Brownfields Program Manager

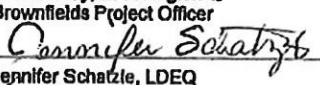
5/9/2025  
Date

  
LeaAnn Rucker, South Central Planning and Development Commission  
QA Manager

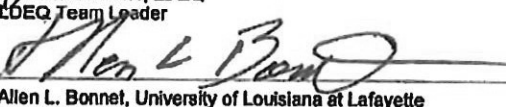
5/13/2025  
Date

  
Marsha Lay, EPA Region 6  
Brownfields Project Officer

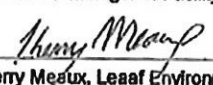
5/21/2025  
Date

  
Jennifer Schatzle, LDEQ  
LDEQ Team Leader

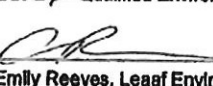
5/7/2025  
Date

  
Allen L. Bonnet, University of Louisiana at Lafayette  
Assistant Manager of Facility Planning and Construction

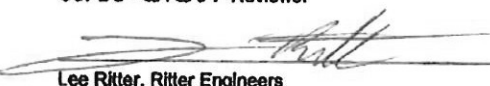
5-7-2025  
Date

  
Kerry Meaux, Leaaf Environmental  
SCPDC - Qualified Environmental Professional

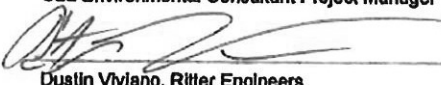
5/7/2025  
Date

  
Emily Reeves, Leaaf Environmental  
SCPDC - QA QAPP Reviewer

5/7/2025  
Date

  
Lee Ritter, Ritter Engineers  
ULL Environmental Consultant Project Manager

5/8/25  
Date

  
Dustin Viviano, Ritter Engineers  
ULL Environmental Consultant QA Manager

5/8/25  
Date

## Table of Contents

|        |                                                                        |    |
|--------|------------------------------------------------------------------------|----|
| 1.0    | INTRODUCTION.....                                                      | 1  |
| 2.0    | PROJECT MANAGEMENT .....                                               | 1  |
| 2.1    | Project Organization .....                                             | 2  |
| 2.2    | Project Definition/Background.....                                     | 3  |
| 2.3    | Project/Task Description .....                                         | 3  |
| 2.4    | Quality Objectives and Criteria .....                                  | 5  |
| 2.5    | Special Training Requirements/Certification .....                      | 7  |
| 2.6    | Documents and Records .....                                            | 7  |
| 2.6.1  | Chain-of-Custody.....                                                  | 8  |
| 2.6.2  | Field Records .....                                                    | 8  |
| 2.6.3  | Laboratory Records and Reporting .....                                 | 9  |
| 2.6.4  | Project Completion Reports .....                                       | 9  |
| 3.0    | DATA GENERATION AND ACQUISITION.....                                   | 10 |
| 3.1    | Sampling Design .....                                                  | 10 |
| 3.2    | Sampling Methods to be Followed by ULL’s Environmental Consultant..... | 10 |
| 3.3    | Sample Handling and Custody .....                                      | 11 |
| 3.4    | Analytical Methods .....                                               | 11 |
| 3.5    | Quality Control.....                                                   | 11 |
| 3.6    | Instrument and Equipment Maintenance.....                              | 12 |
| 3.7    | Instrument Calibration.....                                            | 13 |
| 3.7.1  | Field Instrumentation .....                                            | 13 |
| 3.7.2  | Laboratory Instrumentation .....                                       | 13 |
| 3.8    | Inspection/Acceptance of Supplies and Consumables.....                 | 13 |
| 3.9    | Non-measurement Data Acquisition and Non-Direct Measurements .....     | 14 |
| 3.10   | Data Management .....                                                  | 14 |
| 3.10.1 | Document Control .....                                                 | 14 |
| 4.0    | ASSESSMENT AND OVERSIGHT.....                                          | 14 |
| 4.1    | Assessments and Response Actions .....                                 | 14 |
| 4.2    | Reports to Management .....                                            | 15 |
| 5.0    | DATA VALIDATION AND USABIILITY .....                                   | 16 |
| 5.1    | Data Review, Verification, and Validation .....                        | 16 |
| 5.2    | Data Evaluation and Reconciliation .....                               | 16 |

## **APPENDICES**

|            |                                    |
|------------|------------------------------------|
| Appendix A | Figure                             |
| Appendix B | Table                              |
| Appendix C | Project Organizational Chart       |
| Appendix D | Forms and Personnel Accreditations |
| Appendix E | References                         |

The Quality Assurance Project Plan (QAPP) reported herein was funded wholly or in part through a cooperative agreement between the Environmental Protection Agency's (EPA's) Brownfield and Land Revitalization Program and the Louisiana Department of Environmental Quality's (LDEQ's) Brownfields Program (EPA Cooperative Agreement No. BF-01F07301). The contents of this document do not necessarily reflect the views and policies of the EPA or the LDEQ, nor does the EPA or LDEQ endorse trade names or recommend the use of commercial products mentioned in this document.

### QAPP Distribution List

| Name              | Title                                                                            | Entity                                            | Project Role                                            |
|-------------------|----------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------|
| Lesley Long       | Brownfields Program Manager                                                      | South Central Planning and Development Commission | Oversees SCPDC Grant                                    |
| LeaAnn Rucker     | QA Manager                                                                       | South Central Planning and Development Commission | Approves QAPP                                           |
| Marsha Lay        | Brownfields Project Officer                                                      | EPA Region 6                                      | Oversees and monitors grant, approves QAPP              |
| Jennifer Schatzle | LDEQ Team Leader                                                                 | LDEQ                                              | Approves QAPP                                           |
| Allen L. Bonnet   | Assistant Manager of Facility Planning and Construction – Owner's Representative | University of Louisiana at Lafayette              | Owner Representative                                    |
| Kerry Meaux       | SCPDC Qualified Environmental Professional                                       | Leaaf Environmental, LLC.                         | Consultant to SCPDC                                     |
| Emily Reeves      | SCPDC Consultant QA QAPP Reviewer                                                | Leaaf Environmental, LLC.                         | Consultant to SCPDC                                     |
| Lee Ritter        | ULL Environmental Consultant Project Manager                                     | Ritter Consulting Engineers                       | Project Manager for Execution of Corrective Action Plan |
| Dustin Viviano    | ULL Environmental Consultant QA Manager                                          | Ritter Consulting Engineers                       | QA Manager for Execution of Corrective Action Plan      |

## **1.0 INTRODUCTION**

Leaaf Environmental, LLC (Leaaf) has prepared a Corrective Action Plan (Plan) for the University of Louisiana, Lafayette (ULL), New Iberia Research Center (NIRC), Former Shooting Range (Shooting Range) located at 4401 West Admiral Doyle Drive, New Iberia, LA 70560. (Figures 1 and 2, Appendix A). The Corrective Action Plan (CAP) was requested by the Louisiana Department of Environmental Quality (LDEQ) as Work Order Number 37 of the Targeted Brownfields Assessment (TBA) Service V Contract (LaGov 2000590641) and addresses remediation of hazardous levels of lead contaminated soil and bullets embedded in non-contaminated soils. The Louisiana South Central Planning and Development Commission (SCPDC) is also involved in the project via the Brownfield Coalition Program's Revolving Loan Fund. SCPDC will perform general oversight to ensure that all necessary environmental documents are completed and submitted to the US Environmental Protection Agency (EPA) for approval in order to issue eligible cleanup funds to ULL during the remediation work. This Quality Assurance Project Plan (QAPP) documents the type and quality of data required to make environmental decisions and describes the methodology for the collection and assessment of data as it pertains the Shooting Range CAP.

The Quality System mandated by the EPA includes the development, review, approval, and implementation of a QAPP. All EPA funded projects that involve the acquisition of environmental data generated from direct measurement activities collected from other sources or compiled from computerized databases/information systems must be conducted in accordance with an approved QAPP. These requirements apply to all environmental programs funded by the EPA that acquire, generate, or compile environmental data. No portion of the project work covered by this requirement is to be implemented without prior approval of the QAPP. It is the responsibility of the entity performing the work to assure that no environmental data is gathered or evaluated prior to approval of the QAPP by the appropriate project personnel. The entity performing the work must ensure that the QAPP is implemented as approved and that all personnel involved in the project have direct access to the most current approved version. Any revisions to this QAPP must be performed by the originator with appropriate documentation and approval by the same authorities that performed the original review.

This QAPP has been developed by Leaaf to serve as a method for the documentation of planning, implementation, assessment, and Quality Assurance/Quality Control (QA/QC) procedures to be implemented during execution of the CAP at the Shooting range. This QAPP has been prepared in accordance with EPA QA/R-5 (EPA Requirements for Quality Assurance Project Plans – March 2001).

## **2.0 PROJECT MANAGEMENT**

Project management includes the elements and personnel in place to ensure that the project has defined goals and that participants understand the goals and approach to be used. Furthermore, project management ensures that the planning procedures are properly documented. The title and approval sheets are included on pages i and ii; and a distribution list is included on page v. An Organizational Chart is included in Appendix C of this QAPP.

## **2.1 Project Organization**

### EPA Brownfields Project Officer

The EPA Region 6 Project Officer, Ms. Marsha Lay, has the responsibility to oversee and monitor the grant. As part of that responsibility, she will ensure the tasks described in the CAP are followed as they relate to the grant and EPA requirements and regulations.

### LDEQ Project Manager

The LDEQ Project Manager, Ms. Jennifer Schatzle, will have primary responsibility for the review and approval of the QAPP on behalf of the LDEQ. Ms. Schatzle will be responsible for determining if the Corrective Action Plan was performed in accordance with LDEQ regulations.

### SCPDC Consultant Project Manager

The SCPDC Consultant Project Manager will have the primary responsibility for the development of the QAPP as the consultant to LDEQ. Mr. Kerry Meaux will assist in developing the QAPP and then act as one of two representatives contracted by SCPDC to assist in the contractual oversight of the work being performed by ULL and their consultant and contractor as part of the Revolving Loan Oversight Process.

### SCPDC Consultant QA Manager

The SCPDC Consultant QA Manager will have the primary responsibility for the QA/QC review of the QAPP as the consultant to SCPDC. Ms. Emily Reeves will review the QAPP and then act as one of two representatives contracted by SCPDC to assist in the contractual oversight of the work being performed by ULL and their consultant and contractor as part of the Revolving Loan Oversight Process.

### University of Louisiana at Lafayette (ULL) Owner's Representative

The Owner's Representative, Mr. Allen L. Bonnet of ULL, will have primary responsibility for implementation and oversight of the CAP. He will be responsible for overall contracting, project performance, and will share in the responsibility of review/approval of submitted documents. The Owner's Representative will also be the primary individual responsible for contractor oversight, including review, evaluation and decision-making regarding the contractor's recommendations. The Owner's Representative will have the authority to stop work at the project. This CAP will be funded through university funds or applicable grants received to help the remediation of the Shooting Range. Mr. Bonnet will also ensure applicable reports and plans are submitted to LDEQ to ensure they are reviewed and are in compliance with LDEQ rules and regulations and approved as necessary.

ULL Environmental Consulting Firm Project Manager (Project Manager): The ULL Environmental Consulting Firm Project Manager (Project Manager) will share in the responsibility of review/approval of submitted documents as directed by the Owner's Representative. The Project Manager will assist the Owner Representative in contractor oversight, including review, evaluation and decision-making regarding the contractor's recommendations and will provide oversight of field activities and review and enforce field sampling procedures and protocols for work performed by others. Upon receipt from the Owner's Representative, the ULL Environmental Consulting Firm Project Manager will make available the QAPP documents and subsequent revisions to the members of the field remediation/sampling team. He or she will report problems in the field to the Project Manager and will ensure that corrective actions are implemented in the field as directed by the Owner's

Representative. If required, the Project Manager will assign a Field Project Manager to document corrective actions in the field logs and provide them to the Project Manager.

ULL Environmental Consulting Firm QA Manager (QA Manager):

The QA Manager will have primary responsibility for QA/QC oversight of environmental contracting during implementation of the CAP and is independent from the unit generating data. The QA Manager will be responsible for ensuring the work done on this project is completed in accordance with the QAPP. Primary responsibilities of the QA Manager include the following:

- Provides technical assistance to ensure environmental compliance.
- Shares in responsibility of review/approval of the QAPP.
- Responsible for maintaining the official, approved QAPP and ensuring that all involved parties have the most recent version of the QAPP and receive all amendments.
- Responsible for QA/QC oversight of environmental contracting during implementation of the CAP.
- Serves as the official QA/QC contact.
- Reviews and concurs with QAPP and submits the QAPP to the required parties prior to the planned initiation of environmental data review activities.
- Takes appropriate corrective action when, where, and however needed, during the proposed project activities.
- Assures that all environmental data review activities are accomplished in strict compliance with QAPP requirements.
- Has the authority to stop work at the project.

Contractor: An environmental contractor may be retained to execute the CAP. The Contractor will be licensed to perform the work outlined in the CAP and will generate a Remediation Workplan (for submittal to LDEQ) and conduct the cleanup activities in accordance with applicable regulations and project plans and specifications. The contractor manager will interact with the Owner's Representative and the Project Managers with regard to the project, provide progress reports and participate in routine work progress meetings. The consultant/contractor will oversee overall project work and scheduling, assure compliance with the QAPP and assure QA/QC and proper project documentation are completed and maintained. They will submit project closeout documents to the appropriate parties.

## **2.2 Project Definition/Background**

The property was historically operated as a Shooting Range used by the US Navy and Parish Police Department. Two separate environmental surveys were conducted that determined the soil is contaminated, bullets are present, and the soil is hazardous. These reports were produced by Leaaf in December 2020 (Hazardous Waste Determination) and May 2023 (Phase II – Environmental Site Assessment [ESA] with Risk Assessment). The envisioned use of the Shooting Range, following remediation, is to expand the existing research center facility.

## **2.3 Project/Task Description**

The following sections provide recommended actions to be conducted as part of the soil remediation prior to the redevelopment of the property. Cleanup confirmation sampling, as well as general observations, will be made to aid in the decision-making process.



#### Task 1. Document Review and Remediation Design

Previous inspection reports, laboratory data, and available regulatory records for the project will be reviewed. No new data will be developed during this task. The purpose of this evaluation will be to determine the validity and usefulness of the data in the performance of future tasks and to identify data gaps.

This task will also involve the development of a soil remediation plan. This plan is herein after referred to as the CAP. The CAP will outline the remediation to be addressed by the selected contractor, the prevailing regulations which govern such work, safety requirements, and final clearance criteria. The CAP been prepared by Leaaf to address the remediation of the contaminated soil based on the recommendation presented in the Analysis of Brownfields Cleanup Alternatives (ABCA). Leaaf's Project Manager will then have the responsibility to answer questions and make modifications to the CAP and coordination with the LDEQ Project Manager during the bid process. Leaaf's QA Manager will review the documents prior to submittal to LDEQ's Project Manager. Then, during the bid process and submittals by the contractor, the QA Manager will be responsible for reviews. The LDEQ Project Manager will perform final review of the CAP prior to distribution for bid.

#### Task 2: Soil Remediation

Prior to beginning remediation activities, a Remediation Workplan and a Site-Specific Health and Safety Plan (HASP) will be prepared by the contractor and reviewed by ULL's Environmental Consultant, and the SCPDC Representative and/or their consultant to meet the requirements of the Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1926. This document will outline potential hazards, the level of personal protection equipment (PPE) to be used, and the procedures to be followed for monitoring, and emergency situations at the site. The Remediation Workplan will also need to be approved by the LDEQ Project Manager.

Cleanup/remediation activities must be performed by trained and licensed personnel (see Section 2.5) in Level C PPE or appropriate to the exposure hazard (i.e. air purifying respirator, Tyvek suit, cut resistant gloves, steel-toed boots, hard-hats, safety glasses, and hearing protection or as directed in the site-specific HASP). Personal and area air monitoring will be conducted for lead to verify the need for PPE and to confirm that engineering controls are sufficient to ensure that contractor workers, employees or the public are not being exposed to lead dust above the OSHA Permissible Exposure Limits (PEL).

The proposed scope of work will be completed in accordance with the LDEQ-approved CAP and Supplemental Specification being developed by ULL.

For lead contaminated soil, it is anticipated that the scope of work will include the treatment and excavation of the identified hazardous lead-contaminated soil within Areas of Investigation (AOIs). Personnel air monitoring will be performed to document representative airborne lead concentrations per OSHA. Upon evaluation of completion of remediation, lead soil confirmation samples will be collected to assist with documenting completeness of remediation.

The selected contractor will be responsible for conducting remediation activities in accordance with the approved CAP and Environmental Remediation Request for Proposal (RFP). These documents will detail both environmental and safety sampling and analysis requirements. Data generated during this task may include:

- Work area and perimeter lead air sampling and analysis.
- Worker breathing zone lead air sampling and analysis.
- Field screening with portable X-Ray Fluorescence (XRF) instrumentation.
- Field Screening with portable dust monitoring station(s)
- Lead soil sampling and analysis.

The ULL Environmental Consultant Project Manager will be responsible for verifying that data management and verification occurs in accordance with the appropriate sections of this QAPP.

This QAPP establishes minimum requirements for lead soil remediation, air monitoring, air sampling, and field screening. Adherence to the CAP will be followed with specific details for evaluating protection of site and area personnel, lead remediation areas and activities, and documentation of completeness of the remediation.

#### Additional Considerations

There is potential for data gaps to be identified with respect to the identified lead contaminated soil and/or bullets which would need to be addressed during the remedial activities. The CAP does not currently involve the demolition of the Shooting Range Support Structures. Should this area be considered for inclusion, the buildings and/or structures will need to be tested for lead-based paint and asbestos, with EPA approval. The performance of the sampling and testing associated with this area would need to be added to the QAPP, and if asbestos or lead-based paint is found, then additional actions will need to be added to the CAP.

The contaminated soil is currently considered hazardous; however, new technologies and processes are continually being developed that may allow the soils to be treated in a manner as to render the soils non-hazardous. The selected contractor will need to prove periodically through appropriate analysis that the soil is being rendered non-hazardous, the contractor will need to submit proof for review and approval as required by the landfill.

## **2.4 Quality Objectives and Criteria**

Performance measures applicable to the CAP include:

- Successful remediation of known lead-contaminated soils and bullet quantities as outlined in the approved CAP and in accordance with federal and state regulations governing hazardous soil remediation and disposal and the recycling of recovered bullets, if appropriate.
- Protection of site workers through adherence to a Site-Specific HASP and evidenced by data collected through breathing zone samples.
- Protection of the public through adherence with the CAP and evidenced by the data collected through work area and perimeter air monitoring, and remediation confirmation samples.
- Protection of the environment through adherence with the CAP and evidenced by appropriately executed waste manifests and disposal at an appropriate non-hazardous waste facility and the proper recycling and/or disposal of salvaged bullets.

Analytical data generated will meet EPA QA/QC requirements, and it will be evaluated for the following Data Quality Indicators (DQIs): precision, accuracy, representativeness,

completeness, comparability, and sensitivity (PARCCS). These characteristics are reviewed below.

*Precision* is the mutual agreement among individual measurements of the same property and is a measure of the random error component of the data collection process. The overall precision of the data is the sum of that due to sampling and analysis. To determine the analytical precision of the method and/or laboratory analyst, a routine program of replicate analyses is performed. The results of the replicate analyses are used to calculate the relative percent difference (RPD), which is the governing quality control parameter for precision. Results of laboratory QC samples will be used to calculate the precision of the analytical process. Accuracy will be evaluated in accordance with analytical method-specific criteria and noted in the analytical report. While there is variability in field samples, the precision goal for field duplicates is an RPD of 20%.

*Accuracy* is the agreement between a measurement and the true value. It is a measure of the bias or systematic error of the entire data collection process. Sampling accuracy is assessed by evaluating the results of field and trip blanks. To determine the accuracy of an analytical method a periodic program of laboratory control sample spiking is conducted. The results of sample spiking are used to calculate the quality control parameter for accuracy evaluation, the percent recovery (%R). Accuracy will be evaluated in accordance with analytical method-specific criteria and noted in the analytical report.

*Representativeness* is the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a quantitative parameter that is most concerned with the proper design and implementation of the sampling program. The sampling program has been designed so that the samples collected are as representative as possible of the medium being sampled and that a sufficient number of samples will be collected. Representativeness is addressed by the description of the sampling techniques and the rationale used to select the sampling locations (refer to Section 3.2).

*Completeness* is the adequacy in quantity of valid measurements to prevent misinterpretation and to answer important questions. For this project, the data completeness objective is 90 percent.

*Comparability* is the extent to which comparisons among different measurements of the same quantity or quality will yield valid conclusions. For this project, comparability among measurements will be achieved through the use of control limits for Laboratory Control Samples (LCS). LCS recovery will be evaluated in accordance with analytical method-specific criteria and noted in the analytical report.

*Sensitivity* in terms of Minimum Detection Limits (MDLs) and Sample Quantitation Limits (SQLs) achievable by the laboratory is available upon request. The objective of sensitivity is to have a SQL or MDL (a SQL is preferable) below the applicable regulatory guidance value or clean up value. For soil samples, the applicable values are the LDEQ RECAP soil standards. The laboratory is aware of the applicable standards (and the need to meet these standards). The MDLs and SQLs are available from the laboratory upon request.

Data generated during the cleanup will be compared to published regulatory limits and/or values that have been calculated based on the Leaaf PII-ESA, dated May 2023 as follows:

- Lead Soil Confirmation Samples: 289 mg/kg – the value determined to be acceptable via Synthetic Precipitation Leachate Procedure (SPLP) analysis for the soil to groundwater pathway (see May 2023 Phase II ESA report).
- Lead in air: permissible exposure limit of 50 µg/m<sup>3</sup> and action level of 30 µg/m<sup>3</sup> (*OSHA 29 C1926.62 Lead Standard*).
- Lead Toxicity Characteristic Leaching Procedure (TCLP) for disposal of soil as non-hazardous: 5 mg/L

## **2.5 Special Training Requirements/Certification**

Field personnel will hold current certification in Hazardous Waste Operations and Emergency Response (HAZWOPER) in accordance with 29 CFR 1910.120 and/or 29 1926.65 and at least one field personnel will hold a current First Aid/CPR certification. Documentation of this training will be maintained onsite and by the contracting firm as required by OSHA.

The contractor being awarded the contract and providing remediation services must be licensed in hazardous waste/materials disciplines by the Louisiana Contractors Licensing Board. Proof of licensure will be provided by the contractor and maintained throughout the course of the work.

In the event that field screening with a portable XRF analyzer is used, the contractor will be required to meet the requirements of the LDEQ Radiation Regulations (LAC 33: XV). This may include but is not limited to Radiation License for the XRF Source (if required), Field personnel operating the portable XRF analyzer (if required) will have completed radiation safety training, manufacturer's training for instrument operation and will follow the company's Radiation Safety Program.

The analytical laboratories will be accredited by the LDEQ's Louisiana Environmental Laboratory Accreditation Program (LELAP) to conduct the requested analyses.

Documentation that the selected consultants/contractors are currently certified as required will be provided prior to the initiation of cleanup activities to the Owner Representative and LDEQ Project Manager.

## **2.6 Documents and Records**

ULL's Environmental Consultant Project Manager will be responsible for distributing copies of the approved QAPP. Their QA Manager will be responsible for maintaining the official, approved QAPP. Furthermore, the QA Manager will be responsible for ensuring that appropriate project personnel have the most current approved version of the QAPP and distributing all amendments (if any).

Copies of documents and records will be maintained and will be available for review upon request by owner representatives, regulatory agency representatives, or any other authorized individuals. A copy of the signed approved QAPP will be kept on file by the QA Manager, at a

minimum. All files and records will be maintained in accordance with EPA records retention policies.

Project records will include all correspondence, field logs and data sheets, laboratory analytical reports, audit findings, progress reports, and a final report. Examples of documents likely to be produced during this project are listed in Appendix D and include:

- Permits, licenses and certifications
- Project specifications and/or CAP
- Original chain of custody records and field log books/notes
- Records obtained during the corrective action
- Field notes with field crew signatures or initials on all records/notes
- Record of use of field sampling and decontamination supplies, and equipment tracking
- Progress/status reports
- Correspondence directly related to the project
- Data validation/quality assessment reports
- Completion reports
- Project audit and QA/QC reports

### **2.6.1 Chain-of-Custody**

Chain-of-custody records accompany all samples from origin through disposal. All sample containers will be labeled with sample location identification (ID), preservative, sampler name, analyses required, and date/time of collection. The sample location ID is linked to the labels, chain-of-custody, and field notes. The chain-of-custody record typically includes the following information:

- Project name and address
- Date and times of sample collection
- Name of sampler
- Sample location ID
- Number of samples
- Analyses required with preservation method
- Timeframe (days) sample results are needed

### **2.6.2 Field Records**

Sampling personnel will record all necessary documentation in appropriate field logbook(s) and forms (Appendix D). All entries will be dated, and time of entry recorded. All aspects of sample collection, handling, and field observations will be documented in the field logbook(s) or forms. Sample collection equipment used to collect samples and persons conducting the sampling will be documented. Sample location/identification, field instrumentation readings and any other descriptive characteristics will also be documented. Field records are a basis of later reports and should therefore be complete and factual.

Any departures from the CAP and any corrective actions performed will be documented and reported immediately to the ULL's Environmental Consultant and SCPDC's Consultant Project Manager.

### **2.6.3 Laboratory Records and Reporting**

Laboratory records will include:

- Analysis date
- Analysis time
- Sample identification
- Project number
- Identification of the analyst, reviewer, and validator
- Methodology used to acquire, process, and validate the data
- Equipment used, operating parameters, and calibration and maintenance records
- Performance evaluation, records, and review data

The analytical laboratory will generate a standard report incorporating the following requirements:

- Cover page
- Case narrative
- Chain-of-custody
- Analytical results
- QA/QC results
- Calibration data

### **2.6.4 Project Completion Reports**

The following reports will be completed once the corrective action is complete.

#### Remediation Completion Report

A Remediation Completion Report detailing the remediation activities that were completed shall be prepared by ULL's Environmental Consultant and submitted to ULL and SCPDC, within 45 days of completion of corrective action. The report shall include:

- A general description of the corrective action activities conducted at the site, to include measurements and photographs of areas remediated.
- A summary of soil sample locations, analytical results, and copies of laboratory analytical reports.
- A summary of air sampling and dust sampling results and copies of laboratory analytical reports.
- A summary of the total quantity of waste disposed, the final disposal location, and copies of waste manifests for wastes that were removed from the site.
- Summary and Project Conclusions

#### Project Completion Report

A Project Completion Report will be prepared by Leaaf for SPPDC and submitted to SCPDC/LDEQ for submittal to EPA, within 30 days of receiving the aforementioned Remediation Completion Report. The report shall include:

- A summary of the corrective action activities completed at the site.
- A demonstration that the corrective action activities have resulted in the attainment of the corrective action goals.

#### Corrective Action Report

Once the project is complete and the necessary information/reports are submitted by ULL's Environmental Consultant to close out the SCPDC, Revolving Loan Fund portion of the project, Leaaf, will prepare a Corrective Action Report that will present the completed project work scope, confirmatory analytical data, and request for NFA or similar determination from LDEQ.

### **3.0 DATA GENERATION AND ACQUISITION**

#### **3.1 Sampling Design**

The precise sampling design for the lead remediation is independent of final redevelopment plans. This QAPP establishes minimum requirements for sampling; however, the site-specific CAP and Supplemental Specification being developed by ULL will be followed, which will provide specific details for sampling.

In order to evaluate the effectiveness of engineering controls and work practices around the facility, periodic air monitoring samples for lead will be collected during remediation activities in accordance with OSHA 29 CFR 1926.62 requirements as needed to meet regulatory requirements.

At the completion of the remediation work, ULL's Environmental Consultant Firm will collect confirmation samples for analysis in each Area of Investigation (AOI) in accordance with regulatory requirements. Samples will be analyzed by a LELAP laboratory in accordance with EPA Method SW-846 6020A for soils.

The waste disposal facility may require additional waste profile sample analysis. As a result, ULL's Environmental Consultant may be required to collect additional samples to be sent for TCLP analysis in accordance with EPA Method SW-846 6010B or 6010C.

#### **3.2 Sampling Methods to be Followed by ULL's Environmental Consultant**

Lead air sampling will be performed in accordance with the National Institute of Occupational Safety and Health (NIOSH) Method 7082 or 7300/7303 unless otherwise specified.

Air samples will be collected using a vacuum type sampling pump and cassettes designed and manufactured to meet all applicable NIOSH, OSHA, and EPA standards. Air sampling pumps will be calibrated with a secondary flow indicator (rotameter) to ensure that the pump is pulling the correct number of liters per minute (LPM). Pumps will be set to pull between 1 to 4 LPM of air. Sampling time will vary based on the flow rate and the total volume of air required to be collected (typically 200 to 1,500 liters per 7082 and 50 to 2,000 liters per 7300).

Lead soil samples will be collected to determine the effectiveness of the remediation and to ensure that lead concentrations are at or below the SPLP evaluation value for the soil to groundwater pathway of 289 mg/kg approved by LDEQ. Soil confirmatory samples will be collected in accordance with the CAP.

As needed, TCLP samples will be collected for the proper disposal of the contaminated soil. Samples will be collected at the frequency that is requested by the appropriate landfill licensed for the waste being disposed.

### **3.3 Sample Handling and Custody**

Upon completion of the sampling effort, environmental chain-of-custody records will be completed to track the handling of the samples from the field to the laboratory. The samples and the chain-of-custody will be placed into the shipping container for transport to the laboratory. Samples will either be hand delivered or delivered by courier (laboratory courier or express shipping – typically Federal Express). If laboratory courier, the courier will be required to sign the chain of custody and, if express carrier, then the carrier shipping documents will be referenced on the chain and the shipping documents will become part of the chain.

All samples will be shipped to be delivered and processed prior to the holding time expiration.

If preservatives are required for the samples, then the sampler will ensure that the correct preservative is used.

### **3.4 Analytical Methods**

Samples will be sent to a LELAP certified laboratory that specializes in the analysis requested. Analytical methods and target detection limits are presented in Table 1, Appendix B.

Air Samples:

Flame Atomic Absorption analysis of lead air samples will be conducted in accordance with NIOSH Method 7082 or Inductively Coupled Plasma via Mass Spectrometry (ICP-MS) analysis of the lead air samples will be conducted in accordance with NIOSH Methods 7300/7303.

Soil:

Inductively Coupled Plasma via Mass Spectrometry analysis of the lead soil samples will be conducted in accordance with EPA Method SW-846 6010C.

Waste:

TCLP will be conducted in accordance with EPA Method SW 846 1311.

SPLP (If needed):

SPLP will be conducted in accordance with EPA Leachate Method SW 846 1312.

### **3.5 Quality Control**

Typically, no quality control (QC) samples are collected during lead air monitoring. The contracted laboratories each have an internal QA corrective action program as part of their Quality Management Plans (QMPs). This program includes verification that QC data are not outside acceptable windows for precision and accuracy, blanks or control samples do not contain contaminants above detection limits, and undesirable trends detected in spike recoveries or RPDs between duplicates are corrected. The program also ensures that there are



no unusual changes in detection limits, that holding times have not been exceeded, and that deficiencies detected by the laboratory QA department during internal or external audits are corrected.

The quality objectives for soil sampling are to ensure that quality and usable chemical data are produced that may be used in a RECAP evaluation. The data collected will meet RECAP QA/QC requirements and standard measurement quality objectives. Undiluted SQLs will not exceed the RECAP Screening Standard for each analyzed COC. The following QA/QC samples are required:

- One rinsate sample per 20 field samples;
- One field blank per day;
- One field duplicate sample per 20 field samples; and,
- One matrix spike/matrix spike duplicate from the site per 20 field samples.

RECAP QA/QC samples will be evaluated to ensure:

- The data produced results from using rigorous analytical methods (such as EPA SW-846 methods).
- The data are analyte-specific with a confirmed identity and concentration.
- The analytical method produces tangible raw data (such as chromatograms, etc.) in the form of computer printouts or electronic files.
- Documentation includes sample documentation, initial and continuing calibration, determination and documentation of detection limits, analytical documentation and quantification, QC blanks, laboratory matrix spike (MS) recoveries, laboratory control samples, use of replicate samples, and use of MS/matrix spike duplicate (MSD) samples.

GPS coordinates will be collected with a GPS that is accurate to 3 meters twice the root mean square of the horizontal average (2DRMS) in accordance with LDEQ guidance.

### **3.6 Instrument and Equipment Maintenance**

The laboratories will be responsible for the maintenance of laboratory instruments and equipment as well as documentation of maintenance activities. Instruments and measurements made as part of the analytical methodology will be as specified in the method, without modification. The laboratories' QA programs ensure that only trained personnel will perform routine maintenance on all major instruments and that repairs will be performed by trained laboratory personnel or service technicians employed by the instrument manufacturer or representative. Instrument maintenance will be appropriately documented in the instrument logs that will be included in the laboratory project file.

All equipment used by the contractor will be inspected prior to the site activities (during mobilization) and each day of site activities. All equipment is maintained (proper storage, inspections, calibration, etc.) when not in use for a project. The selected contractor should maintain duplicate equipment and spare parts for maintenance. In this manner, all equipment failures are identified early on and corrected before use in the field. Documentation of routine maintenance on equipment should be retained by the selected contractor. In the field inspections will be documented in the field logs, and calibrations will be documented on the

appropriate forms and included in the field notes. The Project Manager and/or Contractor will be responsible for ensuring that proper working equipment is available for the project.

### **3.7 Instrument Calibration**

#### **3.7.1 Field Instrumentation**

Field instrumentation that requires calibration will be calibrated each sampling day before use in accordance with manufacturer's instructions. A record of calibration will be maintained in the field logbook. In the event of calibration failure, the appropriate steps outlined in the manufacturer's instruction manual will be taken to correct the problem.

If used, the XRF will be calibrated in accordance with manufacturer's instructions daily before use, every four hours, and at the end of each inspection day.

#### **3.7.2 Laboratory Instrumentation**

Written procedures will be used for all instruments and equipment subject to calibration. Whenever possible, recognized procedures, such as those published by NIOSH or EPA, are adopted. If established procedures are not available, a procedure will be developed considering the type of equipment, stability characteristics of the equipment, required accuracy, and the effect of operational error on the quantities measured. As a minimum, the procedures include:

- Equipment to be calibrated
- Reference standards used for calibration
- Calibration technique and sequential actions
- Acceptable performance tolerances
- Frequency of calibration
- Calibration documentation format

Instruments and equipment are calibrated at prescribed intervals and/or as part of the operational use of the equipment. Calibration frequency is based on the type of equipment, inherent stability, manufacturer's recommendations, values provided in recognized standards, intended data use, specified analytical methods, effect of error upon the measurement process, and prior experience.

The analytical laboratories' calibration and Corrective action processes are documented in their standard operating procedures, which are available upon request.

### **3.8 Inspection/Acceptance of Supplies and Consumables**

Consumables, including air sampling cassettes, sample containers, and disposable PPE, will be purchased new. All equipment will be inspected prior to use to ensure that it is clean and in proper working order. Any consumables that are not in clean, working order will not be used.

### **3.9 Non-measurement Data Acquisition and Non-Direct Measurements**

Under this sampling plan, some relevant data will not be obtained from direct measurements. This non-measured data includes review of previous sampling events, regulations for sampling guidance, and quality requirements.

In addition, some of the data used are from non-direct measurement sources. This includes the EPA, NIOSH, OSHA, and LDEQ standards. These standards are obtained from published regulations and guidance documents. This data will be used to determine if constituents of concern (COCs) are present in unacceptable concentrations (above the established risk levels).

### **3.10 Data Management**

ULL's Environmental Consultant is responsible for data management. Project records will be maintained in a systematic, logical form that can be easily accounted for and rapidly accessed. Working files will be managed by either the Project Manager(s) or the analytical laboratory.

The laboratory will manage the original raw data and data validation report for projects in both hard copy and electronic format. This information will be made available to the Field Project Manager upon request. The laboratory will maintain information on where the records are stored and will identify who will be responsible for records management and how long specific types of records or documents will be maintained. Analytical laboratories typically retain laboratory records for ten years after the date of analysis.

#### **3.10.1 Document Control**

Copies of the final analytical reports will be included in the Remediation Completion Report and the original data will be retained in the project file in the responsible entity's office. Once received by the Project Manager, the data will be reviewed for errors and insufficiencies. The use of statistical or other methods aimed at data reduction is not anticipated. All data taken from the laboratory report and included in tables for presentation in the final report will be easily checked.

A copy of the Remediation Completion Report, including analytical reports, will be retained in the responsible entity's office in soft (PDF format) copy. An automatic back up for the data that maintains two independent copies is recommended. Copies should be retained for a minimum of three years following the date of project completion.

## **4.0 ASSESSMENT AND OVERSIGHT**

### **4.1 Assessments and Response Actions**

System audits of fieldwork and other activities affecting quality will be performed by ULL's Environmental Consultant randomly during field activities and documented in the field notes. Evaluations will be made of ongoing fieldwork, as well as any other activity affecting quality. The primary purpose of the system audit is to verify and document that field activities are being performed efficiently and in conformance with approved standards and procedures (including internal standard operating procedures [SOPs]), federal and state regulatory requirements, sound engineering and environmental practices, and contract requirements. When an audit is

performed, documentation will be included with that day's paperwork/notes to be included in the final report.

The audits will include an objective examination of work areas, activities, processes, review of documents and records, interviews with project personnel, and review of procedures associated with the project. Audit results will be submitted to the ULL's Environmental Consultant Project Manager for action. ULL's Environmental Consultant Project Manager will investigate any adverse reports and findings, determine the root cause (if necessary), schedule corrective action, and respond in writing to the report as requested. If necessary, the Project Manager has the authority to stop work if quality requirements are not being met. In that case, the Project Manager will work with project personnel to correct the problem.

QA surveillance will be performed as necessary, using performance-based concepts for monitoring and/or observing activities to verify conformance to specified program requirements. Surveillance is a snapshot of compliance during a given time and generally focuses on one specific area of review rather than entire program effectiveness. Surveillance will be conducted at the discretion of ULL's Environmental Consultant and may be initiated when an overview less formal than an audit is desirable.

An important part of a QA program is a well-defined, effective policy for correcting problems. The QA program not only operates to prevent problems, but it also serves to identify and correct those that exist. Usually, these problems require either on the spot, immediate corrective action, or long-term corrective action.

The corrective action system to be used addresses the essential steps of corrective action. It describes particular steps to be taken in corrective action resulting from routine activities and corrective action resulting from QA audits. In addition, there are specific laboratory related issues that are addressed here.

The corrective action system used during this project is designed to quickly identify problems and solve them efficiently. ULL's Environmental Consultant is ultimately responsible for the direction of this system and will receive full support from management for its implementation. Any immediate corrective actions required during field activities will be directed by the Field Project Manager. The essential steps are:

- Identify and define the problem
- Assign responsibility for investigating the problem
- Determine a corrective action to eliminate the problem
- Assign and accept responsibility for implementing the corrective action
- Implement the corrective action
- Verify that the corrective action has eliminated the problem
- Document the problem identified, the corrective action taken, and its effectiveness in eliminating the problem

#### **4.2 Reports to Management**

Copies of field logs and forms, and chain-of-custody forms will be included as attachments to the report.

The laboratories will provide a case narrative that summarizes the quality control and highlights outliers on a batch basis. These issues are reviewed by the ULL's Environmental Consultant and are transmitted in the Remediation Completion Report along with the analytical data.

At any time during the project, any significant deviation from this plan will be documented. Any necessary deviations will be brought to the attention of the SCPDC's Environmental Project Manager for approval and to evaluate those deviations to ascertain impact to the project or project goals.

## **5.0 DATA VALIDATION AND USABILITY**

### **5.1 Data Review, Verification, and Validation**

ULL's Environmental Consultant will review the data generated to ensure that all samples have been analyzed as specified in the method. Recoveries of laboratory MS/MSDs, and laboratory control samples will be checked for consistency with method accuracy. RPDs of laboratory MS/MSDs will be checked for consistency with method precision. Where sample results fall outside of acceptable ranges for accuracy and precision as given in the methods, discrepancies will be reported immediately to the laboratory project manager. Corrective actions will be undertaken by ULL's Environmental Consultant and documented appropriately.

Data verification will include confirming that all analyses for samples submitted to the laboratory have been completed, proper and consistent units have been used for reporting analytical results, and the appropriate methods were used for analysis.

If any issues arise during data verification that require resolution, ULL's Environmental Consultant will contact the laboratory. Issues requiring resolution may include missing documentation, changes to the analytical program, or inability to meet the sensitivity requirements.

Data validation will be performed by the laboratory to determine the usability of the data using guidance from EPA method requirements for standard EPA analytical methods.

The data will be reported in a formal analytical report from the laboratory that will be included in the final report. Data will also be presented in summary tables in the final report.

### **5.2 Data Evaluation and Reconciliation**

The data generated under this sampling need to be sufficient to determine the presence of unacceptable COC concentrations at the site and to confirm the waste profile prior to disposal. ULL's Environmental Consultant will review the data to ensure its usability. In this way, ULL's Environmental Consultant will be able to identify potentially unusable data such as COC SQLs above OSHA and/or RECAP and/or EPA Hazardous Waste standards or other regulatory standards. If problems such as this are encountered, ULL's Environmental Consultant will document the problem and coordinate with SCPDC's Environmental Project Manager to make decisions to determine the corrective action. Specifically, if SQLs are above the sample's correlation standard, then the MDLs will be compared to the Regulatory Standards and used in

the report as allowed by LDEQ and/or OSHA. Any limitations on the use of the data will be included in the final report.

## **APPENDIX A**

### **Figures**

**Figure 1****Site Topographic Map****New Iberia Research Center - Shooting Range**

4401 West Admiral Doyle Dr.

New Iberia, LA

**Legend**

— Site Location

Notes:

**Leaaf Environmental, LLC**  
 2301 Whitney Ave., Gretna, LA 70056  
[www.leaaf.com](http://www.leaaf.com)  
 (504) 342-2687 (Main)  
 (504) 342-2715 (Fax)







**Figure 2**

**Site Vicinity Map**

**New Iberia Research Center - Shooting Range**

4401 West Admiral Doyle Dr.  
New Iberia, LA

**Legend**

— Site Location

Notes:

**Leaaf Environmental, LLC**  
2301 Whitney Ave., Gretna, LA 70056  
[www.leaaf.com](http://www.leaaf.com)  
(504) 342-2687 (Main)  
(504) 342-2715 (Fax)



## **APPENDIX B**

### **Tables**

**Table 1. Constituents of Concern, Analytical Methods,  
and Target Detection Limits (TDL)**

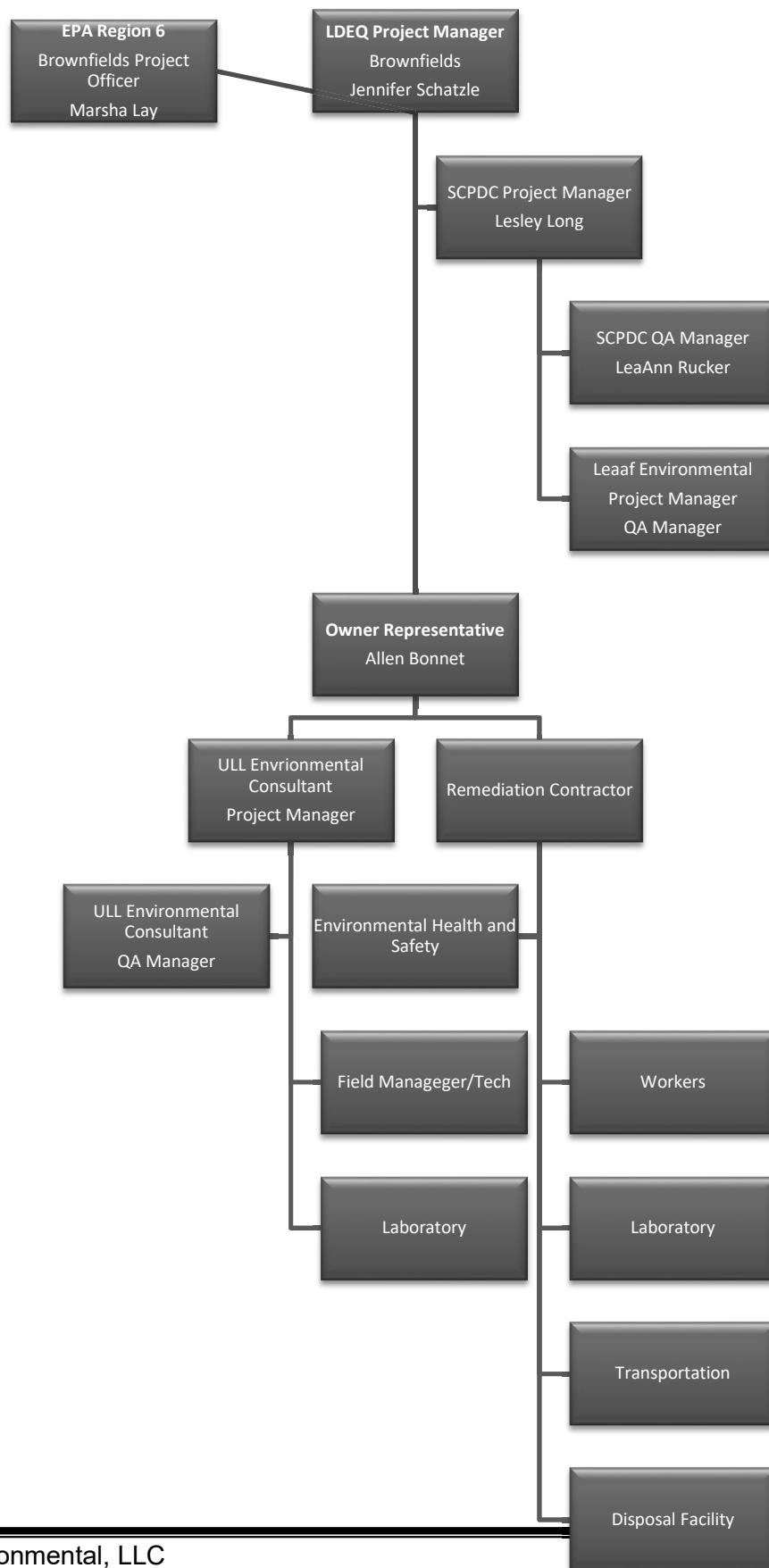
| COC           | Analytical Method | TDL                  |
|---------------|-------------------|----------------------|
| Lead in air   | NIOSH 7082        | 30 µg/m <sup>3</sup> |
| Lead in soil  | SW-846 6020       | 400 mg/kg            |
| Lead in soil  | XRF Screening     | 100 mg/kg            |
| Lead in Waste | SW-846 6010       | 5 mg/l               |

### Table 2 - Project Sampling

| Lead Confirmation Sampling        |                    |      |         |                          |                    |                  |                                                                                                                                                                                                            |
|-----------------------------------|--------------------|------|---------|--------------------------|--------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   |                    |      |         | Metals Soil              | Lead Air           | Lead Water       | TCLP, RCI                                                                                                                                                                                                  |
| Notes                             |                    |      |         | Lead only (SW 846 6010C) | As needed          | As needed        | As needed                                                                                                                                                                                                  |
| Container Requirement             |                    |      |         | 4 oz glass jar           | 37 mm Air Cassette | 250-mL HDPE      | 1 L jar                                                                                                                                                                                                    |
| Preservation                      |                    |      |         | None                     | None               | HNO <sub>3</sub> | None                                                                                                                                                                                                       |
| Holding Time                      |                    |      |         | 180 days                 | 180 days           | 180 days         | 180 days                                                                                                                                                                                                   |
|                                   | Sample Name        | Date | Time    |                          |                    |                  | Comments                                                                                                                                                                                                   |
| AOI-1 - Sidewall 1                | AOI-1-SW-01-2'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-1 - Sidewall 2                | AOI-1-SW-02-2'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-1 - Sidewall 3                | AOI-1-SW-03-2'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-1 - Sidewall 4                | AOI-1-SW-04-2'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-1 - Bottom of Excavation 1    | AOI-1-BE-01-2'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Sidewall 1                | AOI-2-SW-01-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Sidewall 2                | AOI-2-SW-02-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Sidewall 3                | AOI-2-SW-03-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Sidewall 4                | AOI-2-SW-04-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Sidewall 5                | AOI-2-SW-05-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Sidewall 6                | AOI-2-SW-06-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Sidewall 7                | AOI-2-SW-07-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Sidewall 8                | AOI-2-SW-08-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Bottom of Excavation 1    | AOI-2-BE-01-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Bottom of Excavation 2    | AOI-2-BE-02-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Bottom of Excavation 3    | AOI-2-BE-03-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| AOI-2 - Bottom of Excavation 4    | AOI-2-BE-04-1'     |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| <b>TOTAL # SOIL SAMPLES</b>       |                    |      |         | 17                       |                    |                  |                                                                                                                                                                                                            |
| <b>QA/QC Samples</b>              |                    |      |         |                          |                    |                  |                                                                                                                                                                                                            |
| Notes                             |                    |      |         |                          |                    |                  |                                                                                                                                                                                                            |
| Container requirement             |                    |      |         |                          |                    |                  |                                                                                                                                                                                                            |
| Preservation                      |                    |      |         |                          |                    |                  |                                                                                                                                                                                                            |
| Holding Time                      |                    |      |         |                          |                    |                  |                                                                                                                                                                                                            |
|                                   | Sample Name        | Date | Time    | Lead Soil                |                    |                  | Comments                                                                                                                                                                                                   |
| Soil Duplicate                    | Sample Name plus A |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| Soil MS/MSD                       | Sample Name plus   |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| Rinse Blank 1                     | RB1                |      |         |                          |                    |                  |                                                                                                                                                                                                            |
| Rinse Blank 2                     | RB2                |      |         | x                        |                    |                  | if new sampling supplies are not used for each sample                                                                                                                                                      |
| Field Blank 1                     | FB1                |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| Field Blank 2                     | FB2                |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| <b>TOTAL # SAMPLES</b>            |                    |      |         | 6                        |                    |                  |                                                                                                                                                                                                            |
| <b>Air Sampling</b>               |                    |      |         |                          |                    |                  |                                                                                                                                                                                                            |
| Notes                             |                    |      |         | Metals Soil              | Lead Air           | Lead Water       | TCLP, RCI                                                                                                                                                                                                  |
|                                   |                    |      |         | Lead only (SW 846 6010C) | As needed          | As needed        | As needed                                                                                                                                                                                                  |
| Container Requirement             |                    |      |         | 4 oz glass jar           | 37 mm Air Cassette | 250-mL HDPE      | 1 L jar                                                                                                                                                                                                    |
| Preservation                      |                    |      |         | None                     | None               | HNO <sub>3</sub> | None                                                                                                                                                                                                       |
| Holding Time                      |                    |      |         | 180 days                 | 180 days           | 180 days         | 180 days                                                                                                                                                                                                   |
|                                   | Sample Name        | Date | Total L |                          |                    |                  | Comments                                                                                                                                                                                                   |
| North Side of Excavation          | PB-AIR-N-00x       |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| South Side of Excavation          | PB-AIR-S-00x       |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| East Side of Excavation           | PB-AIR-E-00x       |      |         | x                        |                    |                  | Samples will be daily for the duration of the disturbance of the soil. Sampling numbers will be sequential numbered for each location. Worker samples will be 1 per every 4 workers (include supervisors). |
| West Side of Excavation           | PB-AIR-W-00x       |      |         | x                        |                    |                  |                                                                                                                                                                                                            |
| Personnel (1 for every 4 workers) | PB-AIR-P-00x       |      |         | x (1 per 4)              |                    |                  |                                                                                                                                                                                                            |
| <b>TOTAL # SAMPLES</b>            |                    |      |         | 5 per day min            | 5*                 |                  |                                                                                                                                                                                                            |
| <b>Waste Sampling</b>             |                    |      |         |                          |                    |                  |                                                                                                                                                                                                            |
| Notes                             |                    |      |         | Metals Soil              | Lead Air           | Lead Water       | TCLP, RCI                                                                                                                                                                                                  |
|                                   |                    |      |         | Lead only (SW 846 6010C) | As needed          | As needed        | As needed                                                                                                                                                                                                  |
| Container Requirement             |                    |      |         | 4 oz glass jar           | 37 mm Air Cassette | 250-mL HDPE      | 1 L jar                                                                                                                                                                                                    |
| Preservation                      |                    |      |         | None                     | None               | HNO <sub>3</sub> | None                                                                                                                                                                                                       |
| Holding Time                      |                    |      |         | 180 days                 | 180 days           | 180 days         | 180 days                                                                                                                                                                                                   |
|                                   | Sample Name        | Date | Time    |                          |                    |                  | Comments                                                                                                                                                                                                   |
| Waste Characterization            | TCLP-Metals-00x    |      |         |                          |                    | x                | Sampling will be performed as needed to meet the landfill requirements or as needed (per rolloff or stockpile to prove an alternate method has rendered the soil non-hazardous.                            |

## **APPENDIX C**

### **Project Organizational Chart**



## **APPENDIX D**

### **Example Forms**

**These will need to be provided by the Selected Environmental Consultant (Representing ULL and/or Contractor.**

**To include but not limited to the following:**

**Daily Tailgate Safety Form  
XRF Screening Form  
Soil Sampling Log  
Sample Waste Manifest  
Sample Transportation Tracking Form  
Daily Air Monitoring Sample Form  
Laboratory Chain-of Custody  
Accident Incident Form**

### **Personnel Accreditations**

## APPENDIX E

### References

Leaaf Environmental, LLC. Waste Characterization Soil Survey Report, Former Firing Range, ULL New Iberia Research Center. December 19, 2020.

Leaaf Environmental, LLC. Phase II Environmental Site Assessment, University of Louisiana at Lafayette, New Iberia Research Center – Shooting Range. May 2023.

Leaaf Environmental, LLC. Analysis of Brownfields Cleanup Alternatives, University of Louisiana at Lafayette, New Iberia Research Center – Former Shooting Range. April 2025

Leaaf Environmental, LLC. Corrective Action Plan, University of Louisiana at Lafayette, New Iberia Research Center – Former Shooting Range. April 2025

EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61, Subpart M).

Occupational Safety and Health Administration (OSHA) Lead in Construction Regulations (29 CFR 1926.62).

OSHA Hazardous Waste Operations and Emergency Response (29 CFR 1926.62).

Louisiana Department of Environmental Quality (LDEQ) Risk Evaluation/Corrective Action Program (RECAP) (LAC: 33: I, Chapter 13). October 2003.

LDEQ Hazardous Waste and Hazardous Materials Regulations (LAC 33: V, Subpart 1).

National Institute of Safety and Health (NIOSH). Method 7082 Lead by Flame AAS.

U.S. Environmental Protection Agency (EPA). 2000. Guidance for the Data Quality Objective Process (G-4) (EPA/600/R-96/055) August 2000.

EPA. 2001. EPA Requirements for Quality Assurance Project Plans (QA/R-5) (EPA/240/B-01/003) March 2001.

EPA. 2003. Guidance for Quality Assurance Project Plans (QA/G-5) (EPA/240/R-02/009) December 2002.

EPA. 2017. <https://www.epa.gov/hw-sw846/sw-846-compendium>

U.S. Department of Occupation Safety and Health Administration (OSHA). Code of Federal Regulations (CFR) Title 29 Part 1910.1025 Lead, July 01, 2001.